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Hanson Professional Services Inc.
4501 Gollihar Road
Corpus Christi, TX 78411
(361) 814-9900
Fax: (361) 814-4401
www.hanson-inc.com

November 1, 2018

Ms. Guanhua Gai
Business & Program Services Section
Waste Permits Division (MC 126)
Texas Commission on Environmental Quality
12100 Park 35 Circle, Bldg. F
Austin, TX 78753

Re: City of Kingsville – City of Kingsville Landfill
Kingsville, Kleberg County, Texas
Municipal Solid Waste Permit Number 235C
RN102334570/CN600674246
Type I & Type IV Permit Major Amendment Application

Dear Ms. Gai,

On behalf of the City of Kingsville and in response to the October 3, 2018 Administrative Notice of Deficiency Letter, we hereby submit the enclosed response regarding the Permit Amendment Application for the above referenced MSW facility. For your convenience, we have included your comments from the October 3, 2018 letter (in italics and numbered according to the Application Deficiencies – Administrative NOD #1 table provided as an attachment to the October 3, 2018 letter) followed by the corresponding responses. Where items from the original application have been noted as revised, a redline/strikeout version clearly identifying all proposed changes from the existing application (if possible) and a replacement copy ('clean copy') of the applicable section or attachment has been attached to this response to allow you to substitute the items in the binders for the originally submitted application.

TCEQ Admin NOD #1 Item A1:

ID	App. Part	App. Section	Location	Citation	Error Type
A1	I	Entirety		330.57(g)	Incorrect
Deficiency Description/Resolution					
Please revise and resubmit the title pages, the header of the Part I form, and Section 12 of the Part I form to include the newly assigned **MSW Authorization #: 235C** and revision date.					

Response:

The title pages, the header of the Part I form, and Section 12 of the Part I form have been revised to include the newly assigned MSW Authorization #: 235C and revision date. The revised title pages are provided in Appendix 1 of this submittal and the revised Part I form is provided in Appendix 2 of this submittal.

TCEQ Admin NOD #1 Item A2:

ID	App. Part	App. Section	Location	Citation	Error Type
A2	I	Entirety		330.57(g)(2)	Incomplete
Deficiency Description/Resolution					
Please revise and resubmit new Title Pages with the County name and revision date.					

Response:

The title pages have been revised to include the County name and revision date. The revised title pages are provided in Appendix 1 of this submittal.

TCEQ Admin NOD #1 Item A3:

ID	App. Part	App. Section	Location	Citation	Error Type
A3	I	General		305.45(a)	Incorrect
Deficiency Description/Resolution					
Please submit TCEQ Transportation Data and Report (Form No. 20719).					

Response:

The TCEQ Transportation Data and Report (Form No. 20719) is provided in Appendix 3 of this submittal.

TCEQ Admin NOD #1 Item A4:

ID	App. Part	App. Section	Location	Citation	Error Type
A4	I	Part I Form, Section 6	Page 1		Incomplete
Deficiency Description/Resolution					
Please provide Contact name and Title of Party Responsible for Publishing Notice.					

Response:

Section 6 of the Part I form has been revised to include the contact name and title of party responsible for the publishing notice. The revised Part I form is provided in Appendix 2 of this submittal.

TCEQ Admin NOD #1 Item A5:

ID	App. Part	App. Section	Location	Citation	Error Type
A5	I	Part I Form	Table I.1	330.59(c)(3)(B) 305.45(a)(6)(D)	Incorrect
Deficiency Description/Resolution					
Please submit four (4) sets of pre-printed mailing labels for the names and addresses of the **adjacent landowners only**. The proper format to provide the required set of labels will be label sheets that have 30 labels to a page, 3 columns per page and 10 names per column. Each name and address must be typed in the format that meets the United States Postal Service requirements for machine readability. Each letter in the name and address must be capitalize, contain no punctuation, and the appropriate two-character abbreviation must be used for the state. Please omit the permit number and applicant's name on the top line when sending labels.					

Response:

The electronic mailing list provided in Part I, Attachment 3, Appendix 1 of the initial amendment application submittal complied with the applicable rules and requirements provided for an electronic mailing list. Per a telephone conversation between Guanhua Gai and Kelly Mayfield on October 19, 2018, it was requested that the electronic mailing list be formatted as required for the pre-printed mailing labels, an alternative to submitting an electronic list. The electronic mailing list has been revised to a mailing label format that has 30 labels to a page (3 columns per page and 10 names column) and is provided in Appendix 4 of this submittal.

TCEQ Admin NOD #1 Item A6:

ID	App. Part	App. Section	Location	Citation	Error Type
A6	I	Part I Form, Section 8	Pg. 2		Incorrect
Deficiency Description/Resolution					
Please correct Telephone Number of Public Place Location of Application to: **(361) 595-8040**					

Response:

The telephone number (361) 595-8040 is the number for the City of Kingsville Public Works Department which is not located at the City of Kingsville City Hall, the Public Place Location of Application. The telephone number of the public place location of the application provided in Section 8 of the Part I form has been revised to (361) 595-8007, the telephone number of the City of Kingsville Engineering Department which is located at the City of Kingsville City Hall. The revised Part I form is provided in Appendix 2 of this submittal.

TCEQ Admin NOD #1 Item A7:

ID	App. Part	App. Section	Location	Citation	Error Type
A7	I	Part I Form, Section 12	Pg. 3	30 TAC 39.103(b)	Incorrect
Deficiency Description/Resolution					
The TCEQ's Central Registry Database currently shows the Latitude coordinates as being 27 degrees 26 minutes 45 seconds, and the Longitude coordinates as being 97 degrees 49 minutes 12 seconds. However, Page 3 of the Part I application form lists the Latitude coordinates as 27 degrees 26 minutes 41.95 seconds, and the Longitude coordinates as 97 degrees 48 minutes 55.89 seconds. Please provide clarification and revise if necessary, Page 3 of the Part I application form and TCEQ Core Data Form TCEQ-10400.					

Response:

The Latitude coordinates of 27° degrees 26 minutes 41.95 seconds, and the Longitude coordinates of 97 degrees 48 minutes 55.89 seconds are the coordinate of the City of Kingsville Landfill Site Benchmark. These are the same coordinates provided in the MSW 235B Permit Amendment Application submitted in 1998. The TCEQ Core Data Form TCEQ-10400 has been revised to provide the coordinates for the site and insure that the coordinates shown on the TCEQ's Central Registry Database are updated. The revised TCEQ Core Data Form TCEQ-10400 is provided in Appendix 5 of this submittal.

TCEQ Admin NOD #1 Item A8:

ID	App. Part	App. Section	Location	Citation	Error Type
A8	I	Part I Form, Section 20	Pg. 6		Incorrect
Deficiency Description/Resolution					
Please correct The Local Governmental Authority Responsible for Road Maintenance to: Street address or P.O. Box: **433 County Road 2310 E** City: **Riviera** County: **Kleberg** State: **Texas** Zip Code: **78379**					

Response:

Section 20 of the Part I form has been revised to correct The Local Governmental Authority Responsible for Road Maintenance as requested. The revised Part I Form (TCEQ-0650) is provided in Appendix 2 of this submittal.

TCEQ Admin NOD #1 Item A9:

ID	App. Part	App. Section	Location	Citation	Error Type
A9	I	Part I Form, Section 20	Pg. 7		Incorrect
Deficiency Description/Resolution					
Please correct State Representative Information as follows: District Office Address: **1512-A Wildcat, Suite 106** City: **Portland** County: **San Patricio** State: **Texas** Zip Code: **78374** Telephone Number: **(361) 643-0063**					

Response:

Section 20 of the Part I form has been revised to correct the State Representative information as requested. The revised Part I Form (TCEQ-0650) is provided in Appendix 2 of this submittal.

TCEQ Admin NOD #1 Item A10:

ID	App. Part	App. Section	Location	Citation	Error Type
A10	I	Part I Form, Section 20	Pg. 8		Incorrect
Deficiency Description/Resolution					
Please correct Nueces River Authority as follows: Watershed Sub-Basin Name: **San Fernando Creek, Nueces - Rio Grande Coastal Basin** Street Address: **602 N. Staple St., Suite 280** City: **Corpus Christi** County: **Nueces** State: **Texas** Zip Code: **78401**					

Response:

Section 20 of the Part I form has been revised to correct the Nueces River Authority information as requested. The revised Part I Form (TCEQ-0650) is provided in Appendix 2 of this submittal.

TCEQ Admin NOD #1 Item A11:

ID	App. Part	App. Section	Location	Citation	Error Type
A11	II	Part II	Attachment 1		Incorrect
Deficiency Description/Resolution					
Please provide the correct Floodplain Map Figure: II. 1-5.					

Response:

The Floodplain Map Figure: II.1-5 is provided in Appendix 6 of this submittal.

TCEQ Admin NOD #1 Item A12:

ID	App. Part	App. Section	Location	Citation	Error Type
A12	II			330.61(d)	Omitted
Deficiency Description/Resolution					
Please provide Figure I.2-5, the facility layout map, it is not included in Part I, Attachment 2.					

Response:

The Facility Layout Map Figure I.2-5 is provided in Appendix 7 of this submittal.

TCEQ Admin NOD #1 Item A13:

ID	App. Part	App. Section	Location	Citation	Error Type
A13	III		Attachment 4	330.63(e)&(1) (A)	
Deficiency Description/Resolution					
Attachment 4 contains more than 1,100 pages across more than 25 sub-appendices and sub-attachments with similar names. Please revise the table of contents for Attachment 4 to identify all of the sub-appendices and sub-attachments and their starting page numbers, and provide divider tabs to mark the beginning of each subpart.					

Response:

The table of contents for Attachment 4 has been revised to identify all of the sub-appendices and sub-attachments and corresponding starting page numbers. The revised Attachment 4 Table of Contents and divider tabs to mark the beginning of each Attachment 4 subpart are provided in Appendix 8 of this submittal.

Additional Requested Information:

During a telephone conversation on October 16, 2018, between Arten Avakian and Miki Chilarescu with the TCEQ and Scot Collins, P.G. and Tad Gass, P.G. with Hanson, divider tabs as well as a “clean”, non-highlighted, version of the Finch Energy and Environmental Services Geology Report that was used as a reference in Attachment 4 of the City of Kingsville Landfill Permit Amendment Application was requested. A follow-up e-mail, describing the requested changes, was provided by TCEQ following the October 16, 2018 phone conversation. As stated in the response to NOD item number A13, the requested divider tabs are provided in Appendix 8 of this submittal. We are currently on working locating a “clean”, non-highlighted, version of the Finch Energy and Environmental Services Geology Report and will provide it as soon as one is located.

One (1) original and three (3) copies of the Administrative NOD #1 response with applicable application revisions are included, as required by the municipal solid waste regulations of the Texas Commission on Environmental Quality (TCEQ). We are respectfully requesting the TCEQ review the provided permit amendment application administrative NOD #1 response and look forward to your comments. If you have any questions or would like additional information, please don’t hesitate to contact me.

Sincerely,
HANSON PROFESSIONAL SERVICES INC.

Jon M. Reinhard, P.E.
Project Engineer

cc: Bill Donnell, Kingsville Public Works Director
Pete Pina, Kingsville Landfill Superintendent

I:\16jobs\16L0438\8514-City of Kingsville\8514-03\Permit Amendment\NODs\Admin NOD #1\Admin NOD #1 Response Ltr 10..18.docx

Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Redline Strikeout - Appendix 1 -

Redline Strikeout
Appendix 1

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018
Revision ~~0~~1 – November 2018

Prepared by

HANSON
Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438- 000

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION

Volume 1 of 6

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision ~~0~~1 – November 2018

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Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION

Part I

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision ~~0~~1 – November 2018

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Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION

Part I

Attachment 1
Supplementary Technical Report

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018
Revision ~~0~~1 – November 2018

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Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION

Part I

Attachment 7
Evidence of Competency

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018
Revision ~~0~~1 – November 2018

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Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION

PART II

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision ~~0~~1 – November 2018

Prepared by

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Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION
PART III
SITE DEVELOPMENT PLAN

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision ~~0~~1 – November 2018

Prepared by

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Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-000

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION

Volume 2 of 6

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

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Prepared by

HANSON

Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION
PART III, ATTACHMENT 4
GEOLOGY REPORT

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision ~~0~~1 – November 2018

Prepared by

HANSON

Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION

Volume 3 of 6

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision ~~0~~1 – November 2018

Prepared by

HANSON

Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION

Volume 4 of 6

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision ~~0~~1 – November 2018

Prepared by

HANSON

Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION

Volume 5 of 6

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision ~~0~~1 – November 2018

Prepared by

HANSON

Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION
PART III, ATTACHMENT 11
GROUNDWATER SAMPLING AND ANALYSIS PLAN

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision ~~0~~1 – November 2018

Prepared by

HANSON
Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL
TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION

PART III - ATTACHMENT 12

APPENDIX 1

LANDFILL UNIT AND FINAL CLOSURE SCHEDULE

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018
Revision ~~0~~1 – November 2018

Prepared by

HANSON
Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION
PART III – ATTACHMENT 14
LANDFILL GAS MANAGEMENT PLAN

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision ~~0~~1 – November 2018

Prepared by

HANSON

Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION

Volume 6 of 6

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision ~~0~~1 – November 2018

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HANSON

Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION
PART IV

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision ~~0~~1 – November 2018

Prepared by

HANSON

Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Redline Strikeout - Appendix 2 -

Redline Strikeout
Appendix 2

Facility Name: City of Kingsville Landfill
Permittee/Registrant Name: City of Kingsville
MSW Authorization #: 235-C
Initial Submittal Date: September 2018
Revision Date: ~~0~~ 1-November 2018

Texas Commission on Environmental Quality

Part I Form for New Permit/Registration and Amendment Applications for an MSW Facility

1. Reason for Submittal

☒ Initial Submittal ☐ Notice of Deficiency (NOD) Response

2. Authorization Type

☒ Permit ☐ Registration

3. Application Type

☐ New ☒ Major Amendment

☐ Major Amendment (Limited Scope)

4. Application Fees

☐ Pay by Check ☒ Online Payment

If paid online, e-Pay Confirmation Number: **Trace Number: 582EA000315158, Voucher Number: 385823, Voucher Number: 385824**

5. Application URL

Is the application submitted for Type I Arid Exempt (AE) and/or Type IV AE facility?

☐ Yes ☒ No

If the answer is "No", provide the URL address of a publicly accessible internet web site where the application and all revisions to that application will be posted.
http://**www.cityofkingsville.com/departments/public-works/landfill/landfill-amendment-application/**

6. Application Publishing

Party Responsible for Publishing Notice:

☐ Applicant ☐ Agent in Service ☒ Consultant

Contact Name: Scot Collins, P.G. Title: Project Manager

7. Alternative Language Notice

Is an alternative language notice required for this application? (For determination refer to Alternative Language Checklist on the Public Notice Verification Form TCEQ-20244-Waste)

☒ Yes ☐ No

8. Public Place Location of Application

Name of the Public Place: **City of Kingsville City Hall**

Physical Address: **400 W. King Avenue**

City: **Kingsville** County: **Kleberg** State: **Texas** Zip Code: **78363**

(Area code) Telephone Number: **(361) 595-8004**

9. Consolidated Permit Processing

Is this submittal part of a consolidated permit processing request, in accordance with 30 TAC Chapter 33?

☐ Yes ☒ No ☐ Not Applicable

If "Yes", state the other TCEQ program authorizations requested:

10. Confidential Documents

Does the application contain confidential documents?

☐ Yes ☒ No

If "Yes", cross-reference the confidential documents throughout the application and submit as a separate attachment in a binder clearly marked "CONFIDENTIAL."

11. Permits and Construction Approvals

Permit or Approval	Received	Pending	Not Applicable
Hazardous Waste Management Program under the Texas Solid Waste Disposal Act	☐	☐	☒
Underground Injection Control Program under the Texas Injection Well Act	☐	☐	☒
National Pollutant Discharge Elimination System Program under the Clean Water Act and Waste Discharge Program under Texas Water Code, Chapter 26	☒	☐	☐
Prevention of Significant Deterioration Program under the Federal Clean Air Act (FCAA). Nonattainment Program under the FCAA	☐	☐	☒
National Emission Standards for Hazardous Air Pollutants Preconstruction Approval under the FCAA	☐	☐	☒
Ocean Dumping Permits under the Marine Protection Research and Sanctuaries Act	☐	☐	☒

Permit or Approval	Received	Pending	Not Applicable
Dredge or Fill Permits under the CWA	☐	☐	☒
Licenses under the Texas Radiation Control Act	☐	☐	☒
Other (describe) Air Operating Permit (#3337)	☒	☐	☐
Other (describe) Air New Source Registrations (#91376 & #54070L001)	☒	☐	☐
Other (describe) Stormwater Permit (#TXR05L074)	☒	☐	☐
Other (describe)	☐	☐	☐

12. General Facility Information

Facility Name: **City of Kingsville Landfill**

Contact Name: **Pete Pina** Title: **Landfill Supervisor**

MSW Authorization No. (if available): 235-C

Regulated Entity Reference No. (if issued)*: RN**102334570**

Physical or Street Address (if available): **348 COUNTY ROAD E 2130**

City: **Kingsville** County: **Kleberg** State: **Texas** Zip Code: **78363 9653**

(Area Code) Telephone Number: **(361) 595-0092**

Latitude (Degrees, Minutes Seconds): **N 27 26' 41.95"**

Longitude (Degrees, Minutes Seconds): **W 97 48' 55.89"**

Benchmark Elevation (above mean sea level): **52.61** ft.

Provide a description of the location of the facility with respect to known or easily identifiable landmarks: **1.7 Miles SE of the City of Kingsville at the NE corner of the intersection of FM 2619 and CR E 2130**

Detail access routes from the nearest United States or state highway to the facility: **2.57 miles east on CR E 2130 from US 77**

**If this number has not been issued for the facility, complete a TCEQ Core Data Form (TCEQ-10400) and submit it with this application. List the Facility as the Regulated Entity.*

13. Facility Type(s)

☒ Type I	☒ Type IV	☐ Type V
☐ Type I AE	☐ Type IV AE	☐ Type VI

14. Activities Conducted at the Facility

☒ Storage	☒ Processing	☒ Disposal

15. Facility Waste Management Unit(s)

- ☒ Landfill Unit(s)
- ☐ Class 1 Landfill Unit(s)
- ☐ Process Tank(s)
- ☐ Storage Tank(s)
- ☐ Tipping Floor
- ☐ Storage Area
- ☐ Container(s)
- ☐ Roll-off Boxes
- ☐ Surface Impoundment
- ☐ Incinerator(s)
- ☐ Autoclave(s)
- ☐ Refrigeration Unit(s)
- ☐ Mobile Processing Unit(s)
- ☐ Type VI Demonstration Unit
- ☐ Compost Pile(s) and/or Vessel(s)
- ☒ Other (Specify) **Brush Storage/Processing**
- ☒ Other (Specify) **Solidification Area**
- ☒ Other (Specify) **Tire Storage/Processing**

16. Description of Proposed Facility or Changes to Existing Facility

Provide a brief description of the proposed activities if application is for a new facility, or the proposed changes to an existing facility or permit conditions if the application is for an amendment.

This application is for a major amendment to the permit for a horizontal and vertical expansion at the existing landfill. The amendment is requested to increase the volume and extend the site life, to thereby provide for the long-term solid waste disposal needs for the individuals, businesses, and communities in Kingsville, Kleberg County and surrounding areas.

17. Facility Contact Information

Site Operator (Permittee/Registrant) Name: City of Kingsville

Customer Reference No. (if issued)*: CN**600674246**

Contact Name: **Pete Pina** Title: **Landfill Supervisor**

Mailing Address: **P.O. Box 1458**

City: **Kingsville** County: **Kleberg** State: **Texas** Zip Code: **78364**

(Area Code) Telephone Number: **(361) 595-0092**

Email Address: **ppina@cityofkingsville.com**

TX Secretary of State (SOS) Filing Number: **N/A**

**If the Site Operator (Permittee/Registrant) does not have this number, complete a TCEQ Core Data Form (TCEQ-10400) and submit it with this application. List the Site Operator (Permittee/Registrant) as the Customer.*

Operator Name[1]: Same as Site Operator (Permittee/Registrant)

Customer Reference No. (if issued)*:

Contact Name: Title:

Mailing Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

Email Address:

TX SOS Filing Number:

*[1]If the Operator is the same as Site Operator/Permittee type "Same as "Site Operator (Permittee/Registrant)". *If the Operator does not have this number, complete a TCEQ Core Data Form (TCEQ-10400) and submit it with this application. List the Operator as the customer.*

Consultant Name (if applicable): Hanson Professional Services Inc.

Texas Board of Professional Engineers Firm Registration Number: **F-417**

Contact Name: **Scot Collins, P.G.** Title: **Project Manager**

Mailing Address: **4501 Gollihar Road**

City: **Corpus Christi** County: **Nueces** State: **Texas** Zip Code: **78411**

(Area Code) Telephone Number: **(361)814-9900**

E-Mail Address: **scollins@hanson-inc.com**

Agent in Service Name (required only for out-of-state): N/A

Mailing Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address:

18. Facility Supervisor's License

Select the Type of License that the Solid Waste Facility Supervisor, as defined in 30 TAC Chapter 30, Occupational Licenses and Registrations, will obtain prior to commencing facility operations.

☒ Class A ☐ Class B

19. Ownership Status of the Facility

☐ Corporation	☐ Limited Partnership	☐ Federal Government
☐ Individual	☒ City Government	☐ Other Government
☐ Sole Proprietorship	☐ County Government	☐ Military
☐ General Partnership	☐ State Government	☐ Other (Specify):

Does the Site Operator (Permittee/Registrant) own all the facility units and all the facility property?

☒ Yes ☐ No

If "No", provide the information requested below for any additional ownership.

Owner Name: N/A

Street or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

Email Address (optional):

20. Other Governmental Entities Information

Texas Department of Transportation District: Corpus Christi

District Engineer's Name: **Christopher D. Caron, P.E.**

Street Address or P.O. Box: **1701 S. Padre Island Drive**

City: **Corpus Christi** County: **Nueces** State: **Texas** Zip Code: **78416**

(Area Code) Telephone Number: **(361) 808-2275**

E-Mail Address (optional):

The Local Governmental Authority Responsible for Road Maintenance (if applicable): Kleberg County

Contact Person's Name: **Roy Cantu**

Street Address or P.O. Box: **433** ~~E.~~ **County Road 2310** E

City: Riviera County: **Kleberg** State: **Texas** Zip Code: **78379**

(Area Code) Telephone Number: **(361) 296-3623**

E-Mail Address (optional):

City Mayor Information

City Mayor's Name: **Sam R. Fugate**

Office Address: **P.O. Box 1458**

City: **Kingsville** County: **Kleberg** State: **Texas** Zip Code: **78364**

(Area Code) Telephone Number: **(361) 595-8001**

E-Mail Address (optional): **mayor@cityofkingsville.com**

City Health Authority: City-County Health Department

Contact Person's Name: **Emilio H. Garcia**

Street Address or P.O. Box: **P.O. Box 1458**

City: **Kingsville** County: **Kleberg** State: **Texas** Zip Code: **78364**

(Area Code) Telephone Number: **(361) 592-3324**

E-Mail Address (optional): **healthdirector@cityofkingsville.com**

County Judge Information

County Judge's Name: **Rudy Madrid**

Street Address or P.O. Box: **P. O. Box 752**

City: **Kingsville** County: **Kleberg** State: **Texas** Zip Code: **78364**

(Area Code) Telephone Number: **(361) 595-8585**

E-Mail Address (optional): **Rmadrid@co.kleberg.tx.us**

County Health Authority: City-County Health Department

Contact Person's Name: **Emilio H. Garcia**

Street Address or P.O. Box: **P.O. Box 1458**

City: **Kingsville** County: **Kleberg** State: **Texas** Zip Code: **78364**

(Area Code) Telephone Number: **(361) 592-3324**

E-Mail Address (optional): **healthdirector@cityofkingsville.com**

State Representative Information

District Number: **43**

State Representative's Name: **J.M. Lozano**

District Office Address: ~~635 East King Avenue~~ 1512-A Wildcat, Suite 106

City: ~~Kingsville~~ Portland County: ~~Kleberg~~ San Patricio State: **Texas** Zip Code: ~~78364~~ 78374

(Area Code) Telephone Number: (361) ~~595-1550~~ 643-0063

E-Mail Address (optional):

State Senator Information

District Number: **27**

State Senator's Name: **Eddie Lucio, Jr.**

District Office Address: **7 North Park Plaza**

City: **Brownsville** County: **Cameron** State: **Texas** Zip Code: **78521**

(Area Code) Telephone Number: **(956) 548-0227**

E-Mail Address (optional):

Council of Government (COG) Name: Coastal Bend Council of Governments

COG Representative's Name: **John P. Buckner**

COG Representative's Title: **Executive Director**

Street Address or P.O. Box: **P.O. Box 9909**

City: **Corpus Christi** County: **Nueces** State: **Texas** Zip Code: **78469-9909**

(Area Code) Telephone Number: **(361) 883-5743**

E-Mail Address (optional): **john@cbcog98.org**

River Basin Authority Name: Nueces River Authority

Contact Person's Name: **Con Mims**

Watershed Sub-Basin Name: San Fernando Creek, Nueces - Rio Grande Coastal Basin

Street Address or P.O. Box: ~~400 Mann St, Suite 1002~~ 602 N. Staple St., Suite 280

City: **Corpus Christi** County: **Nueces** State: **Texas** Zip Code: **78401**

(Area Code) Telephone Number: **(361) 653-2110**

E-Mail Address (optional):

Coastal Management Program

Is the facility within the Coastal Management Program boundary?

☒ Yes ☐ No

U.S. Army Corps of Engineers

The facility is located in the following District of the U.S. Army Corps of Engineers:

☐ Albuquerque, NM ☒ Galveston, TX

☐ Ft. Worth, TX ☐ Tulsa, OK

Local Government Jurisdiction

Within City Limits of: **N/A**

Within Extraterritorial Jurisdiction of: **City of Kingsville**

Is the facility located in an area in which the governing body of the municipality or county has prohibited the storage, processing or disposal of municipal or industrial solid waste?

☐ Yes ☒ No

(If "Yes", provide a copy of the ordinance or order as an attachment):

Signature Page

I, _____, _____,
(Site Operator (Permittee/Registrant)'s Authorized Signatory) (Title)

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: _____

- -

TO BE COMPLETED BY THE OPERATOR IF THE APPLICATION IS SIGNED BY AN AUTHORIZED REPRESENTATIVE FOR THE OPERATOR

I, _____, hereby designate _____
(Print or Type Operator Name) (Print or Type Representative Name)

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

_____
Printed or Typed Name of Operator or Principal Executive Officer

_____
Signature

-- -

SUBSCRIBED AND SWORN to before me by the said_____

On this _____ day of _____, _____

My commission expires on the _____ day of _____, _____

_____
Notary Public in and for

_____ County, Texas
(Note: Application Must Bear Signature & Seal of Notary Public)

Part I Attachments

(See Instructions for P.E. seal requirements.)

Required Attachments	**Attachment No.**
Supplementary Technical Report	**Attachment 1**
Property Legal Description	**Attachment 4, Appendix 1**
Property Metes and Bounds Description	**Attachment 4, Appendix 1**
Facility Legal Description	**Attachment 4, Appendix 2**
Facility Metes and Bounds Description	**Attachment 4, Appendix 2**
Metes and Bounds Drawings	**Attachment 4, Appendix 2**
On-Site Easements Drawing	**Attachment 4, Appendix 2**
Land Ownership Map	**Attachment 3, Figure I.3-1**
Land Ownership List	**Attachment 3, Figure I.3-2**
Electronic List or Mailing Labels	**Attachment 3, Appendix 1**
Texas Department of Transportation (TxDOT) County Map	**Attachment 2, Figure I.2-2**
General Location Map	**Attachment 2, Figure I.2-1**
General Topographic Map	**Attachment 2, Figure I.2-3**
Verification of Legal Status	**Attachment 5**
Property Owner Affidavit	**Attachment 6**
Evidence of Competency	**Attachment 7**

Additional Attachments as Applicable- Select all those apply and add as necessary

☒ TCEQ Core Data Form(s)	**Attachment 8**
☒ Signatory Authority Delegation	**Attachment 9**
☒ Fee Payment Receipt	**Attachment 10**
☐ Confidential Documents	
☐ Waste Storage, Processing and Disposal Ordinances	
☐ Final Plat Record of Property	
☐ Certificate of Fact (Certificate of Incorporation)	
☐ Assumed Name Certificate	

Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Redline Strikeout - Appendix 3 -

Redline Strikeout
Appendix 3
(Redline Strikeout Not Included)

Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Redline Strikeout - Appendix 4 -

Redline Strikeout
Appendix 4

CITY OF KINGSVILLE
PO BOX 1458
KINGSVILLE TX 78364-1458

DARRIN LEE RADFORD
WILLIAM DEAN RADFORD
238 N COUNTY ROAD 1080
KINGSVILLE TX 78363-2623

MICHAEL DEW YEARY
ETUX NANCY
523 N COUNTY ROAD 1020
KINGSVILLE TX 78363-2677

KLEBERG COUNTY TRUSTEE
PO BOX 1457
KINGSVILLE TX 78364-1457

KINGSVILLE MATERIALS INC
PO BOX 1533
KINGSVILLE TX 78364-1533

OLIVERO HINOJOSA JR
EMMA HINOJOSA
PO BOX 5390
KINGSVILLE TX 78364-5390

ENEDELIA M SAENZ
148 E COUNTY ROAD 2170
KINGSVILLE TX 78363-2601

LAURA ANITA MERCADO
1301 E JOHNSTON AVE
KINGSVILLE TX 78363-5921

SUBELDA M ORTEGON
426 GARCIA HILL RD
KINGSVILLE TX-78363

NELDA BASALDUA
PO BOX 1223
KINGSVILLE TX 78364-1223

MARIO MARTINEZ
3401 DAFFODIL AVE
MCALLEN TX 78501-5807

WOELFEL CHARLES R FAMILY TRUST
RUTH WOELFEL TR
1909 DEBBIE DR
BRYAN TX 77802-2006

IRBY PROPERTIES INC 401K TRUST
811 E CO RD 2198
KINGSVILLE TX 78363

ROGER ZIMMERMAN
1302 BALL ST
GALVESTON TX 77550-5019

STANLEY R WOELFEL
202 E COUNTY ROAD 2120
KINGSVILLE TX 78363-8866

BETTY ANN ALEXANDER
725 N SPAULDING AVE
LOS ANGELES CA 90046-7421

JOSIE WILDNER
ETAL & VERLENE T CITZLER
7755 CITZLER RD
LA GRANDE TX 78945-4211

SUEMAUR EXPLORATION AND PRODUCTION LLC
539 N CARANCAHUA ST 1100
CORPUS CHRISTI TX 78401-0999

REGINA WELGE FAMILY PARTNERSHIP LTD
413 S GREEN ST
LONGVIEW TX 75601-7534

STEVEN HEINEMAN
1000 N LAKE SHORE PLZ APT 31B
CHICAGO IL 60611-5154

RITA M MCCAULEY EST
DAVID CHARLES MCCAULEY JR IND EXEC
9674 PAULA DR
CORPUS CHRISTI TX 78410

ALFRED OTTO EST
% STANLEY WOELFEL
202 E COUNTY ROAD 2120
KINGSVILLE TX 78363-8866

ELAINE A MENN (LIFE EST)
LINDA & KENNETH
290 E FM 1118
KINGSVILLE TX 78363

LOUIS HUEBNER EST
8704 DRIFTWOOD DR
COLLEGE STATION TX 77845-5573

STANLEY R WOELFEL
ETUX SYLVIA J
202 E COUNTY ROAD 2120
KINGSVILLE TX 78363-8866

Adjacent Land-Owners Electronic Mailing List

(Adjacent Landownership information derived from the real property appraisal records as listed on the Kleberg County Appraisal District Online Property Search as of September 12, 2018.)

CITY OF KINGSVILLE
PO BOX 1458
KINGSVILLE TX 78364-1458

DARRIN LEE RADFORD
WILLIAM DEAN RADFORD
238 N COUNTY ROAD 1080
KINGSVILLE TX 78363-2623

MICHAEL DEW YEARY
ETUX NANCY
523 N COUNTY ROAD 1020
KINGSVILLE TX 78363-2677

KLEBERG COUNTY TRUSTEE
PO BOX 1457
KINGSVILLE TX 78364-1457

KINGSVILLE MATERIALS INC
PO BOX 1533
KINGSVILLE TX 78364-1533

OLIVERO HINOJOSA JR
EMMA HINOJOSA
PO BOX 5390
KINGSVILLE TX 78364-5390

ENEDELIA M SAENZ
148 E COUNTY ROAD 2170
KINGSVILLE TX 78363-2601

LAURA ANITA MERCADO
1301 E JOHNSTON AVE
KINGSVILLE TX 78363-5921

SUBELDA M ORTEGON
426 GARCIA HILL RD
KINGSVILLE TX 78363

NELDA BASALDUA
PO BOX 1223
KINGSVILLE TX 78364-1223

MARIO MARTINEZ
3401 DAFFODIL AVE
MCALLEN TX 78501-5807

WOELFEL CHARLES R FAMILY TRUST
RUTH WOELFEL (TR)
1909 DEBBIE DR
BRYAN TX 77802-2006

IRBY PROPERTIES INC 401K TRUST
811 E CO RD 2198
KINGSVILLE TX 78363

ROGER ZIMMERMAN
1302 BALL ST
GALVESTON TX 77550-5019

STANLEY R WOELFEL
202 E COUNTY ROAD 2120
KINGSVILLE TX 78363-8866

BETTY ANN ALEXANDER
725 N SPAULDING AVE
LOS ANGELES CA 90046-7421

JOSIE WILDNER
ETAL & VERLENE T CITZLER
7755 CITZLER RD
LA GRANDE TX 78945-4211

SUEMAUR EXPLORATION AND PRODUCTION LLC
539 N CARANCAHUA ST #1100
CORPUS CHRISTI TX 78401-0999

REGINA WELGE FAMILY PARTNERSHIP LTD
413 S GREEN ST
LONGVIEW TX 75601-7534

STEVEN HEINEMAN
1000 N LAKE SHORE PLZ APT 31B
CHICAGO IL 60611-5154
RITA M MCCAULEY EST
DAVID CHARLES MCCAULEY JR (IND EXEC)
9674 PAULA DR
CORPUS CHRISTI TX 78410

ALFRED OTTO EST
% STANLEY WOELFEL
202 E COUNTY ROAD 2120
KINGSVILLE TX 78363-8866

ELAINE A MENN (LIFE EST)
LINDA & KENNETH
290 E FM 1118
KINGSVILLE TX 78363

LOUIS HUEBNER EST
8704 DRIFTWOOD DR
COLLEGE STATION TX 77845-5573

STANLEY R WOELFEL
ETUX SYLVIA J
202 E COUNTY ROAD 2120
KINGSVILLE TX 78363-8866

Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Redline Strikeout - Appendix 5 -

Redline Strikeout
Appendix 5

TCEQ Core Data Form

TCEQ Use Only

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.)

☐ New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)

☐ Renewal (Core Data Form should be submitted with the renewal form) ☒ Other: Permit Amendment Application

2. Customer Reference Number (if issued): CN 600674246

Follow this link to search for CN or RN numbers in Central Registry**

3. Regulated Entity Reference Number (if issued): RN 102334570

SECTION II: Customer Information

4. General Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy)

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name (If an individual, print last name first: e.g.: Doe, John): City of Kingsville

If new Customer, enter previous Customer below:

7. TX SOS/CPA Filing Number

8. TX State Tax ID (11 digits)

9. Federal Tax ID (9 digits)

10. DUNS Number (if applicable)

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees ☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated? ☐ Yes ☐ No

14. Customer Role (Proposed or Actual) - as it relates to the Regulated Entity listed on this form. Please check one of the following:

☐ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:

City | State | ZIP | ZIP + 4

16. Country Mailing Information (if outside USA)

17. E-Mail Address (if applicable)

18. Telephone Number ( ) -

19. Extension or Code

20. Fax Number (if applicable) ( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☒ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)

City of Kingsville Landfill

23. Street Address of the Regulated Entity: (No PO Boxes)	348 E COUNTY ROAD 2130						
	City: Kingsville	State: TX	ZIP: 78363	ZIP + 4: 9653			
24. County	Kleberg						

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	1.7 Miles SE of the City of Kingsville at the NE corner of the intersection of FM 2619 and E CR 2130				
26. Nearest City		State	Nearest ZIP Code		
Kingsville		TX	78363		
27. Latitude (N) In Decimal:	27.444986°	28. Longitude (W) In Decimal:	-97.815525°		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
27°	26'	41.95"	97°	48'	55.89"

29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)

33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)

34. Mailing Address:							
	City:	State:	ZIP:	ZIP + 4:			
35. E-Mail Address:							

36. Telephone Number	37. Extension or Code	38. Fax Number (if applicable)
( ) -		( ) -

39. **TCEQ Programs and ID Numbers** Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☒ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
235B				
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name: Athalia Kelly Mayfield			41. Title: Environmental Technician
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(361) 814 - 9900		( ) -	kmayfield@hanson-inc.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	City of Kingsville	Job Title:	City Manager
Name(*In Print*):	Jesus A. Garza	Phone:	(361) 595-8002
Signature:		Date:	

Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Redline Strikeout - Appendix 6 -

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Appendix 6
(Redline Strikeout Not Included)

Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Redline Strikeout - Appendix 7 -

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Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Redline Strikeout - Appendix 8 -

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Appendix 8

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235-C

PERMIT AMENDMENT APPLICATION
PART III, ATTACHMENT 4
GEOLOGY REPORT

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision ~~0~~1 – November 2018

Prepared by

HANSON

Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

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Finch Energy and Environmental Services, Inc.

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1.0 INTRODUCTION

1.1 Project Information

The City of Kingsville Landfill is located approximately 1.45 miles southeast of the City of Kingsville city limits, at the northeast corner of the intersection of Farm to Market Road 2619 and East County Road 2130 as shown on Attachment 1- Location Map (Figure III.4-1-1). The initial facility was permitted by the State of Texas in 1977 (Permit No. 235), and initial filling operations began in February 1977. The original 40 acre landfill is currently closed and is not Subtitle D compliant. The City of Kingsville was authorized a permit amendment for a 40-acre lateral landfill expansion of the site in 1986 (Permit No. 235-A). The approved Permit No. 235-A was developed and Sector 1 received its first load of waste material in March 1992. The City of Kingsville was again authorized a permit amendment in 1999 (Permit No. 235-B). This amendment increased the permitted acreage from 80 acres to approximately 120 acres and a maximum height of final cover of 125 feet-msl. The Kingsville Landfill is currently operating under Permit No. 235-B and subsequent permit modifications and/or authorizations.

The City of Kingsville Landfill is currently comprised of 120 acres. The City of Kingsville wishes to increase the capacity of the landfill site via a vertical and horizontal expansion through a permit amendment. The proposed permit amendment will increase the total permitted area to 176.33 acres. This will be accomplished by incorporating additional acreage to the northeast and southwest of the current permitted boundary. The existing active 108-acre waste disposal area will be expanded to a total of 121.3-acres. Other parts of this permit amendment are to; convert the current Type IV waste sector to accept Type I waste, request approval to process and dispose of liquid wastes and used tires, and to revise the floor contour and final contour plans to incorporate the vertical and horizontal expansion previously discussed.

1.2 Scope of Investiagation

The purpose of this study is to provide geological and geotechnical data for the design of the city of Kingsville Landfill. The scope of services included reviewing previous subsurface studies, summarizing the engineering properties of the subsurface materials and determining certain geotechnical design criteria such as estimated settlement and future slope stability.

1.3 Previous Subsurface Investigations

Previous subsurface investigations were conducted for the City of Kingsville Landfill to characterize subsurface conditions and assist with the development of landfill disposal cell designs. The previous testing and soils exploration work was performed by:

- Finch Energy and Environmental Services, Inc. (FEE)
- and Professional Service Industries, Inc. (PSI).

These reports are included in Appendix 1. A total of 23 soil borings were installed at this site at varying depths and testing intervals during these previous investigations.

Finch Energy and Environmental Services, Inc. conducted an investigation of subsurface materials at the Landfill location. Twelve (12) soil borings were installed and sampled. Laboratory tests were performed to determine the engineering properties of the subsurface materials. The report discussed the soils, sediments, and geologic and groundwater conditions encountered by FEE, Inc. during the hydrogeological/geotechnical investigations at the City of Kingsville Landfill. The report also discussed the characteristics of the soil samples collected and tested during the investigation.

As requested by the Texas Natural Resource Conservation Commission (TNRCC) in an NOD letter, Professional Service Industries, Inc. also conducted a subsurface investigation for FEE, Inc. and the City of Kingsville to evaluate the soil and groundwater conditions present at the site and to better define the aquiclude below the landfill site. A total of eleven (11) soil test borings were drilled and laboratory tests were performed to determine the engineering properties of the subsurface materials. This additional study discussed the types of subsurface materials encountered in the test borings and the results of the field and other laboratory tests performed for this site.

1.4 Current Subsurface Investigation

As previously identified, the proposed permit boundary for this facility will incorporate 176 acres of land with 128 acres being utilized for waste disposal. In accordance with 30 TAC 330.63 (e)(4)(B), a facility of this size requires 23-26 borings with 13-15 of these borings being installed at least 30 feet below the elevation of deepest excavation (EDE) and the remainder of the borings being installed at least 5 feet below the EDE. Before this subsurface investigation, there were fifteen (15) borings that were installed at least 5 feet below the EDE and four (4) of those borings were installed at least 30 feet below the EDE.

For this investigation, nine (9) soil borings were advanced to a minimum depth of 30 feet below the elevation of the deepest excavation of 22.5 ft and one (1) additional soil boring was advanced to 5 feet below the elevation of the deepest excavation to supplement the existing facility data. The borings were drilled in the locations identified on Attachment 2- Soil Boring Location Map (Figure III.4-2-1). Attachment 2 also identifies the locations of the previously installed soil borings. Attachment 3- Groundwater Contour Map (Figure III.4-3-1) identifies groundwater elevations in addition to the ~~existing~~ current groundwater monitoring system.

The soil borings for the current subsurface investigation were installed by Tolunay-Wong Engineers, Inc. Representative samples were collected with split-barrel sampling procedures in general accordance with the procedures for "Penetration Test and Split-Barrel Sampling of Soils" (ASTM Designation D-1586) and Standard Practice for Thin-Walled Tube Sampling of Soils for Geotechnical Purposes (ASTM Designation D-1587). Borings were dry-augered using hollow stem augers to advance the boreholes until groundwater was encountered or until the boreholes became unstable and/or collapsed. Wash rotary drilling techniques were used as necessary in order to continue advancing the borings to their required completion depths. Samples were identified according to boring number and depth, protected against moisture loss, and transported to the laboratory for analysis. After obtaining all required soil samples and groundwater level readings, the soil borings were properly plugged and abandoned in accordance with 16 TAC Chapter 76,

Texas Department of Licensing and Regulation (TDLR)-Water Well Drillers and Pump Installers rules. Table 1-1 below identifies specific details for both existing and newly installed soil borings. For this investigation, borings B30 through B41 were installed. These borings were advanced to depths ranging from 33.5 to 86 feet beneath the existing ground surface. Tolunay-Wong Engineers, Inc. prepared a Geotechnical Engineering Study Report that is provided in Appendix 2. Hanson Professional Services also prepared a soil boring report that has been included as Appendix 3.

Table 1-1
Soil Borings

Boring Identification	Surface Elevation (ft. AMSL)	Boring Depth (ft. bgs)	Bottom Elevation (ft. AMSL)	≥5 Feet Below E.D.E?	≥30 Feet Below E.D.E?
B-1	59.25	42	17.25	YES	NO
B-2	52.64	27	25.64	NO	NO
B-3	56.1	37	19.1	NO	NO
B-4	58.01	39	19.01	NO	NO
B-5	60.54	48	12.54	YES	NO
B-6	55.46	38	17.46	YES	NO
B-7	61.05	36	25.05	NO	NO
B-8	59.79	43	16.79	YES	NO
B-9	62.51	44	18.51	NO	NO
B-9R	41.41	17	24.41	NO	NO
B-10	49.78	29	20.78	NO	NO
B-11	60.2	33	27.2	NO	NO
B-12	52.38	48	4.38	YES	NO
B-13	59.13	50	9.13	YES	NO
B-14	49.94	42	7.94	YES	NO
B-15	48.39	37	11.39	YES	NO
B-16	55.96	47	8.96	YES	NO
B-17	41.35	33	8.35	YES	NO
B-18	50.04	42	8.04	YES	NO
B-21	52.41	84	-31.59	YES	YES
B-23	49.5	86	-36.5	YES	YES
B-24	47.38	72	-24.62	YES	YES
B-25	61.12	88	-26.88	YES	YES
B-30	45.99	82.5	-36.51	YES	YES
B-31	58.37	68	-9.63	YES	YES
B-32	48.46	82.5	-34.04	YES	YES

Boring Identification	Surface Elevation (ft. AMSL)	Boring Depth (ft. bgs)	Bottom Elevation (ft. AMSL)	≥5 Feet Below E.D.E?	≥30 Feet Below E.D.E?
B-33	64.51	86	-21.49	YES	YES
B-34	61.14	43	18.14	NO	NO
B-35	64.5	72.5	-8	YES	YES
B-36	59.13	68	-8.87	YES	YES
B-37	45.52	48	-2.48	YES	NO
B-38	41.64	58	-16.36	YES	YES
B-39	60.26	68	-7.74	YES	YES
B-40	52.31	33.5	18.81	NO	NO
B-41	50.2	62.5	-12.3	YES	YES

E.D.E.-Elevation of Deepest Excavation (22.5' Above Mean Sea Level (AMSL))

2.0 REGIONAL INFORMATION

2.1 Regional Physiography

As discussed in Finch Energy and Environmental Services' Report (Appendix 1, Section 2.0, Page 11-12), the site of the landfill is located in the part of the Gulf Coastal Plain that has been defined as the Coastal Bend of Texas. The coastal plain is gently, but irregularly, inclined gulfward at about 5 feet or less per mile. In many areas, coastal plain slopes range from 1 to 3 feet per mile, and on the lagoonal wind-tidal flats, slopes are usually less than 1 foot per mile. Elevations within the county range from 0 feet (Gulf of Mexico) to 125 feet above Mean Seal Level (MSL) in the extreme northwestern part. It is characterized as an arid, desert like region where wind (Eolian) erosion and wind transported sediment have determined much of the area's character and distinctiveness. The surface features of the county are broad, dune covered mainland prairies and extensive coastal wind-tidal flats.

Eolian transport of silts and sands has produced the South Texas Eolian System (Sand Sheet). Extensive, hummocky prairies within the South Texas sand sheet are underlain by relic sand dunes and wind-deflated depressions which extend inland from broad wind-tidal flats along the landward margin of Laguna Madre and parts of Baffin Bay.

2.2 Regional Stratigraphy

Table 2-1 presents the geologic formations that characterize the regional stratigraphy of Kleberg County.

Table 2-1
Geologic Formations for Kleberg County

Period	Epoch	Geologic Formation	Approximate Maximum Thickness (FT)	Litholgy	Water-Bearing Properties
Quaternary		Alluvium	?	Mostly very fine to fine sand, silt, and calcareous clay	Not significant as an aquifer. Not known to be tapped by wells.
		Barrier Island Deposits	50	Tan to gray, fossiliferous, medium sand containing wood fragments; interbedded tan sand and gray clay, locally gypseous; and gray, fossiliferous sandy clay	Capable of yielding small quantities of fresh water to shallow wells on Padre Island.
	Holocene and Pleistocene (?)	South Texas Eolian Plain Deposits	60+	Tan to white, unfossiliferous, massive, fine to very fine sand, greenish gray sandy clay, highly calcareous clay or marl, and thin-bedded clayey sand.	Yields small quantities of sl ightly saline water to a few stock wells in Kenedy County. in sofne areas in Kenedy County the sand contains brine
	Pleistocene	Barrier Island and Beach Deposits	1,400	Barrier island and beach deposits mostly light gray, massive, crossbedded fine sand about 60 feet thick; contains some shell fragments.	Barrier island and beach deposits yield small quantities of fresh to probably moderately saline water to a few stock wells in eastern Kleberg County near Laguna Madre.
		Beaumont Clay and Lissie Formation, Undifferentiated		Beaumont Clay and Lissie Formation mostly very calcareous, slightly carbonaceous, blue and yellow clay and a few lenticular beds of sand.	Beaumont Clay and Lissie Formation yield small quantities of slightly to moderately saline water to a few mostly stock wells in eastern part of Kleberg and Kenedy Counties.
Tertiary	Pliocene	Goliad Sand	1,100	Fine to coarse, mostly gray calcareous sand interbedded with sandstone and varicolored calcareous clay. Sand beds or sandstone compose from 40 to 60 percent of the formation.	Principal aquifer. Yields small to large quantities of fresh to slightly saline water to public supply, industrial, and irrigation wells as well as to numerous rural domestic and stock wells. Many of the wells tapping the Goliad in Kleberg and Kenedy Counties flow.
	Miocene	Lagarto Clay	1,200+	Mostly stiff, compact, gray, calcareous clay and some thin lenticular beds of gray sand.	Not known to be tapped by wells, but capable of yielding small quantities of slightly saline water in Kenedy and Jim Wells Counties.
		Oakville Sandstone	600	Very fine to coarse, brown to gray sand and sandstone interbedded with silt and a considerable amount of clay.	Yields small to moderate quantities of sl ightly saline water to industrial and stock wells in southern Jim Wells County.

*Texas Water Development Board, Report 173, Ground-Water Resources of Kleberg, Kenedy, and Southern Jim Wells Counties, Texas, July 1973. (Shafer, 1973)

2.3 Regional Hydrogeology

As discussed in Finch Energy and Environmental Services' Report (Appendix 1, Section 4.0, Page 34-35), The Evangeline Aquifer is the principal aquifer in the region and is considered one of the most prolific aquifers in the Texas Coastal Plain. The aquifer is composed of at least the Goliad Sand and includes sections of sand in the Fleming Formation. Also discussed in Finch Energy and Environmental Services' Report (Appendix 1, Section 3.2, Page 17-18), the Goliad Sand of Pliocene age occurs in the subsurface of the site area. It is the principal aquifer in the site area with wells producing small to large quantities of fresh to slightly saline water to public supply, industrial, irrigation, rural-domestic, and stock wells. The aquifer is considered a large, leaky artesian aquifer. A stratigraphic column of geologic formations including a brief discussion of lithology and water-bearing properties found in the area of Kingsville is presented in Table 2-1.

The Pleistocene formations exposed in the region are the Beaumont Clay and Lissie Formation. The Beaumont Clay is recognized as lying to the east of U.S. Highway 77. The Beaumont Clay is a series of delta-plain deposits composed principally of mud with localized elongate sand and silt bodies. The Lissie Formation is composed of meanderbelt sands and muds which underlie thin loess (Eolian silt) deposits and Eolian sand deposits west of U.S. Highway 77. These two formations are generally discussed as one unit; Beaumont Clay and Lissie Formation, undifferentiated (Chicot Aquifer). Regional hydrogeology for the site is discussed further in Appendix 1 beginning on page 16.

2.4 Water Quality

As stated in Appendix 1 (Section 4.1, Page 23), water quality of the Goliad is highly variable. The quality of water from wells in the Goliad Sand deteriorates at depths greater than 1,000 feet, and the salinity of the water increases eastward. Generally, water from wells in the Goliad Sand in southern Jim Wells County and about the western one-half of Kleberg County meets the quality standards of the U.S. Public Health Service. Shallow, moderately saline to very saline water overlies the fresh to slightly saline water at most places (Shafer, 1973).

The Beaumont Clay and Lissie Formation (Chicot Aquifer) yield small quantities of slightly to moderately saline water to a few shallow wells used mostly for stock needs in eastern Kleberg and Kenedy Counties. Test wells drilled for observation purposes 1.25 miles west of Riviera (approximately 15 miles south of Kingsville), show that shallow sands of the Beaumont and Lissie usually contain very saline water in this area. The casings of many wells are cemented through the Beaumont and Lissie due to highly mineralized water associated with these formations (Shafer, 1973).

A groundwater contour map has been included in Attachment 3 (Figure III.4-3-1). A monitoring well groundwater elevation table has been included as Exhibit 1 of Attachment 3 and an analytical data summary table has been included as Exhibit 2 of Attachment 3. Detailed analytical data and groundwater elevations from historic ground water monitoring of monitor wells at the site can be found in the Groundwater Characterization Report which is included in Appendix 1 beginning on page 752. On-site groundwater monitoring well installation information has also been included in

Appendix 1 beginning on page 962, and additional on-site monitor well installation information shall be provided as wells are installed.

2.5 Groundwater Recharge

As discussed in Appendix 1 (Section 4.3, Page 37), Recharge within a 5 mile radius is from downward percolation of surface water, infiltration from streams, impoundments, and water retained in abandoned caliche pits. A map of the recharge area can be seen in Figure 4.14 ~~in~~ on page 44 of Appendix 1.

3.0 SITE CHARACTERIZATION

3.1 Site Topography

The natural topography in the vicinity of the landfill is relatively flat to slightly depressed. The general direction of drainage is to the east-southeast and east-northeast. The natural ground elevation at the City of Kingsville Landfill is approximately 52 feet above mean sea level (MSL). The proposed elevation of the deepest excavation at the site is approximately 22.5 feet above MSL, and the highest permitted elevation for the site is approximately 200 feet above MSL. Lines displaying site topography for the City of Kingsville Landfill have been included on Attachment 2- Soil Boring Location Map (Figure III.4-2-1). The site vicinity is surrounded by extensive areas of agriculture. There are also abandoned caliche mines to the west and southwest. The Santa Gertrudis Creek, located 0.7 miles to the north, trends to the east-southeast 3.25 miles to it's confluence with the San Fernando Creek which then flows southeast to the Cayo del Grullo of Baffin Bay. Jaboncillos Creek, Ebanito Creek and several small unnamed ephemeral streams, are located several miles south of the site.

3.2 Subsurface Investigation Report

3.2.1 Site Exploration

Three subsurface studies have been performed to evaluate the stratigraphy of the landfill site. A total of thirty-five (35) borings have been drilled to depths ranging from 17 to 88 feet below the natural ground surface.

Finch Energy and Environmental Services, Inc. installed twelve (12) borings ranging in depth from 17 to 48 feet below the existing ground surface. Professional Service Industries, Inc. installed eleven (11) borings ranging from 33 to 88 feet below the existing ground surface. Tolunay-Wong Engineers, Inc. installed twelve (12) borings ranging in depth from 33.5 to 86 feet below the existing ground surface.

3.2.2 Field Drilling, Sampling, and Logging

For the three investigations, the soil test borings were installed using a drilling rig capable of sampling cohesive and cohesionless materials. Samples of cohesive materials were obtained by hydraulically pushing a thin walled tube in accordance with ASTM D 1587. Non-cohesive soils were obtained by performing a standard penetration test (SPT) using a split barrel sampler in accordance with ASTM D 1586-D. The samples were extruded in the field, wrapped in foil, placed in moisture sealed containers, and protected from disturbance prior to transport to the laboratory.

All samples were transported to the laboratory for testing and were identified according to boring number and depth at a minimum. Soil test borings were visually logged in the field and boring logs have been provided in Appendices 1, 2, and 3.

3.3 Site Stratigraphy

As seen on ~~the Geologic Atlas of Texas Corpus Christi Sheet~~Figure 4.4 and 4.4a (Page 19-20), the primary geologic formations exposed at the surface of the site are silt sheet deposits, clay dune, and clay-sand dune deposits. The topsoil consists of clay which is black, silty, and contains humic material. Sediments encountered in borings at the site are Holocene and Pleistocene in age and consist of clays, silts, sands, and caliche deposited in two (2) separate and distinct environments of deposition. The subsurface geology is presented on cross sections A–A' through ~~B–~~I ~~B'–~~I' included in Appendix 1 beginning on page 67.

The site is underlain by sediments that can be divided into five discontinuous units and one continuous unit. The discontinuous units are caliche bearing channel unit (I), sand filled channel unit (II), clayey sand (clay dune, III), clayey sand (clay dune IV), and sandy silty clay (V). The continuous unit consists of the light olive green to gray clay which is an aquiclude present below the site. The water bearing zone is made up of the five discontinuous units which are all in communication. The average ground water level is at approximately 35 feet below National Geodetic Vertical Datum (NGVD).

3.3.1 Body I- Caliche Bearing Channel

As stated in Appendix 1 (Page 59), this is the youngest, most extensive, sand containing body that can be correlated across the site. This body consists of interbeds of caliche, clays, and sands which, in themselves, are noncorrelative. The individual beds within this body appear to be of limited extent and probably represent braided deposits within a single channel approximately ½ mile in width. The base of this channel is placed at the base of the lowest caliche encountered in the borings at the site. When grouped together, it can be shown via cross section and isopach mapping that the body can obtain a maximum thickness of 40 feet and, as a whole, cuts downward into underlying beds. This body was deposited as a channel system which trends in a down dip direction, southwest to northeast, across the City of Kingsville Landfill site. Much of the caliche contained within this body has been previously removed from the site by mining operations.

3.3.2 Body II- Sand Filled Channel

As stated in Appendix 1 (Page 59), Body II was deposited as a channel filled with a homogeneous, well sorted, very fine grained to fine grained, clean, unconsolidated sand. The fill sediment in Body II is much simpler than the fill sediment in Body I. The preserved length and width of this channel sand is less than one half mile due to truncation and incisement by the overlying Body I channel. Body II is interpreted as being a channel due to down cutting evident on the cross sections. This channel sand is apparent in borings 10 and 17. Body II was also evident in boring 37, which was installed in the most recent geotechnical investigation by Tolunay-Wong Engineers, Inc., approximately 14.5 feet below ground elevation 45.52. Deposition of the Body II channel sand was oriented in a dip direction, southwest to northeast across the site.

3.3.3 Body III- Clayey Sand (Clay Dune)

As stated in Appendix 1 (Page 59-60), the Clayey Sand (Clay Dune) Body III lies under the eastern edge of the City of Kingsville Landfill site and is composed of a homogeneous, very fine grained, well sorted, clayey sand. Well 13 was previously the only known penetration of the sand encountering a thickness of 17'. Borings 35 and 39, installed by Tolunay-Wong Engineers, Inc., also penetrated Body III at approximately 24 feet and 36.5 feet below ground elevations of 64.5 and 60.26 feet respectively. At it's base, the sand appears to be conformable with the underlying "orange" sand which is interpreted as a near shore or beach sand. Body III is interpreted as a clay dune based on clay content, sorting, and stratigraphic position within an overall regression section.

3.3.4 Body IV- Clayey Sand (Clay Dune)

As stated in Appendix 1 (Page 60), the Clayey Sand (Clay Dune) Body IV is believed to be a time and stratigraphic equivalent of Body III, described above, and underlies a portion of the western edge of the City of Kingsville Landfill site. Borings 16 and 23 penetrated 18 feet and 12 feet respectively, immediately above the underlying "orange" sand. Body IV sand is similar in all respects to the homogeneous, very fine grained, well sorted, clayey sand which comprises Body III above. Cross section G-G' included in Appendix 1 (wells 16 and 23) illustrates the top of Body IV as being concave downward with a flat base, indicating deposition as a "buildup" or clay dune. Again, Body IV appears conformable with the underlying "orange" which is interpreted as a near shore or beach sand. Bodies III and IV are typical of the QCD deposits seen on the Geologic Atlas of Texas Corpus Christi Sheet. QCD is comprised of clay due and clay-sand dune deposits and possess physical properties similar to those of the sandy and silty Beaumont Formation as indicated in the Geologic Atlas of Texas.

3.3.5 Sandy Clay Bed

As stated in Appendix 1 (Page 60), the sandy clay bed was deposited in conjunction with Bodies I through IV and is composed of a homogeneous, tan, sandy clay containing abundant decomposed organic material. Thickness of this clay ranged from 40 to 60 feet under the City of Kingsville Landfill site with the above described Sand Bodies deposited within or adjacent to this clayey interval. The basal contact is abrupt with the underlying "orange" Sand.

3.3.6 "Orange" Sand

As stated in Appendix 1 (Page 60), the "orange" sand appears to have been deposited in a near shore or beach environment. The sand is extremely well sorted and clean and the grains are well rounded and composed of approximately 90% fine quartz grains and 10% fine multicolored shell fragments giving the overall sand color an orange cast. The thin (<5 feet), sheet-like nature of the sand represents a beach environment of short duration developed at the top of the Beaumont clay (Light Olive Green to Gray Clay). It is present in all wells of sufficient depth.

3.3.7 Light Olive Green to Gray Clay

As stated in Appendix 1 (Page 61), tops of the Light Olive Green to Gray Clay are necessary to make the above interpretations of shallower beds in that it is the most definitive, planar marker bed under the City of Kingsville Landfill site. This clay is pure and therefore exhibits characteristic low permeabilites with a proven thickness of at least 38 feet as seen in Boring 21 (boring log included in Appendix 1). The light olive green clay layer begins at approximately 46 feet below the ground surface elevation of 52.41 feet in boring 21, and the boring was terminated at

approximately 84 feet below the surface elevation (bottom elevation of -36.5 feet). The clay layer is also evidenced in boring B-23 with an approximate thickness of 50 feet. The layer begins at approximately 36 feet below the surface elevation of 49.50 feet, and the boring terminates at approximately 86 feet below the surface elevation (bottom elevation of -36.5 feet).

3.4 Geologic Fault and Seismicity Assessment

A geologic fault and seismicity assessment was performed by FEE. Sections 3.3.1 (Page 26-27) and 3.3.4 (Page 28) in Appendix 1 discusses faults and faulting, and seismic impact zones at the City of Kingsville Landfill. Conclusions from FEE are as follows:

"An evaluation of potential faults or fault zones does not indicate the presence of *active* faults. Topographic Maps, literature searches, aerial photographs, Petroleum Industry maps and a field survey were used in this evaluation. The field survey combined with topographic maps did not *reveal* structural damage to buildings, ground scarps, or unusual surface depressions. Changes in drainage or vegetation patterns which are also associated with faulting were not present. Data presented by Algermissen, et al, 1990 suggests a low probability of major seismic activity in the vicinity of the site."

A Seismic Impact Zone Map from the USGS from 1990 has been provided by FEE in Figure 4.9 of Appendix 1 (Page 30). A Seismic-Hazard Map for the Conterminous United States from 2014 from the USGS has also been included as Attachment 4 (Figure III.4-4-1). Both maps show the City of Kingsville Landfill site to be clear of any potential seismic impact zones.

3.5 Geologic Processes

Active Geologic Processes are discussed in Section 3.3 of Appendix 1 (Page 26-28). The primary geologic process occurring in this area of Texas is erosion. Based on soil types and character, and topography, erosion does not appear to be a significant factor under "normal conditions" or if design criteria are met and maintained. The construction of silt fences, wind screens, diversion berms, and routine maintenance should keep erosion at the City of Kingsville Landfill manageable.

4.0 GEOTECHNICAL REPORT

4.1 Laboratory Results

Laboratory tests were performed by Finch Energy and Environmental Services, Inc., Professional Service Industries, Inc., and Tolunay-Wong Engineers, Inc. on recovered soil samples to determine the engineering properties of the strata during the previous and most recent geotechnical engineering studies. Laboratory tests were performed in general accordance with ASTM International standards to measure physical and engineering properties of the recovered samples. Laboratory testing descriptions and methods used in the most recent Tolunay-Wong Engineers, Inc. study can be viewed in table 4-1. Laboratory results gathered from previous subsurface investigations performed by FEE and PSI are located in section 8.0 of Appendix 1 beginning on page 87. A summary of Tolunay-Wong's laboratory results has been included below.

Table 4-1
Laboratory Testing Program

Test Description	Test Method
Amount of Material in Soils Finer than No. 200 Sieve	ASTM D 1140
Unconfined Compressive Strength of Cohesive Soil (UC)	ASTM D 2166
Water (Moisture) Content of Soil	ASTM D 2216
Liquid Limit, Plastic Limit and Plasticity Index of Soils	ASTM D 4318
Density (Unit Weight) of Soil Specimens	ASTM D 2937
One-Dimensional, Incremental Loading Consolidation	ASTM D 2435
Consolidated-Undrained Triaxial Compression w/ Pore Water Pressure	ASTM D 4767

Standard geotechnical laboratory test results and soil properties encountered in the project borings are presented on the logs of borings in Appendix B of Appendix 2 beginning on page 31. Results of completed one-dimensional consolidation and consolidated-undrained triaixial ~~compression~~ shear tests performed on the selected cohesive soil samples obtained for this study are included in Appendix ~~C~~ D (Page 64) and E (Page 68) of Appendix 2.

In-situ moisture contents of selected cohesive clay samples ranged from 18% to 34%. Results of Atterberg Limits tests on selected clay samples indicated liquid limits (LL) ranging from 31 to 81 with plasticity indices (PI) ranging from 18 to 58. The amount of materials finer than the No. 200 sieve on the selected samples ranged from 55% to 100%. In-situ moisture contents of selected silty sand samples ranged from 23% to 24%. The amount of materials finer than the No. 200 sieve on the selected samples tested for grain size distribution ranged from 14% to 38%.

Undrained shear strengths derived from field pocket penetrometer readings ranged from 0.25-tsf to 4.50-tsf. Undrained shear strengths derived from laboratory unconfined compressive (UC) strength testing ranged from 0.16-tsf to 3.41-tsf with corresponding total unit weights of 86-pcf to 105-pcf. Shear strength of cohesive soils inferred from SPT blow counts generally were similar. Based on this undrained shear strength data, the consistency of the cohesive soils encountered in the project borings is considered to be very soft to very stiff. Tabulated laboratory test results at the recovered sample depths are presented on the boring logs in Appendix B of Appendix 2 beginning on page 31.

4.2 Geotechnical Analysis

4.2.1 Settlement Analysis

One-dimensional consolidation tests were performed by Tolunay-Wong Engineers, Inc. using select samples from the soil borings to evaluate the compressibility characteristics of the foundation soils. The results of the consolidation tests are presented in Appendix D of Appendix 2 (Page 65-67). The predicted settlements resulting from consolidation settlement of the foundation soils due to the weight of the overlying landfill material are on the order of 1 foot.

Mr. Ralph N. Lewis of PSI also performed a settlement analysis during PSI's previous geotechnical analysis, and his calculations are shown in Appendix H.2 of Appendix 1 (Page 539). His calculations show that conservatively the final landfill cover will settle 3.0 inches at the center

and 1.5 inches at the edges of the landfill. These calculations were based on previous landfill designs and capacities.

4.2.2 Slope Stability

A slope stability analysis was conducted by FEE. The objective of the analysis was to determine the local sliding stability of the liner system and cover as well as the overall stability of the embankment slope. The proposed embankments have a 4 (horizontal) to 1 (vertical) slope. FEE determined that a maximum allowable landfill height to satisfy a minimum factor of safety of 2.0 under static loading conditions was approximately 125 NGVD. Further discussion of the results from these analyses can be seen in Appendix 1 Section 8.3- Engineering ~~Analysis~~Analyses beginning on page 120. Tolunay-Wong Engineers, Inc. also performed a waste mass stability analysis during their geotechnical engineering study. Tolunay determined that the calculated factor of safety for peak shear strength conditions exceeded 1.5 for their assumed strength and unit weight parameters, the analyzed cross sections, and assumed failure geometry. The calculated factor of safety for large displacement condition exceeds 1.5, which in their judgement, and based on published information, is acceptable. Further discussion of the results of this study have been included in Appendix 2 Section 7- Waste Mass Stability (Page 24-26).

5.0 CONCLUSIONS

As discussed in Finch Energy and Environmental Services, Professional Service Industries, Inc., and Tolunay-Wong Engineers Inc. reports and based upon the results of field and laboratory investigations performed during these studies, the following conclusions have been developed:

The site is located in the Gulf Coastal Plain of Texas with the Beaumont Clay and Lissie Formation undifferentiated near the surface. This formation underlies silt sheet deposits, clay dune, and clay-sand dune deposits on the surface at the site.

The site is underlain by sediments that can be divided into five discontinuous units [Caliche Bearing Channel Unit (I), Sand Filled Channel Unit (II), Clayey Sand (Clay Dune)(III), Clayey Sand (Clay Dune)(IV), Sandy (Silty) Clay] and one continuous unit [Light Olive Green to Gray Clay Aquiclude]. The water bearing zone is made up of the five discontinuous units which are all in communication. The normal ground water level is at approximately 35 ft NGVD.

The uppermost aquifer beneath the base grade of the existing site can be defined as a discontinuous fluvial-deltaic environment in which all units are in hydraulic communication with each other and bounded by the 38 foot thick plus Light Olive Green to Gray Clay aquiclude at depths of 5 ft to 17 ft above mean sea level. Groundwater movement is to all sides of the landfill except to the northwest.

The Landfill site has a Light Olive Green to Gray Clay layer of more than 38 feet thickness which forms an aquiclude between the uppermost local aquifer and the Chicot aquifer which is the uppermost regional aquifer. The Chicot aquifer is located between 200 and 300 feet below mean seal level (MSL) and generally contains slightly-saline to saline water in Kleberg County.

Tolunay determined that the calculated factor of safety for peak shear strength conditions exceeded 1.5 for their assumed strength and unit weight parameters, the analyzed cross sections, and assumed failure geometry. The calculated factor of safety for large displacement condition exceeds 1.5, which based on published information, is acceptable. Based on Tolunay-Wong's Geotechnical Engineering Study results, and in their opinion, it is anticipated that the planned landfill configuration should be stable, provided excess pore pressures are not generated within the waste mass or that there is no increase in piezometric head above 1 foot within the underlying liner cover material or leachate collection system. The generation of pore pressures and increase in piezometric head within the materials could substantially reduce the factor of safety and increase the risk for stability problems. Also, the predicted settlements resulting from consolidation settlement of the foundation soils due to the weight of the overlying landfill material are on the order of 1 foot.

References

1. Algermissen, S.T., et al, Probablistic Earthquake Acceleration and Velocity Maps for the United States and Puerto Rico, (1990).

2. Aronow, S., and Barnes, V. E., Geologic Atlas of Texas, Corpus Christi Sheet: The University of Texas at Austin, Bureau of Economic Geology (1975).

3. Finch, R.N, P.E., Geology Report, Permit Amendment Application-City of Kingsville Landfill, City of Kingsville, Kleberg County, Texas, Permit Amendment No. MSW 235-B: Finch Energy and Environmental Services, Inc, (1998).

4. O'Connor, M.J., P.E., and Rein, A.R., E.I.T., Subsurface Exploration and Laboratory Analysis for the Proposed Landfill Expansion, Kingsville, Texas: Professional Service Industries, Inc, (1997).

5. Petersen, M.D., et al, Seismic-Hazard Maps for the Conterminous United States, 2014: U.S. Geological Survey Scientific Investigations Map 3325, sheet 2, scale 1: 7,000,000, (2015), https://dx.doi.org/10.3133/sim3325.

6. Shafrer, G.H., and Baker, E. T., Jr., Ground-water Resources of Kleberg, Kenedy, and Southern Jim Wells Counties, Texas: Texas Water Development Board Report #173, (1973).

CITY OF KINGSVILLE LANDFILL

PART III, ATTACHMENT 4

APPENDIX 1

FEE GEOLOGY REPORT DATED MAY 29, 1998 AND JUNE 29, 1998, AND REVISED SEPTEMBER 30, 1998, WITH APPENDICES.

FEE GROUNDWATER CHARACTERIZATION REPORT DATED NOVEMBER 1997, REVISED JUNE 1998 AND SEPTEMBER 1998, WITH APPENDICES

CITY OF KINGSVILLE LANDFILL

PART III, ATTACHMENT 4

APPENDIX 2

TOLUNAY-WONG ENGINEERS, INC. GEOTECHNICAL ENGINEERING STUDY

CITY OF KINGSVILLE LANDFILL

PART III, ATTACHMENT 4

APPENDIX 3

HANSON PROFESSIONAL SERVICES, INC. SOIL BORING REPORT

CITY OF KINGSVILLE LANDFILL

PART III, ATTACHMENT 4

ATTACHMENT 1

LOCATION MAP

CITY OF KINGSVILLE LANDFILL

PART III, ATTACHMENT 4

ATTACHMENT 2

SOIL BORING LOCATION MAP

CITY OF KINGSVILLE LANDFILL

PART III, ATTACHMENT 4

ATTACHMENT 3

GROUNDWATER CONTOUR MAP

EXHIBIT 1 – GROUNDWATER ELEVATION TABLE
EXHIBIT 2 – ANALYTICAL DATA SUMMARY

CITY OF KINGSVILLE LANDFILL

PART III, ATTACHMENT 4

ATTACHMENT 4

SEISMIC-HAZARD MAP~~S~~ FOR THE CONTERMINOUS UNITED STATES

Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Clean Copy - Appendix 1 -

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Appendix 1

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235C

PERMIT AMENDMENT APPLICATION

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018
Revision 1 – November 2018

STATE OF TEXAS
JON M. REINHARD
64541
LICENSED PROFESSIONAL ENGINEER
11/01/18

Prepared by

HANSON
Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438- 000

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235C

PERMIT AMENDMENT APPLICATION

Volume 1 of 6

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018
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THE CITY OF KINGSVILLE LANDFILL

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Part I

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Engineering | Planning | Allied Services

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THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235C

PERMIT AMENDMENT APPLICATION

Part I

Attachment 1
Supplementary Technical Report

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018
Revision 1 – November 2018

STATE OF TEXAS
JON M. REINHARD
64541
LICENSED PROFESSIONAL ENGINEER
11/01/18

Prepared by

HANSON
Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235C

PERMIT AMENDMENT APPLICATION

Part I

Attachment 7
Evidence of Competency

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018
Revision 1 – November 2018

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JON M. REINHARD
64541
LICENSED PROFESSIONAL ENGINEER
11/01/18

Prepared by

HANSON
Engineering | Planning | Allied Services

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THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235C

PERMIT AMENDMENT APPLICATION

PART II

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018
Revision 1 – November 2018

STATE OF TEXAS
JON M. REINHARD
64541
LICENSED PROFESSIONAL ENGINEER
11/01/18

Prepared by

HANSON
Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235C

PERMIT AMENDMENT APPLICATION
PART III
SITE DEVELOPMENT PLAN

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018
Revision 1 – November 2018

Prepared by

STATE OF TEXAS
JON M. REINHARD
64541
LICENSED PROFESSIONAL ENGINEER
11/01/18

HANSON
Engineering | Planning | Allied Services

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THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235C

PERMIT AMENDMENT APPLICATION

Volume 2 of 6

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018
Revision 1 – November 2018

STATE OF TEXAS
JON M. REINHARD
64541
LICENSED PROFESSIONAL ENGINEER
11/01/18

Prepared by

HANSON
Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL
TCEQ PERMIT MSW 235C

PERMIT AMENDMENT APPLICATION
PART III, ATTACHMENT 4
GEOLOGY REPORT

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision 1 – November 2018

STATE OF TEXAS
TAD A. GASS
GEOLOGY
11496
LICENSED
PROFESSIONAL GEOSCIENTIST

Tad A. Gass
11/01/2018

Prepared by

HANSON
Engineering | Planning | Allied Services

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THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235C

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Volume 3 of 6

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018
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JON M. REINHARD
64541
LICENSED PROFESSIONAL ENGINEER
11/01/18

Prepared by

HANSON
Engineering | Planning | Allied Services

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THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235C

PERMIT AMENDMENT APPLICATION

Volume 4 of 6

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

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THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235C

PERMIT AMENDMENT APPLICATION

Volume 5 of 6

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018
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JON M. REINHARD
64541
LICENSED PROFESSIONAL ENGINEER
11/01/18

Prepared by

HANSON
Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235C

PERMIT AMENDMENT APPLICATION
PART III, ATTACHMENT 11
GROUNDWATER SAMPLING AND ANALYSIS PLAN

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision 1 – November 2018

STATE OF TEXAS
TAD A. GASS
GEOLOGY
11496
LICENSED
PROFESSIONAL GEOSCIENTIST

Tad A. Gass
11/01/2018

Prepared by

HANSON
Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

THE CITY OF KINGSVILLE LANDFILL
TCEQ PERMIT MSW 235C

PERMIT AMENDMENT APPLICATION

PART III - ATTACHMENT 12

APPENDIX 1

LANDFILL UNIT AND FINAL CLOSURE SCHEDULE

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018
Revision 1 – November 2018

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Engineering | Planning | Allied Services

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THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235C

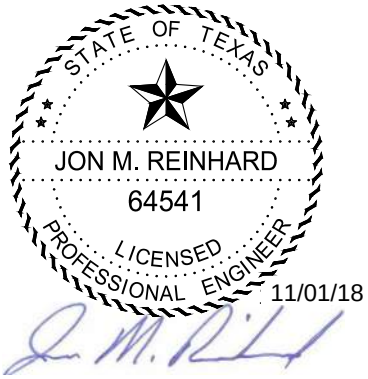
PERMIT AMENDMENT APPLICATION
PART III – ATTACHMENT 14
LANDFILL GAS MANAGEMENT PLAN

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision 1 – November 2018

Prepared by



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THE CITY OF KINGSVILLE LANDFILL

TCEQ PERMIT MSW 235C

PERMIT AMENDMENT APPLICATION

Volume 6 of 6

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

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JON M. REINHARD
64541
LICENSED PROFESSIONAL ENGINEER
11/01/18

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THE CITY OF KINGSVILLE LANDFILL
TCEQ PERMIT MSW 235C

PERMIT AMENDMENT APPLICATION
PART IV

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision 1 – November 2018

STATE OF TEXAS
JON M. REINHARD
64541
LICENSED PROFESSIONAL ENGINEER
11/01/18

Prepared by

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Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Clean Copy - Appendix 2 -

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Appendix 2

Facility Name: City of Kingsville Landfill
Permittee/Registrant Name: City of Kingsville
MSW Authorization #:235C
Initial Submittal Date: September/2018
Revision Date: 1 - November 2018

Texas Commission on Environmental Quality

Part I Form for New Permit/Registration and Amendment Applications for an MSW Facility

1. Reason for Submittal

☒ Initial Submittal ☐ Notice of Deficiency (NOD) Response

2. Authorization Type

☒ Permit ☐ Registration

3. Application Type

☐ New ☒ Major Amendment

☐ Major Amendment (Limited Scope)

4. Application Fees

☐ Pay by Check ☒ Online Payment

If paid online, e-Pay Confirmation Number: **Trace Number: 582EA000315158, Voucher Number: 385823, Voucher Number: 385824**

5. Application URL

Is the application submitted for Type I Arid Exempt (AE) and/or Type IV AE facility?

☐ Yes ☒ No

If the answer is "No", provide the URL address of a publicly accessible internet web site where the application and all revisions to that application will be posted.
http://**www.cityofkingsville.com/departments/public-works/landfill/landfill-amendment-application/**

6. Application Publishing

Party Responsible for Publishing Notice:

☐ Applicant ☐ Agent in Service ☒ Consultant

Contact Name: **Scot Collins, P.G.** Title: **Project Manager**

7. Alternative Language Notice

Is an alternative language notice required for this application? (For determination refer to Alternative Language Checklist on the Public Notice Verification Form TCEQ-20244-Waste)

☒ Yes ☐ No

8. Public Place Location of Application

Name of the Public Place: **City of Kingsville City Hall**

Physical Address: **400 W. King Avenue**

City: **Kingsville** County: **Kleberg** State: **Texas** Zip Code: **78363**

(Area code) Telephone Number: **(361) 595-8004**

9. Consolidated Permit Processing

Is this submittal part of a consolidated permit processing request, in accordance with 30 TAC Chapter 33?

☐ Yes ☒ No ☐ Not Applicable

If "Yes", state the other TCEQ program authorizations requested:

10. Confidential Documents

Does the application contain confidential documents?

☐ Yes ☒ No

If "Yes", cross-reference the confidential documents throughout the application and submit as a separate attachment in a binder clearly marked "CONFIDENTIAL."

11. Permits and Construction Approvals

Permit or Approval	Received	Pending	Not Applicable
Hazardous Waste Management Program under the Texas Solid Waste Disposal Act	☐	☐	☒
Underground Injection Control Program under the Texas Injection Well Act	☐	☐	☒
National Pollutant Discharge Elimination System Program under the Clean Water Act and Waste Discharge Program under Texas Water Code, Chapter 26	☒	☐	☐
Prevention of Significant Deterioration Program under the Federal Clean Air Act (FCAA). Nonattainment Program under the FCAA	☐	☐	☒
National Emission Standards for Hazardous Air Pollutants Preconstruction Approval under the FCAA	☐	☐	☒
Ocean Dumping Permits under the Marine Protection Research and Sanctuaries Act	☐	☐	☒

Permit or Approval	Received	Pending	Not Applicable
Dredge or Fill Permits under the CWA	☐	☐	☒
Licenses under the Texas Radiation Control Act	☐	☐	☒
Other (describe) Air Operating Permit (#3337)	☒	☐	☐
Other (describe) Air New Source Registrations (#91376 & #54070L001)	☒	☐	☐
Other (describe) Stormwater Permit (#TXR05L074)	☒	☐	☐
Other (describe)	☐	☐	☐

12. General Facility Information

Facility Name: **City of Kingsville Landfill**

Contact Name: **Pete Pina** Title: **Landfill Supervisor**

MSW Authorization No. (if available): **235C**

Regulated Entity Reference No. (if issued)*: RN**102334570**

Physical or Street Address (if available): **348 COUNTY ROAD E 2130**

City: **Kingsville** County: **Kleberg** State: **Texas** Zip Code: **78363 9653**

(Area Code) Telephone Number: **(361) 595-0092**

Latitude (Degrees, Minutes Seconds): **N 27 26' 41.95"**

Longitude (Degrees, Minutes Seconds): **W 97 48' 55.89"**

Benchmark Elevation (above mean sea level): **52.61** ft.

Provide a description of the location of the facility with respect to known or easily identifiable landmarks: **1.7 Miles SE of the City of Kingsville at the NE corner of the intersection of FM 2619 and CR E 2130**

Detail access routes from the nearest United States or state highway to the facility: **2.57 miles east on CR E 2130 from US 77**

**If this number has not been issued for the facility, complete a TCEQ Core Data Form (TCEQ-10400) and submit it with this application. List the Facility as the Regulated Entity.*

13. Facility Type(s)

☒ Type I	☒ Type IV	☐ Type V
☐ Type I AE	☐ Type IV AE	☐ Type VI

14. Activities Conducted at the Facility

☒ Storage	☒ Processing	☒ Disposal

15. Facility Waste Management Unit(s)

- ☒ Landfill Unit(s)
- ☐ Class 1 Landfill Unit(s)
- ☐ Process Tank(s)
- ☐ Storage Tank(s)
- ☐ Tipping Floor
- ☐ Storage Area
- ☐ Container(s)
- ☐ Roll-off Boxes
- ☐ Surface Impoundment
- ☐ Incinerator(s)
- ☐ Autoclave(s)
- ☐ Refrigeration Unit(s)
- ☐ Mobile Processing Unit(s)
- ☐ Type VI Demonstration Unit
- ☐ Compost Pile(s) and/or Vessel(s)
- ☒ Other (Specify) **Brush Storage/Processing**
- ☒ Other (Specify) **Solidification Area**
- ☒ Other (Specify) **Tire Storage/Processing**

16. Description of Proposed Facility or Changes to Existing Facility

Provide a brief description of the proposed activities if application is for a new facility, or the proposed changes to an existing facility or permit conditions if the application is for an amendment.

This application is for a major amendment to the permit for a horizontal and vertical expansion at the existing landfill. The amendment is requested to increase the volume and extend the site life, to thereby provide for the long-term solid waste disposal needs for the individuals, businesses, and communities in Kingsville, Kleberg County and surrounding areas.

17. Facility Contact Information

Site Operator (Permittee/Registrant) Name: City of Kingsville

Customer Reference No. (if issued)*: CN**600674246**

Contact Name: **Pete Pina** Title: **Landfill Supervisor**

Mailing Address: **P.O. Box 1458**

City: **Kingsville** County: **Kleberg** State: **Texas** Zip Code: **78364**

(Area Code) Telephone Number: **(361) 595-0092**

Email Address: **ppina@cityofkingsville.com**

TX Secretary of State (SOS) Filing Number: **N/A**

**If the Site Operator (Permittee/Registrant) does not have this number, complete a TCEQ Core Data Form (TCEQ-10400) and submit it with this application. List the Site Operator (Permittee/Registrant) as the Customer.*

Operator Name[1]: Same as Site Operator (Permittee/Registrant)

Customer Reference No. (if issued)*:

Contact Name: Title:

Mailing Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

Email Address:

TX SOS Filing Number:

*[1]If the Operator is the same as Site Operator/Permittee type "Same as "Site Operator (Permittee/Registrant)". *If the Operator does not have this number, complete a TCEQ Core Data Form (TCEQ-10400) and submit it with this application. List the Operator as the customer.*

Consultant Name (if applicable): Hanson Professional Services Inc.

Texas Board of Professional Engineers Firm Registration Number: **F-417**

Contact Name: **Scot Collins, P.G.** Title: **Project Manager**

Mailing Address: **4501 Gollihar Road**

City: **Corpus Christi** County: **Nueces** State: **Texas** Zip Code: **78411**

(Area Code) Telephone Number: **(361)814-9900**

E-Mail Address: **scollins@hanson-inc.com**

Agent in Service Name (required only for out-of-state): N/A

Mailing Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address:

18. Facility Supervisor's License

Select the Type of License that the Solid Waste Facility Supervisor, as defined in 30 TAC Chapter 30, Occupational Licenses and Registrations, will obtain prior to commencing facility operations.

☒ Class A ☐ Class B

19. Ownership Status of the Facility

☐ Corporation	☐ Limited Partnership	☐ Federal Government
☐ Individual	☒ City Government	☐ Other Government
☐ Sole Proprietorship	☐ County Government	☐ Military
☐ General Partnership	☐ State Government	☐ Other (Specify):

Does the Site Operator (Permittee/Registrant) own all the facility units and all the facility property?

☒ Yes ☐ No

If "No", provide the information requested below for any additional ownership.

Owner Name: N/A

Street or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

Email Address (optional):

20. Other Governmental Entities Information

Texas Department of Transportation District: Corpus Christi

District Engineer's Name: **Christopher D. Caron, P.E.**

Street Address or P.O. Box: **1701 S. Padre Island Drive**

City: **Corpus Christi** County: **Nueces** State: **Texas** Zip Code: **78416**

(Area Code) Telephone Number: **(361) 808-2275**

E-Mail Address (optional):

The Local Governmental Authority Responsible for Road Maintenance (if applicable): Kleberg County

Contact Person's Name: **Roy Cantu**

Street Address or P.O. Box: **433 County Road 2310 E**

City: **Riviera** County: **Kleberg** State: **Texas** Zip Code: **78379**

(Area Code) Telephone Number: **(361) 296-3623**

E-Mail Address (optional):

City Mayor Information

City Mayor's Name: **Sam R. Fugate**

Office Address: **P.O. Box 1458**

City: **Kingsville** County: **Kleberg** State: **Texas** Zip Code: **78364**

(Area Code) Telephone Number: **(361) 595-8001**

E-Mail Address (optional): **mayor@cityofkingsville.com**

City Health Authority: City-County Health Department

Contact Person's Name: **Emilio H. Garcia**

Street Address or P.O. Box: **P.O. Box 1458**

City: **Kingsville** County: **Kleberg** State: **Texas** Zip Code: **78364**

(Area Code) Telephone Number: **(361) 592-3324**

E-Mail Address (optional): **healthdirector@cityofkingsville.com**

County Judge Information

County Judge's Name: **Rudy Madrid**

Street Address or P.O. Box: **P. O. Box 752**

City: **Kingsville** County: **Kleberg** State: **Texas** Zip Code: **78364**

(Area Code) Telephone Number: **(361) 595-8585**

E-Mail Address (optional): **Rmadrid@co.kleberg.tx.us**

County Health Authority: City-County Health Department

Contact Person's Name: **Emilio H. Garcia**

Street Address or P.O. Box: **P.O. Box 1458**

City: **Kingsville** County: **Kleberg** State: **Texas** Zip Code: **78364**

(Area Code) Telephone Number: **(361) 592-3324**

E-Mail Address (optional): **healthdirector@cityofkingsville.com**

State Representative Information

District Number: **43**

State Representative's Name: **J.M. Lozano**

District Office Address: **1512-A Wildcat, Suite 106**

City: **Portland** County: **San Patricio** State: **Texas** Zip Code: **78374**

(Area Code) Telephone Number: **(361) 643-0063**

E-Mail Address (optional):

State Senator Information

District Number: **27**

State Senator's Name: **Eddie Lucio, Jr.**

District Office Address: **7 North Park Plaza**

City: **Brownsville** County: **Cameron** State: **Texas** Zip Code: **78521**

(Area Code) Telephone Number: **(956) 548-0227**

E-Mail Address (optional):

Council of Government (COG) Name: Coastal Bend Council of Governments

COG Representative's Name: **John P. Buckner**

COG Representative's Title: **Executive Director**

Street Address or P.O. Box: **P.O. Box 9909**

City: **Corpus Christi** County: **Nueces** State: **Texas** Zip Code: **78469-9909**

(Area Code) Telephone Number: **(361) 883-5743**

E-Mail Address (optional): **john@cbcog98.org**

River Basin Authority Name: Nueces River Authority

Contact Person's Name: **Con Mims**

Watershed Sub-Basin Name: **San Fernando Creek, Nueces - Rio Grande Coastal Basin**

Street Address or P.O. Box: **602 N. Staple St., Suite 280**

City: **Corpus Christi** County: **Nueces** State: **Texas** Zip Code: **78401**

(Area Code) Telephone Number: **(361) 653-2110**

E-Mail Address (optional):

Coastal Management Program

Is the facility within the Coastal Management Program boundary?

☒ Yes ☐ No

U.S. Army Corps of Engineers

The facility is located in the following District of the U.S. Army Corps of Engineers:

☐ Albuquerque, NM ☒ Galveston, TX

☐ Ft. Worth, TX ☐ Tulsa, OK

Local Government Jurisdiction

Within City Limits of: **N/A**

Within Extraterritorial Jurisdiction of: **City of Kingsville**

Is the facility located in an area in which the governing body of the municipality or county has prohibited the storage, processing or disposal of municipal or industrial solid waste?

☐ Yes ☒ No

(If "Yes", provide a copy of the ordinance or order as an attachment):

Signature Page

I, Jesús A. Garza, City Manager,
(Site Operator (Permittee/Registrant)'s Authorized Signatory) (Title)

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: 11/1/18

TO BE COMPLETED BY THE OPERATOR IF THE APPLICATION IS SIGNED BY AN AUTHORIZED REPRESENTATIVE FOR THE OPERATOR

I, _____, hereby designate _____
(Print or Type Operator Name) (Print or Type Representative Name)

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

_____
Printed or Typed Name of Operator or Principal Executive Officer

_____
Signature

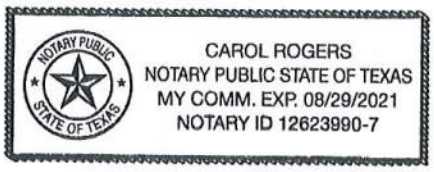
SUBSCRIBED AND SWORN to before me by the said Jesus Garza

On this 1st day of Nov., 2018

My commission expires on the 29th day of Aug., 2021

Carol Rogers
Notary Public in and for

Kleberg County, Texas
(Note: Application Must Bear Signature & Seal of Notary Public)



Part I Attachments

(See Instructions for P.E. seal requirements.)

Required Attachments	**Attachment No.**
Supplementary Technical Report	**Attachment 1**
Property Legal Description	**Attachment 4, Appendix 1**
Property Metes and Bounds Description	**Attachment 4, Appendix 1**
Facility Legal Description	**Attachment 4, Appendix 2**
Facility Metes and Bounds Description	**Attachment 4, Appendix 2**
Metes and Bounds Drawings	**Attachment 4, Appendix 2**
On-Site Easements Drawing	**Attachment 4, Appendix 2**
Land Ownership Map	**Attachment 3, Figure I.3-1**
Land Ownership List	**Attachment 3, Figure I.3-2**
Electronic List or Mailing Labels	**Attachment 3, Appendix 1**
Texas Department of Transportation (TxDOT) County Map	**Attachment 2, Figure I.2-2**
General Location Map	**Attachment 2, Figure I.2-1**
General Topographic Map	**Attachment 2, Figure I.2-3**
Verification of Legal Status	**Attachment 5**
Property Owner Affidavit	**Attachment 6**
Evidence of Competency	**Attachment 7**

Additional Attachments as Applicable- Select all those apply and add as necessary

☒ TCEQ Core Data Form(s)	**Attachment 8**
☒ Signatory Authority Delegation	**Attachment 9**
☒ Fee Payment Receipt	**Attachment 10**

☐ Confidential Documents
☐ Waste Storage, Processing and Disposal Ordinances
☐ Final Plat Record of Property
☐ Certificate of Fact (Certificate of Incorporation)
☐ Assumed Name Certificate

Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Clean Copy - Appendix 3 -

Clean Copy
Appendix 3

Texas Commission on Environmental Quality

Transportation Data and Coordination Report Form for Municipal Solid Waste Type I Landfills

This form is for use by applicants or site operators of Municipal Solid Waste (MSW) Type I landfills to provide data and information to address the availability and adequacy of access roads to a landfill site, the volume of vehicular traffic on and generated by the facility on area roadways, and to provide coordination information as required under 30 TAC §330.61(i). Roadways that provide primary access to a landfill facility must be adequate and possess appropriate design capacity to safely accommodate the additional volumes and weights of traffic generated or expected to be generated by this landfill facility during its active life. Data provided in this form should correspond with data contained in the coordination documents submitted to the Texas Department of Transportation or other agency that has jurisdiction over affected area roads.

If you need assistance in completing this form, please contact the Municipal Solid Waste Permits Section of the Waste Permits Division at (512) 239-2335.

I. General Information

Facility Name: City of Kingsville Landfill

MSW Permit No.: 235C

Site Operator/Permittee Name and Mailing Address: City of Kingsville, PO BOX 1458 KINGSVILLE, TX 78364-1458

II. Documentation of Coordination with the Texas Department of Transportation (TXDOT) for Traffic and Location Restrictions

1. A traffic study document and cover letter was submitted to TXDOT as Coordination for traffic and location restrictions for the subject facility and a copy of the documents submitted to TXDOT is attached herein: ☒ Yes ☐ No

   If you checked "No" , provide explanation:

2. Date of submission of the coordination documents to TXDOT: September 9, 2015

3. TXDOT's response received? ☒ Yes ☐ No

4. If "No" is checked in response to Item II.3 above, complete Items II.4 and II.5 below only after TxDOT's response is received.

5. Did TxDOT's response include recommendation of improvements to any of the roadways or intersections that lead to the site? ☐ Yes ☒ No

6. If you checked "Yes" in Item II.5 above, proceed to Section III., TxDOT's Recommended Roadway or Intersection Improvements (as applicable).

7. If you checked "No" in Item II.5 above, provide TxDOT's response to the traffic and location restrictions compliance coordination for the subject site: *(Enter TxDOT's response to coordination correspondence)*

A. "We do not see a need to add additional roadways to this study."

B. "The growth rate appears to be acceptable."

C. "The 2014 traffic count maps are now online at the below website: http://www.txdot.gov/inside-txdot/division/transportation-planning/maps.html "

D. "We have an upcoming widening project on FM 1717 (CSJ:1845-01 022) from FM 3320 to 1.148 MI E of FM 2619 for approximate total length of 2.33 MI within 1-mile radius of site boundary. Construction for this project should begin sometime within this month or next."

E. "Attached are Minute Orders for Load Zone Roadways, FM 1717 and FM 2619 which f all within the specified distance to the landfill, along with the restrictions themselves.

FM 1717: From JCT. BU77V to 5.14 MI South→Load Limit of 58,420 GVW (MO 46593)
FM 2619: From JCT. FM 1717 to JCT. FM 1118→Load Limit 58,420 GVW (MO 53213) "

F. "We are not aware of any other traffic or related location restrictions that exist within one mile of the site boundry."

III. TxDOT Recommended Roadway or Intersection Improvements (as applicable)

Enter TxDOT's recommendations for improvement of roadways or intersections that lead to the site:

1.

2.

3.

IV. Documentation of Coordination of Improvement Designs of Public Roadways *(e.g., Turning Lanes, Storage Lanes, Acceleration/Deceleration Lanes, etc.)* at and Near the Site Entrances with Agencies that Exercise Maintenance Responsibility

1. Complete Table 1 with information regarding documentation of coordination of improvement designs for existing and proposed roads. No improvements to the existing site entrance.

Table 1: Public Roadway Improvements Coordination

Existing and Proposed Roads Associated with the Site Entrance(s)	Agency Exercising Maintenance Responsibility	Date of Coordination Correspondence from the Applicant or Site Operator to the Agency Responsible	Date of the Coordination Response Letter from the Agency Responsible	Did the Agency Responsible Require Improvements to the Roadway(s) Associated with the Site Entrance(s) (check Yes or No as applicable)
				☐Yes ☐No
				☐Yes ☐No
				☐Yes ☐No
				☐Yes ☐No

2. If you checked "Yes" in the last column of Table 1, indicating that improvements are required, address the following:

   (a) Briefly describe the improvements proposed for the public roadway(s) associated with the site entrance(s):

   (b) A copy of the proposed improvement design submitted to the agency exercising maintenance responsibility over the roadway is attached herein: ☐Yes ☐No. If you checked "No" please explain:

   (c) A copy of the response letter from the agency exercising maintenance responsibility over the roadway(s) associated with the site entrance(s) approving the improvement design is attached herein: ☐Yes ☐No. If you checked "No" please explain:

V. Facility Location and Operation Information Used in Estimating Transportation Data

1. Facility Location Information

348 E COUNTY ROAD 2130, Kingsville, TX 78363

2. Waste Acceptance Rates

   (a) Initial Waste Acceptance Rate: 31,444 tons per year

   (b) Estimated Maximum Waste Acceptance Rate at any Time During Facility Life: 83,374 tons last year of operation

3. Hours of Operation and Site Life

   (a) a. Operating Hours: 6:00 a.m. to 9:00 p.m. seven days a week

   (b) b. Waste Acceptance Hours: 7:00 a.m. to 7:00 p.m. Monday through Friday & 8:00 a.m. to 4:30 p.m. Saturday

   (c) c. Estimated Site Life: 98 years

4. Other Information Used or Assumed in Estimating Transportation Data: The anticipated yearly population growth rate for Kleberg County of 1% (based on population projections from the Texas State Data Center

VI. Facility Daily Traffic Volume Data

1. Complete Table 2 with estimated existing daily volume of traffic generated by the facility.

Table 2: Estimated Existing Daily Volume of Traffic Generated

Vehicle Type	Traffic Volume to Facility (vehicles per day, vpd)	Traffic Volume from Facility (vpd)
Trucks	56	56
Employee Vehicles	5	5
Visitors Vehicles	3	3
Other Vehicles	1	1
Summation of Daily Volume of Traffic to and from the Facility		
Total Daily Volume of Traffic	65	65

(a) Describe the source(s) of or method(s) used to obtain the existing daily volume of traffic generated by the facility: Traffic in and out of the facility is monitored by the scale house attendant. Daily volumes are based the average daily traffic records for FY 2016 and FY 2017.

(b) Location(s) of traffic counts (if applicable): N/A

2. Complete Table 3 with estimated future daily volume of traffic generated by the facility.

Table 3: Estimated Future Daily Volume of Traffic Generated

Vehicle Type	Traffic Volume to Facility (vpd)	Traffic Volume from Facility (vpd)
Trucks	153	153
Employee Vehicles	14	14
Visitors Vehicles	8	8
Other Vehicles	3	3
Summation of Daily Volume of Traffic to and from the Facility		
Total Daily Volume of Traffic	178	178

3. Describe the method(s) used to obtain the estimated future daily volume of traffic generated by the facility, including dates, traffic growth rates, and sources of the growth rates: Started with current estimated traffic volume, applied the traffic growth rate for the estimated site life of 98 years to obtain the future daily volume

of traffic at the maximum rate. The traffic growth rate is based on the anticipated yearly population growth rate for Kleberg County of 1% (based on population projections from the Texas State Data Center).

4. Maps showing the facility boundary and roads within 1 mile of the facility that provide access to the site are attached herein. Yes ☒ No☐. If you checked "No" please explain:

VII. Availability and Adequacy of Roads

1. Complete Table 4 with information regarding the primary access roadways.

Table 4: Roadway Characteristics of the Primary Access Roadways

List the roads that the owner or operator will use as primary access to the site	Existing Annual Average Daily Traffic on Roadway (vpd)	Expected Annual Average Daily Traffic on Roadway (vpd)	Existing Roadway Capacity	Expected Roadway Capacity	Max Gross Weight Allowed (lbs)	Max/Min Posted Speed Limit (mph)	Min Vertical Clearance (ft)	Surface Type and No. of Lanes	Level of Service	Existing Traffic Generated by the Facility on Each Roadway	Expected Traffic Generated by the Facility on Each Roadway
E CR 2130	286							Paved 2 lane		130	130
FM 1717	1,470	1,710	1,700	1,700	58420	55	N/A	Paved 2 lane	B	130	130
FM 2619	894	630	1,700	1,700	58420	70	N/A	Paved 2 lane	B	130	130

2. Complete Table 5 with information regarding other access roadways within one mile.

Table 5: Roadway Characteristics of Other Access Roadways within One Mile of the Facility Boundary

List other access roadways within 1 mile of the facility	Existing Annual Average Daily Traffic on Roadway	Expected Annual Average Daily Traffic on Roadway	Existing Roadway Capacity	Expected Roadway Capacity	Max Gross Weight Allowed (lbs)	Max/Min Posted Speed Limit (mph)	Min Vertical Clearance (ft)	Surface Type and No. of Lanes	Level of Service	Existing Traffic Generated by the Facility on Each Roadway	Expected Traffic Generated by the Facility on Each Roadway
N Co Rd 1070	304							Paved 2 lane			

3. Complete Table 6 with information regarding access roadway intersections within one mile.

Table 6: Roadway Intersection Characteristics

Please list major (signalized) roadway intersections for access roads within 1 mile of facility	Existing Capacity	Existing Level of Service
None		

Please list major (signalized) roadway intersections for access roads within 1 mile of facility	Existing Capacity	Existing Level of Service

4. (For applicants that conducted traffic counts) Peak period traffic counts were conducted at critical intersections and roadways in the area: ☐ Yes ☐ No

   If "No" is checked, please explain:

VIII. Conclusions on the availability and adequacy of roads to be used for accessing the facility

Enter conclusions regarding the availability and adequacy of roads to be used for accessing the facility using information obtained from access roadway data; data on the volume of existing and expected vehicular traffic on the access roads within one mile of the facility; and the projection of the volume of traffic expected to be generated by the facility on the access roads**:**

The roadways used to access the City of Kingsville Landfill can adequately support the projected level of traffic.

IX. Highway Beautification

Enter facility distance from interstate or primary highways and screening information as required by 30 TAC 330.23(a).

1. Distance of Facility from Interstate or Primary Highway: 1.73 miles from US Highway 77

2. Type of Facility Screening Provided, if applicable: N/A

X. Analysis of the Impact of the Facility upon Airports

Enter the Part, Appendix, Attachment, Section, and Page Number of the application where analysis of the impact of the facility upon airports is provided: Part II, Section 9.5, Page Part II, pg-14.

XI. Documentation of Coordination with the Federal Aviation Administration for Compliance with Airport Location Restrictions

1. Applicant has submitted written information to FAA describing the facility location, maximum height of waste units, type of waste accepted at the facility, and other facility-relevant data and information as required: ☒ Yes ☐ No

(a) Enter Date of Coordination Letter to FAA: October 23, 2015

(b) Enter Date of FAA Response: November 20, 2015

2. Indicate FAA Response and Final Action: "With the landfill located outside of our 5-mile review criteria, we have no objection to the proposed lateral and vertical expansion of the landfill. Our position of no objection is based on the application of our guidance for hazardous wildlife attractants on or near airports FAA Advisory Circular 150/5200-33B."

☒ FAA Acknowledged No Adverse Impact.

☐ FAA Recommended Safety Improvements. (Complete Section XII if you check this item.)

3. A copy of the Documentation of Coordination with FAA for compliance with airport location restrictions is attached herein. ☒Yes ☐No. If you checked "No" please explain:

XII. FAA Recommended Changes or Improvements for Airport Safety, (as applicable)

Enter FAA's recommended changes or improvements to the facility for airport safety or for compliance with airport location restrictions.

XIII. Attachments

- Maps showing the facility boundary and roads within 1 mile of the facility.
- Documentation of coordination of all designs of proposed public roadway improvements associated with site entrances with the agency exercising maintenance responsibility of the public roadway involved; and the response letter received from the agency, as applicable.
- Documentation of coordination with the Texas Department of Transportation (TxDOT) for traffic and location restrictions, including any traffic study report; and the response letter received from TxDOT.
- Documentation of coordination with the Federal Aviation Administration for compliance with airport location restrictions; and the response letter received from FAA.
- Other documents attached:

NaismithEngineering,Inc
ARCHITECTURE ■ ENGINEERING ■ ENVIRONMENTAL ■ SURVEYING
ESTABLISHED 1949
OVER 60 YEARS OF ENGINEERING EXCELLENCE

October 23, 2015

Chris Caron, P.E.,
District Engineer
Corpus Christi District
Texas Department of Transportation
1701 S. Padre Island Drive
Corpus Christi, TX 78416

Re: Coordination Letter and Request for Information
Traffic Study for City of Kingsville Municipal Solid Waste Landfill,
Kleberg County, Texas
Permit Amendment for Vertical and Lateral Expansion

Dear Mr. Caron:

On behalf of the City of Kingsville (City), Naismith Engineering, Inc. (NEI) is preparing a permit amendment application for a vertical and lateral expansion of the City of Kingsville Municipal Solid Waste Landfill (Kingsville Landfill). The Kingsville Landfill is located southeast of the City of Kingsville, Kleberg County, Texas. The entrance to the landfill is located at 348 East County Road 2130. Other roads used to access the site include Farm to Market Road (FM) 1717 and Farm to Market Road (FM) 2619. The enclosed maps show the access routes and location of the landfill.

This letter is being submitted to document coordination with the Texas Department of Transportation (TXDOT) (consistent with the requirements of Texas Commission on Environmental Quality (TCEQ) municipal solid waste (MSW) Rule 30 TAC §330.61(i)(4)). We are requesting a written response from TxDOT to provide specific requested data (identified below). We are also requesting information regarding any traffic or related location restrictions, and any proposed roadway improvements being planned in the vicinity of the site.

BACKGROUND INFORMATION

- The landfill is an existing facility, currently in operation. The location is shown on attached Figure 1. The landfill entrance/exit is located on East County Road (E CR) 2130. No changes to the existing landfill entrance/exit are planned at this time.
- On a typical day the existing facility generates approximately 65 vehicle trips per day entering and exiting the landfill via the driveway on E CR 2130. These vehicle counts are

TBAE Firm 13553 ■ TBPE Firm 355 ■ TBPG Firm 50017 ■ TBPLS Firm 100395-00
4501 Gollihar Road. Corpus Christi, TX 78411 ■ 800-677-2831 361-814-9900 Fax 361-814-4401 ■ naismith-engineering.com

Mr. Chris Caron, P.E.
Texas Department of Transportation
October 23, 2015
Page 2 of 3

based on the facility's scale records, waste receipts, and the typical number of employees and visitors accessing the site on a given day.

- To clarify terminology, please note that the term "expansion" refers to a waste disposal capacity increase of the landfill. Thus, it will allow an extension in site life of the landfill. In terms of expected traffic, the expansion is not expected to trigger any new sources of traffic or sudden increase in traffic – rather, gradual steady growth of existing landfill traffic over time is anticipated.

- Based on existing landfill customer traffic patterns, the main area roads used by waste hauling vehicles coming to and from the landfill are E CR 2130, FM 1717 and FM 2619, shown on the enclosed maps.

- The current site life of the landfill is approximately 46 years. At this time, we estimate that the post-expansion remaining site life of the landfill to be about 100+ years.

REQUESTED INFORMATION

The TCEQ MSW Rules establish the scope of the traffic study. Per the TCEQ Rules, we are conducting a project-specific transportation (i.e., traffic) study on relevant roadways within 1-mile of the site. Below are specific topics we are requesting TXDOT to address in written form.

- Major roadways. The major roadways within a 1-mile radius of the site boundary that have been selected for this study are E CR 2130, FM 2619 and FM 1717. This is because traffic navigating to and from the landfill facility primarily use these roads, as they are the most logical and convenient routes to and from the site. We would like guidance on whether TXDOT would like any other roads included in this study (refer to attached Figure 2).

- Traffic Growth Rate Projections. NEI conducted an analysis of TXDOT's annual average daily traffic (AADT) data as well as of projected regional population growth as published by the Texas State Data Center (TXSDC). Using TxDOT's AADT data from 2009-2013 for FM 1717 and FM 2619, an average annual growth rate of 2.6% was calculated. From TXSDC, the projected regional population growth is 42.24% from 2010-2050 or about 0.91% per year. NEI believes it is reasonable to use a combination of the above growth rates for the background (non-landfill) traffic on the surrounding roadways. Accordingly, NEI is proposing to use a 2.6% annual growth rate from 2015-2024 and a 1.0% annual growth rate from 2025-2090. We would like guidance on whether TxDOT believes this is an acceptable growth rate to use or if another traffic growth rate should be assumed for the timeframe of this study.

Mr. Chris Caron, P.E.
Texas Department of Transportation
October 23, 2015
Page 3 of 3

- If data more recent than the 2013 AADT data is available, please provide information regarding traffic volume counts performed on major roadways within a 1-mile radius of the site.
- Please provide information regarding any planned maintenance or construction improvements on major roadways within 1-mile of the site.
- Please provide information on load-restricted roadways that have gross vehicle weight limits less than 80,000 pounds within 1-mile of the site.
- Please provide information on other traffic or related location restrictions that are known to exist on roadways within 1-mile of the site boundary.

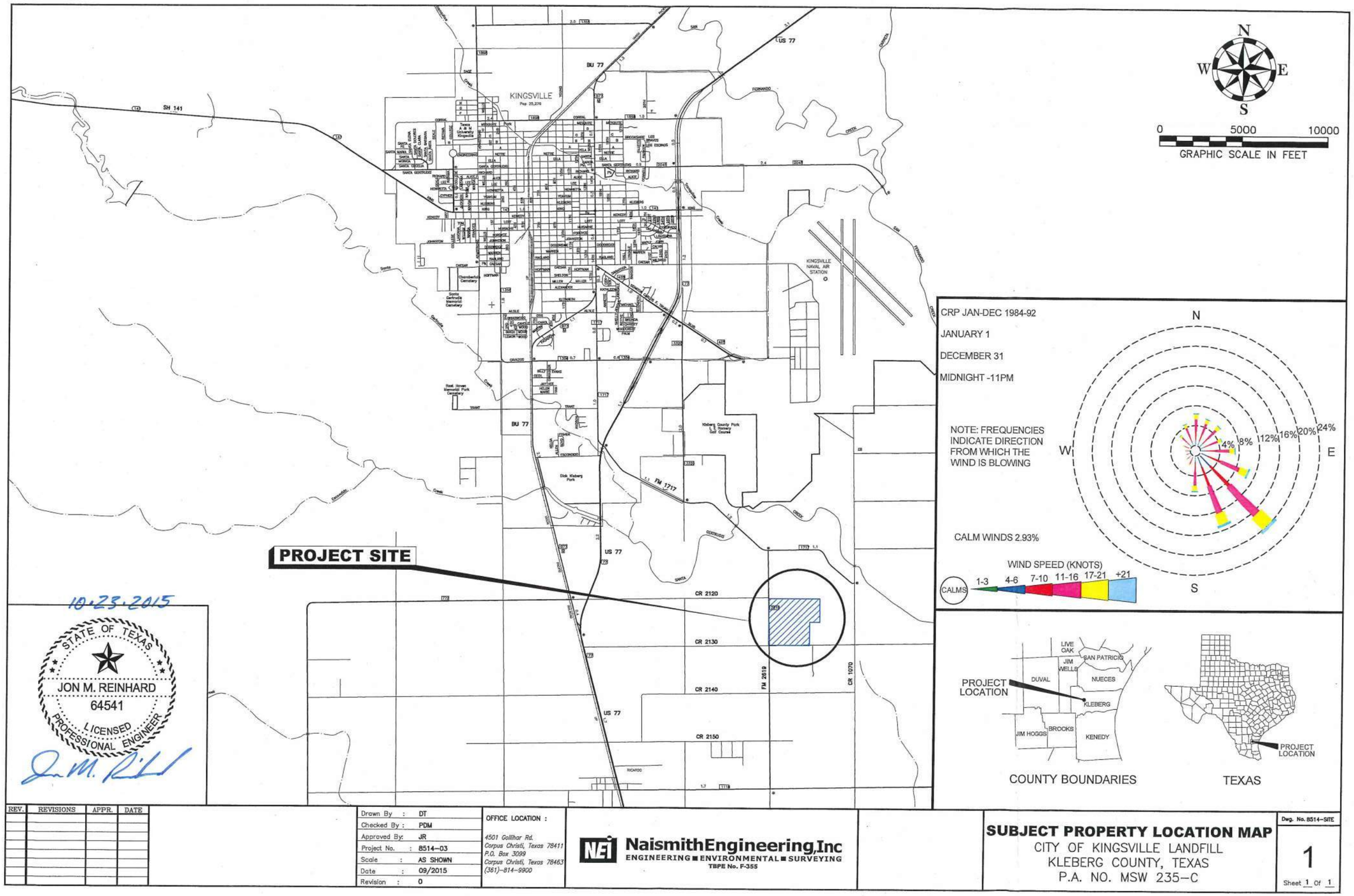
We would appreciate your timely review of this information and thank you in advance for your response that provides the above-requested information. We respectfully request a written response within 30 days of this letter to allow us to proceed with the landfill permitting and design process. If you have any questions or require additional information, you may contact me or Kelly Mayfield at (361) 814-9900.

Sincerely,
Naismith Engineering, Inc.

Jon M. Reinhard, P.E.
Project Engineer

Enclosures: Subject Property Location Map
General Highway Map
2013 Corpus Christi District Traffic Map

Z:\8514-City of Kingsville\8514-03\Permit Amendment\Part II\Correspondence\Transportation\TXDOT\Letter - NEI (TXDOT) 2015.docx



10.23.2015

STATE OF TEXAS
JON M. REINHARD
64541
LICENSED PROFESSIONAL ENGINEER

REV.	REVISIONS	APPR.	DATE

Drawn By :	DT
Checked By :	PDM
Approved By:	JR
Project No. :	8514-03
Scale :	AS SHOWN
Date :	09/2015
Revision :	0

OFFICE LOCATION :
4501 Gollihar Rd.
Corpus Christi, Texas 78411
P.O. Box 3099
Corpus Christi, Texas 78463
(361)-814-9900

NaismithEngineering,Inc
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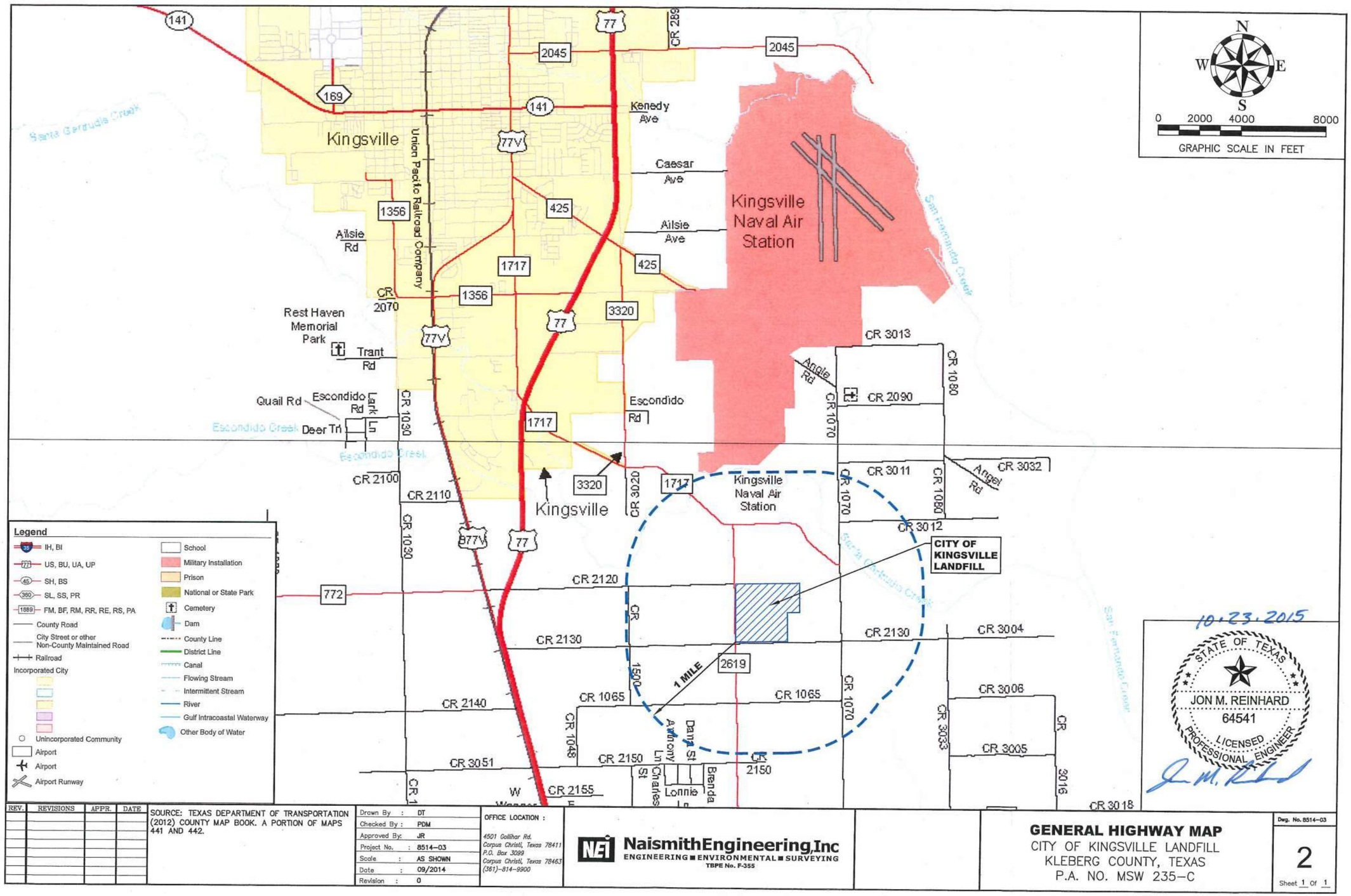
TBPE No. F-355

SUBJECT PROPERTY LOCATION MAP
CITY OF KINGSVILLE LANDFILL
KLEBERG COUNTY, TEXAS
P.A. NO. MSW 235-C

Dwg. No. 8514-SITE
1
Sheet 1 Of 1



REV.	REVISIONS	APPR.	DATE

SOURCE: TEXAS DEPARTMENT OF TRANSPORTATION (2012) COUNTY MAP BOOK. A PORTION OF MAPS 441 AND 442.

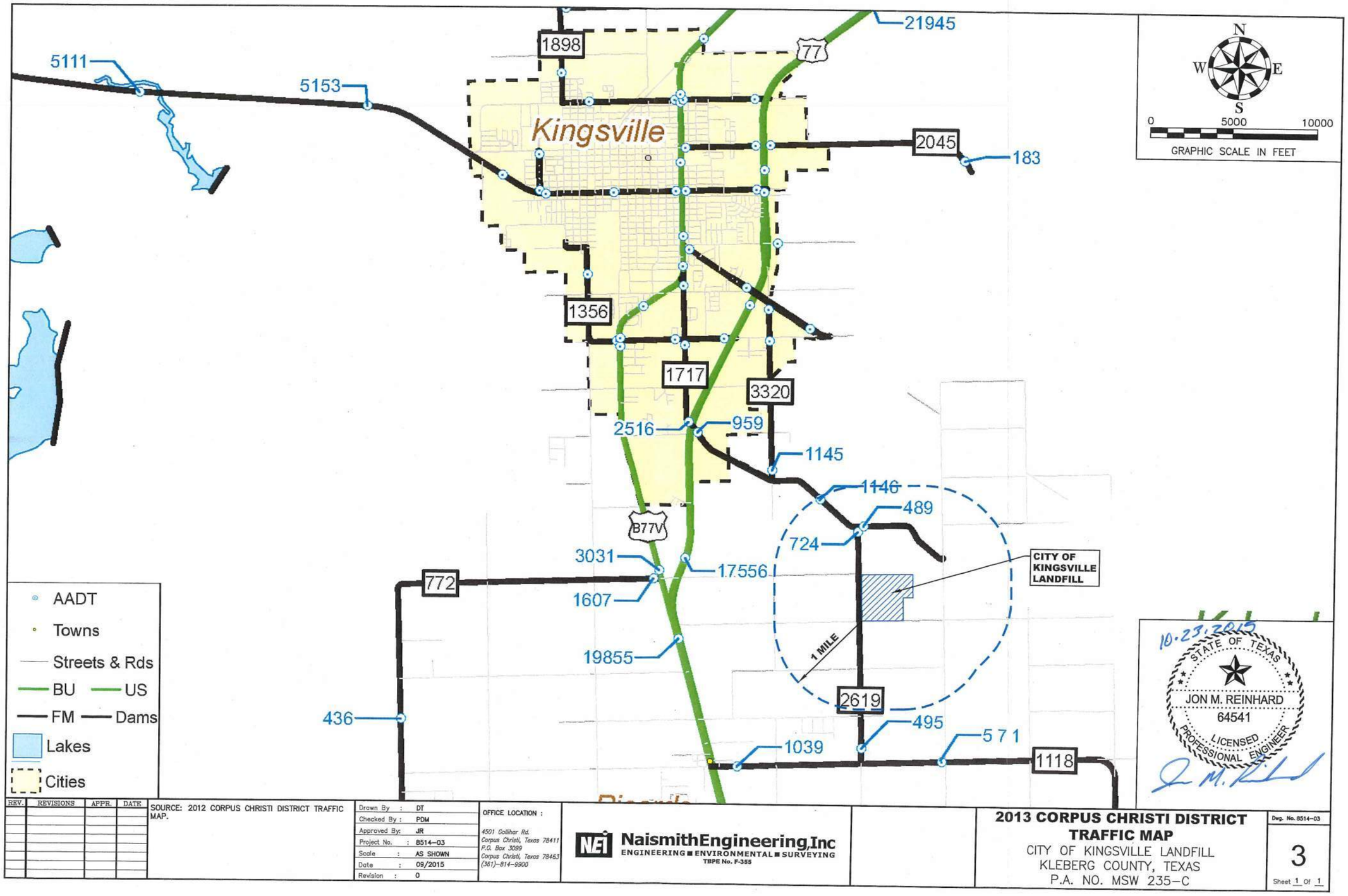
Drawn By	DT
Checked By	PDM
Approved By	JR
Project No.	8514-03
Scale	AS SHOWN
Date	09/2014
Revision	0

OFFICE LOCATION :
4501 Gollihar Rd.
Corpus Christi, Texas 78411
P.O. Box 3099
Corpus Christi, Texas 78463
(361)-814-9900

NaismithEngineering,Inc
ENGINEERING ■ ENVIRONMENTAL ■ SURVEYING
TBPE No. F-355

GENERAL HIGHWAY MAP
CITY OF KINGSVILLE LANDFILL
KLEBERG COUNTY, TEXAS
P.A. NO. MSW 235-C

Dwg. No. 8514-03
2
Sheet 1 Of 1


5111
5153
1898
21945
77
Kingsville
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183
1356
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2516
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1146
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724
B77V
3031
17556
772
1607
19855
436
CITY OF KINGSVILLE LANDFILL
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1039
1118
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5000
10000
GRAPHIC SCALE IN FEET
AADT
Towns
Streets & Rds
BU
US
FM
Dams
Lakes
Cities
10-23-2015
STATE OF TEXAS
JON M. REINHARD
64541
LICENSED
PROFESSIONAL ENGINEER
REV.
REVISIONS
APPR.
DATE
SOURCE: 2012 CORPUS CHRISTI DISTRICT TRAFFIC MAP.
Drawn By : DT
Checked By : PDM
Approved By: JR
Project No. : 8514-03
Scale : AS SHOWN
Date : 09/2015
Revision : 0
OFFICE LOCATION :
4501 Gollihar Rd.
Corpus Christi, Texas 78411
P.O. Box 3099
Corpus Christi, Texas 78463
(361)-814-9900
NaismithEngineering,Inc
ENGINEERING ■ ENVIRONMENTAL ■ SURVEYING
TBPE No. F-355
2013 CORPUS CHRISTI DISTRICT TRAFFIC MAP
CITY OF KINGSVILLE LANDFILL
KLEBERG COUNTY, TEXAS
P.A. NO. MSW 235-C
Dwg. No. 8514-03
3
Sheet 1 Of 1

Texas Department of Transportation
1701 SPID | CORPUS CHRISTI, TEXAS 78416 | (361) 808-2220 | WWW.TXDOT.GOV

January 11, 2016

John M. Reinhard, P.E.
Project Engineer
Naismith Engineering, Inc.
(TBPE Firm No. F-355)
4501 Gollihar Rd
Corpus Christi, TX, 78411

Dear Mr. Reinhard:
Thank you for the letter concerning the Permit Amendment for Vertical and Lateral Expansion for the City of Kingsville's Landfill. We received your letter on December 21, 2015. We were asked to address the below topics in written form. The topics are bulleted and the responses are shown in bold below:

• Major roadways. The major roadways within a 1-mile radius of the site boundary that have been selected for this study are E CR 2130, FM 2619 and FM 1717. This is because traffic navigating to and from the landfill facility primarily use these roads, as they are the most logical and convenient routes to and from the site. We would like guidance on whether TXDOT would like any other roads included in this study (refer to attached Figure 2).

We do not see a need to add additional roadways to this study.

• Traffic Growth Rate Projections. NEI conducted an analysis of TXDOT's annual average daily traffic (AADT) data as well as of projected regional population growth as published by the Texas State Data Center (TXSDC). Using TxDOT's AADT data from 2009-2013 for FM 1717 and FM 2619, an average annual growth rate of 2.6% was calculated. From TXSDC, the projected regional population growth is 42.24% from 2010-2050 or about 0.91% per year. NEI believes it is reasonable to use a combination of the above growth rates for the background (non-landfill) traffic on the surrounding roadways. Accordingly, NEI is proposing to use a 2.6% annual growth rate from 2015-2024 and a 1.0% annual growth rate from 2025-2090. We would like guidance on whether TxDOT believes this is an acceptable growth rate to use or if another traffic growth rate should be assumed for the timeframe of this study.

The growth rate appears to be acceptable.

• If data more recent than the 2013 AADT data is available, please provide information regarding traffic volume counts performed on major roadways within a 1-mile radius of the site.

The 2014 traffic count maps are now online at the following website:http://www.txdot.gov/inside-txdot/division/transportation-planning/maps.html

• Provide information regarding any planned maintenance or construction improvements on major roadways within 1-mile of the site.

We have an upcoming widening project on FM 1717 (CSJ:1845-01-022) from FM 3320 to 1.148 MI E of FM 2619 for approximate total length of 2.33 MI within 1-mile radius of site boundary. Construction for this project should begin sometime within this month or next.

• Provide information on load-restricted roadways that have gross vehicle weight limits less than 80,000 pounds within 1-mile of the site.

Below is the Minute Order information for Load Zone Roadways, FM 1717 and FM 2619 which fall within the specified distance to the landfill, along with the restrictions themselves.

FM 1717: From JCT. BU77V to 5.14 MI South→ Load Limit of 58,420 GVW (MO 46593)
FM 2619: From JCT. FM 1717 to JCT. FM 1118→ Load Limit 58,420 GVW (MO 53213)

• Provide information on other traffic or related location restrictions that are known to exist on roadways within 1-mile of the site boundary.

We are not aware of any other traffic or related location restrictions that exist within one mile of the site boundary.

Please contact Mr. Ismael C. Soto, P.E., at 361 808-2225 if you have any questions or need any additional information.

Sincerely,

Christopher D. Caron, P.E.
Corpus Christi District

Attachments

cc: Ismael C. Soto, P.E., Corpus Christi District, TxDOT

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ESTABLISHED 1949
OVER 60 YEARS OF ENGINEERING EXCELLENCE

12/29/15
Ismael, Please take lead on response. Thanks, Chris

Corpus Christi DEC 21 2015 District

October 23, 2015

Chris Caron, P.E.,
District Engineer
Corpus Christi District
Texas Department of Transportation
1701 S. Padre Island Drive
Corpus Christi, TX 78416

Re: Coordination Letter and Request for Information
Traffic Study for City of Kingsville Municipal Solid Waste Landfill,
Kleberg County, Texas
Permit Amendment for Vertical and Lateral Expansion

Dear Mr. Caron:

On behalf of the City of Kingsville (City), Naismith Engineering, Inc. (NEI) is preparing a permit amendment application for a vertical and lateral expansion of the City of Kingsville Municipal Solid Waste Landfill (Kingsville Landfill). The Kingsville Landfill is located southeast of the City of Kingsville, Kleberg County, Texas. The entrance to the landfill is located at 348 East County Road 2130. Other roads used to access the site include Farm to Market Road (FM) 1717 and Farm to Market Road (FM) 2619. The enclosed maps show the access routes and location of the landfill.

This letter is being submitted to document coordination with the Texas Department of Transportation (TXDOT) (consistent with the requirements of Texas Commission on Environmental Quality (TCEQ) municipal solid waste (MSW) Rule 30 TAC §330.61(i)(4)). We are requesting a written response from TxDOT to provide specific requested data (identified below). We are also requesting information regarding any traffic or related location restrictions, and any proposed roadway improvements being planned in the vicinity of the site.

BACKGROUND INFORMATION

- The landfill is an existing facility, currently in operation. The location is shown on attached Figure 1. The landfill entrance/exit is located on East County Road (E CR) 2130. No changes to the existing landfill entrance/exit are planned at this time.
- On a typical day the existing facility generates approximately 65 vehicle trips per day -ng and exiting the landfill via the driveway on E CR 2130. These vehicle counts are

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oad. Corpus Christi, TX 78411 ■ 800-677-2831 361-814-9900 Fax 361-814-4401 ■ naismith-engineering.com

based on the facility's scale records, waste receipts, and the typical number of employees and visitors accessing the site on a given day.

- To clarify terminology, please note that the term "expansion" refers to a waste disposal capacity increase of the landfill. Thus, it will allow an extension in site life of the landfill. In terms of expected traffic, the expansion is not expected to trigger any new sources of traffic or sudden increase in traffic – rather, gradual steady growth of existing landfill traffic over time is anticipated.

- Based on existing landfill customer traffic patterns, the main area roads used by waste hauling vehicles coming to and from the landfill are E CR 2130, FM 1717 and FM 2619, shown on the enclosed maps.

- The current site life of the landfill is approximately 46 years. At this time, we estimate that the post-expansion remaining site life of the landfill to be about 100+ years.

REQUESTED INFORMATION

The TCEQ MSW Rules establish the scope of the traffic study. Per the TCEQ Rules, we are conducting a project-specific transportation (i.e., traffic) study on relevant roadways within 1-mile of the site. Below are specific topics we are requesting TXDOT to address in written form.

- Major roadways. The major roadways within a 1-mile radius of the site boundary that have been selected for this study are E CR 2130, FM 2619 and FM 1717. This is because traffic navigating to and from the landfill facility primarily use these roads, as they are the most logical and convenient routes to and from the site. We would like guidance on whether TXDOT would like any other roads included in this study (refer to attached Figure 2).

- Traffic Growth Rate Projections. NEI conducted an analysis of TXDOT's annual average daily traffic (AADT) data as well as of projected regional population growth as published by the Texas State Data Center (TXSDC). Using TxDOT's AADT data from 2009-2013 for FM 1717 and FM 2619, an average annual growth rate of 2.6% was calculated. From TXSDC, the projected regional population growth is 42.24% from 2010-2050 or about 0.91% per year. NEI believes it is reasonable to use a combination of the above growth rates for the background (non-landfill) traffic on the surrounding roadways. Accordingly, NEI is proposing to use a 2.6% annual growth rate from 2015-2024 and a 1.0% annual growth rate from 2025-2090. We would like guidance on whether TxDOT believes this is an acceptable growth rate to use or if another traffic growth rate should be assumed for the timeframe of this study.

Mr. Chris Caron, P.E.
Texas Department of Transportation
October 23, 2015
Page 3 of 3

- If data more recent than the 2013 AADT data is available, please provide information regardiog traffic volume counts performed on major roadways within a 1-mile radius of the site.
- Please provide information regarding any planned maintenance or construction improvements on major roadways within 1-mile of the site.
- Please provide information on load-restricted roadways that have gross vehicle weight limits less than 80,000 pounds within 1-mile of the site.
- Please provide information on other traffic or related location restrictions that are known to exist on roadways within 1-mile of the site boundary.

We would appreciate your timely review of this information and thank you in advance for your response that provides the above-requested information. We respectfully request a written response within 30 days of this letter to allow us to proceed with the landfill permitting and design process. If you have any questions or require additional information, you may contact me or Kelly Mayfield at (361) 814-9900.

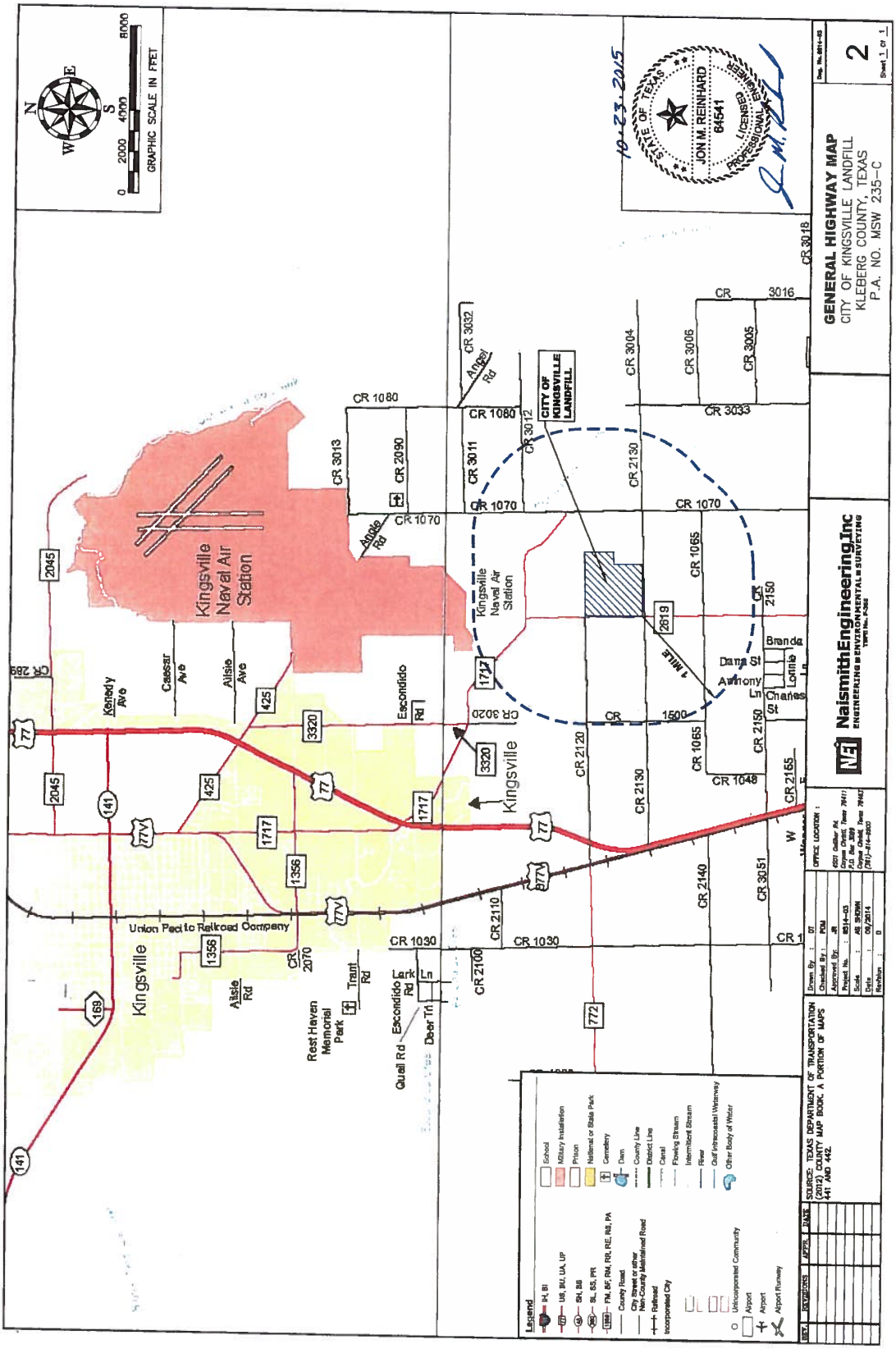
Sincerely,
Naismith Engineering, Inc.

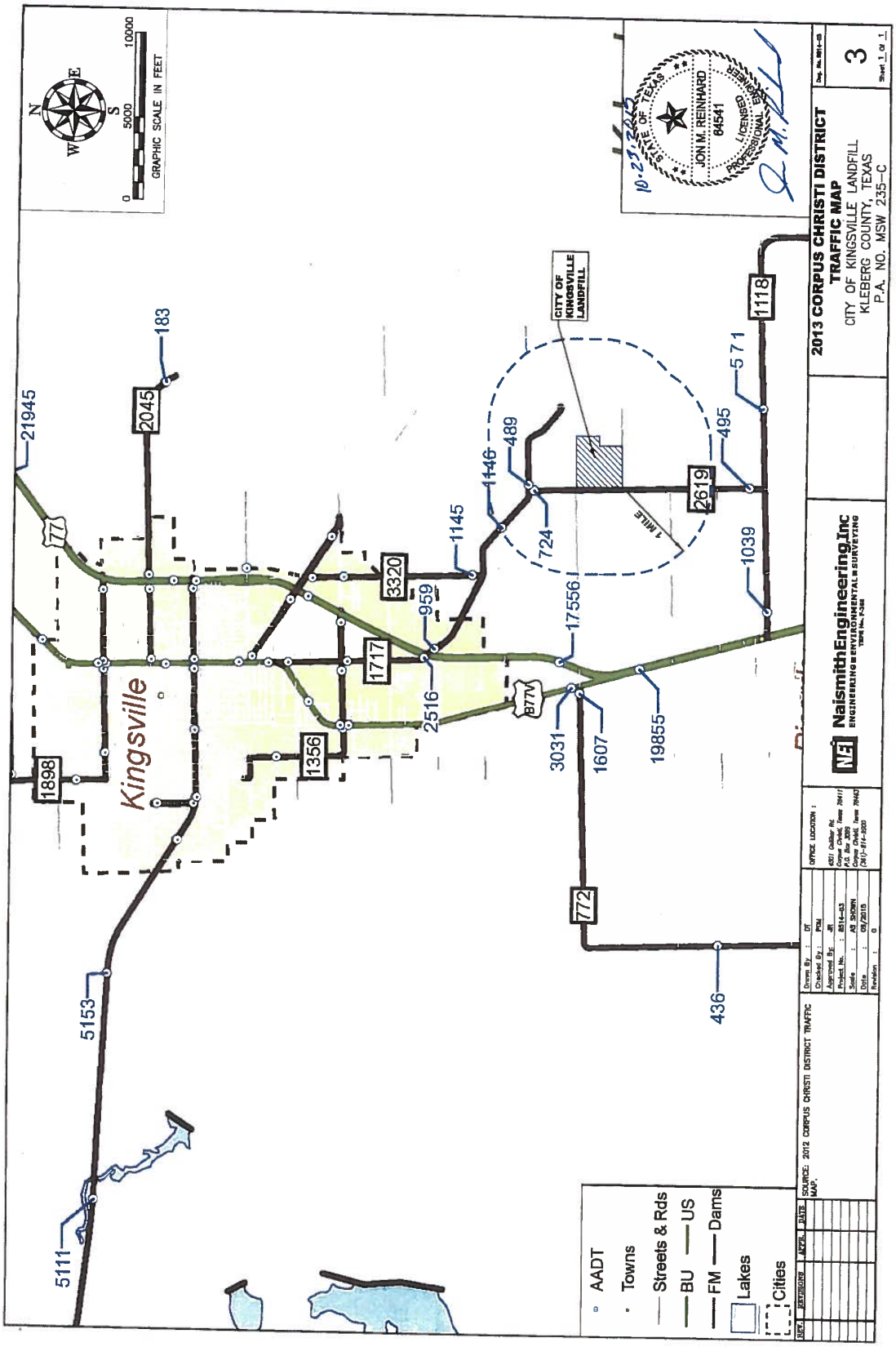
Jon M. Reinhard, P.E.
Project Engineer

Enclosures: Subject Property Location Map
General Highway Map
2013 Corpus Christi District Traffic Map

Z:\8514-City of Kingsville\8514-03\Permit Amendment\Part II\Correspondence\Transportation\TXDOT\Letter - NEI (TXDOT) 2015.docx

NaismithEngineering,Inc
ARCHITECTURE ENGINEERING ENVIRONMENTAL SURVEYING
TBPE No. F-355


GENERAL HIGHWAY MAP
CITY OF KINGSVILLE LANDFILL
KLEBERG COUNTY, TEXAS
P.A. NO. MSW 235-C
2
NaismithEngineering,Inc
JON M. REINHARD
64541
10-23-2015
GRAPHIC SCALE IN FEET
CITY OF KINGSVILLE LANDFILL
Kingsville Naval Air Station
Kingsville
Union Pacific Railroad Company
Rest Haven Memorial Park
Legend
SOURCE: TEXAS DEPARTMENT OF TRANSPORTATION (2012) COUNTY MAP BOOK: A PORTION OF MAPS 441 AND 442.


2013 CORPUS CHRISTI DISTRICT
TRAFFIC MAP
CITY OF KINGSVILLE LANDFILL
KLEBERG COUNTY, TEXAS
P.A. NO. MSW 235-C
3
NaismithEngineering Inc
ENGINEERING & ENVIRONMENTAL & SURVEYING
JON M. REINHARD
84541
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
10-23-2018
GRAPHIC SCALE IN FEET
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CITY OF KINGSVILLE LANDFILL
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Cities
SOURCE: 2012 CORPUS CHRISTI DISTRICT TRAFFIC MAP.
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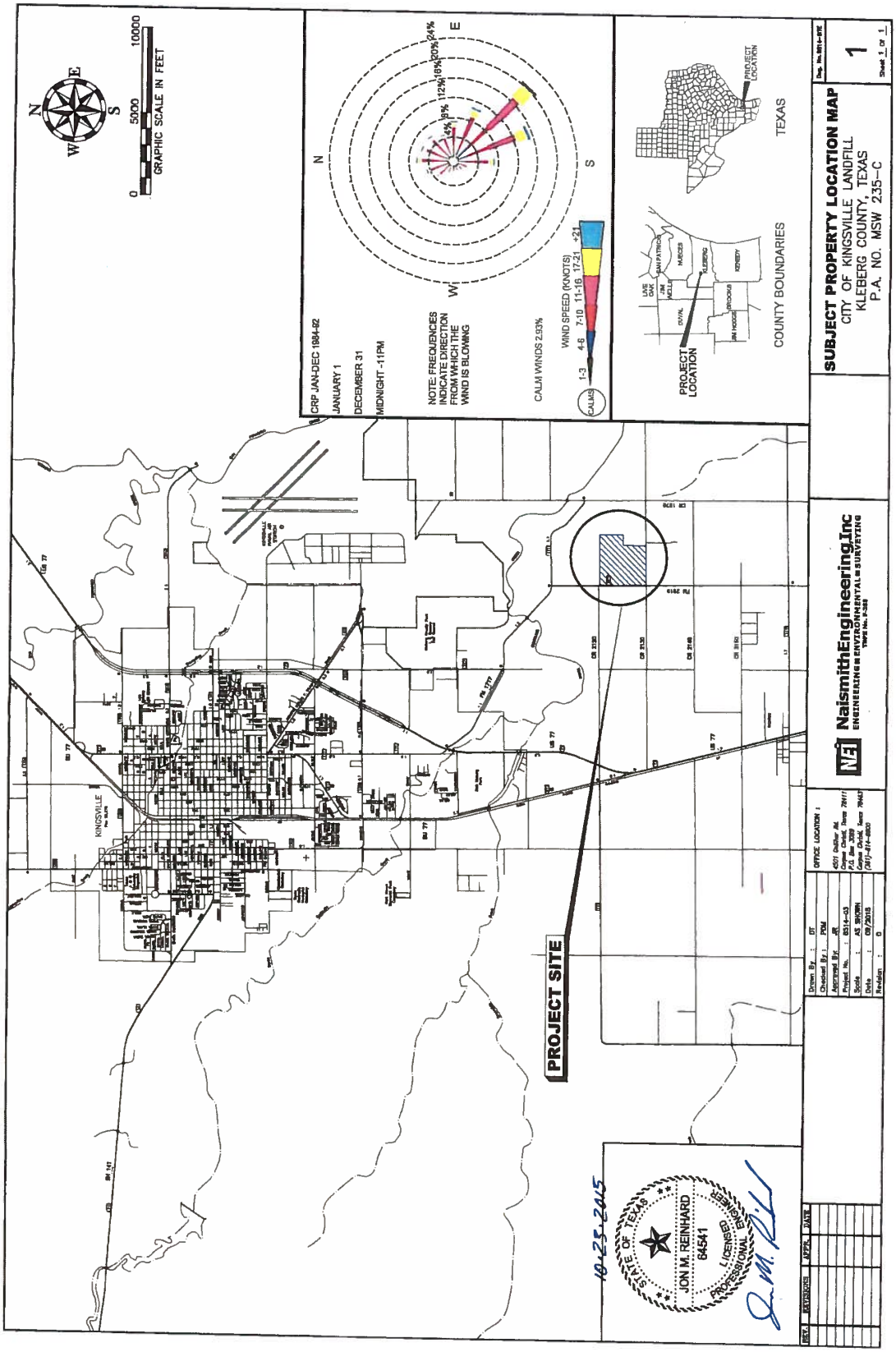
GRAPHIC SCALE IN FEET
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CRP JAN-DEC 1984-92
JANUARY 1
DECEMBER 31
MIDNIGHT -11PM
NOTE: FREQUENCIES INDICATE DIRECTION FROM WHICH THE WIND IS BLOWING
CALM WINDS 2.93%
WIND SPEED (KNOTS)
1-3
4-6
7-10
11-16
17-21
+21
CALMS
TEXAS
PROJECT LOCATION
COUNTY BOUNDARIES
SUBJECT PROPERTY LOCATION MAP
CITY OF KINGSVILLE LANDFILL
KLEBERG COUNTY, TEXAS
P.A. NO. MSW 235-C
NaismithEngineering,Inc
KINGSVILLE
PROJECT SITE
JON M. REINHARD
64541
LICENSED
PROFESSIONAL
ENGINEER
STATE OF TEXAS
10-25-2018

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October 23, 2015

Mr. William Mitchell
Federal Aviation Administration (FAA)
Southwest Region, Airports Division
2601 Meacham Boulevard
Fort Worth, Texas 76137

RE: Compliance with Airport Location Restriction
Permit Amendment for Vertical and Lateral Expansion
Kingsville Municipal Solid Waste Landfill, Kleberg County, Texas

Dear Mr. Mitchell:

On behalf of the City of Kingsville, Naismith Engineering, Inc. is preparing a permit amendment application for a vertical and lateral expansion of the City of Kingsville Municipal Solid Waste Landfill (Kingsville Landfill). The purpose of this letter is to provide the Texas Commission on Environmental Quality (TCEQ) documentation of compliance with 30 TAC §330.545 that requires we evaluate the landfill for compliance with airport safety location restrictions, and 30 TAC §330.61(i)(5) that requires we document coordination with FAA for compliance with airport location restrictions. Accordingly, we are providing this notification and are requesting a written response from FAA.

The Kingsville Landfill is located southeast of the City of Kingsville, at the northeast corner of the intersection of Farm to Market Road 2619 and East County Road 2130. The current permit boundary consists of approximately 120 acres. The proposed lateral expansion will include approximately 20 acres to the east, currently used as a soil borrow pit and another 40 acres to the southwest on the closed pre-subtitle D landfill area, for a total of 180 acres. The overall maximum elevation of the final cover will also increase from 125 feet-msl to 200 feet-msl. Enclosed, please find maps showing the location of the site, as well as proposed permit boundaries.

The closest airport that we have identified is the Naval Air Station Kingsville (NAS – Kingsville) located northeast of the landfill. The north landfill boundary line is approximately 2.70 miles (14,254 feet) to the end of the nearest runway and falls within the 6 miles jurisdictional limit of the regulatory airport restrictions. FAA's Southwestern Regional Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) group has conducted an aeronautical study of the landfill and issued a Determination of No Hazard (DNH's) for nine (9)

TBAE Firm 13553 ■ TBPE Firm 355 ■ TBPG Firm 50017 ■ TBPLS Firm 100395-00
4501 Gollihar Road. Corpus Christi, TX 78411 ■ 800-677-2831 361-814-9900 Fax 361-814-4401 ■ naismith-engineering.com

representative points of the proposed landfill expansion. Copies of the FAA Determinations are attached to this letter, and Figure 2 shows the location of the nine (9) points.

The landfill has many years of successfully co-existing with NAS – Kingsville. Notification of the proposed vertical and lateral expansion was provided to NAS – Kingsville and a written response requested. NAS – Kingsville conducted a review and provided a written response dated January 7, 2015 stating that they approved of the vertical and lateral expansion. A copy of the January 7, 2015 NAS – Kingsville letter is attached.

Please note that we will continue to maintain the working face of the landfill (where trash is exposed during operating hours) to as small of an area as practical to minimize the potential of the site to attract birds, and continue to enforce bird control measures to minimize the bird population on-site.

No new public airports within the regulation boundary limits have been identified. We are requesting that your office send us a letter documenting our coordination with the FAA and certifying that the site is still in compliance with both TCEQ and FAA location restrictions.

Given the information presented herein, the proposed landfill expansion would not appear to have the potential to cause adverse wildlife attractants or a significant bird hazard to aircraft, or otherwise be incompatible with air navigation. Please indicate in writing whether you concur with the findings within 45 days of this letter, so that the planning and permitting activities may continue in a timely manner.

We appreciate your assistance in helping us fulfil this TCEQ requirement. If you have any questions or require additional information, please contact me or Kelly Mayfield at (361) 814-9900.

Sincerely,
Naismith Engineering, Inc.

Jon M. Reinhard, P.E.
Project Engineer

Enclosures: Subject Property Location Map
Location of Nearest Airport Map
FAA OE/AAA Aeronautical Study Determinations
January 7, 2015 NAS – Kingsville Letter

NEI NaismithEngineering,Inc
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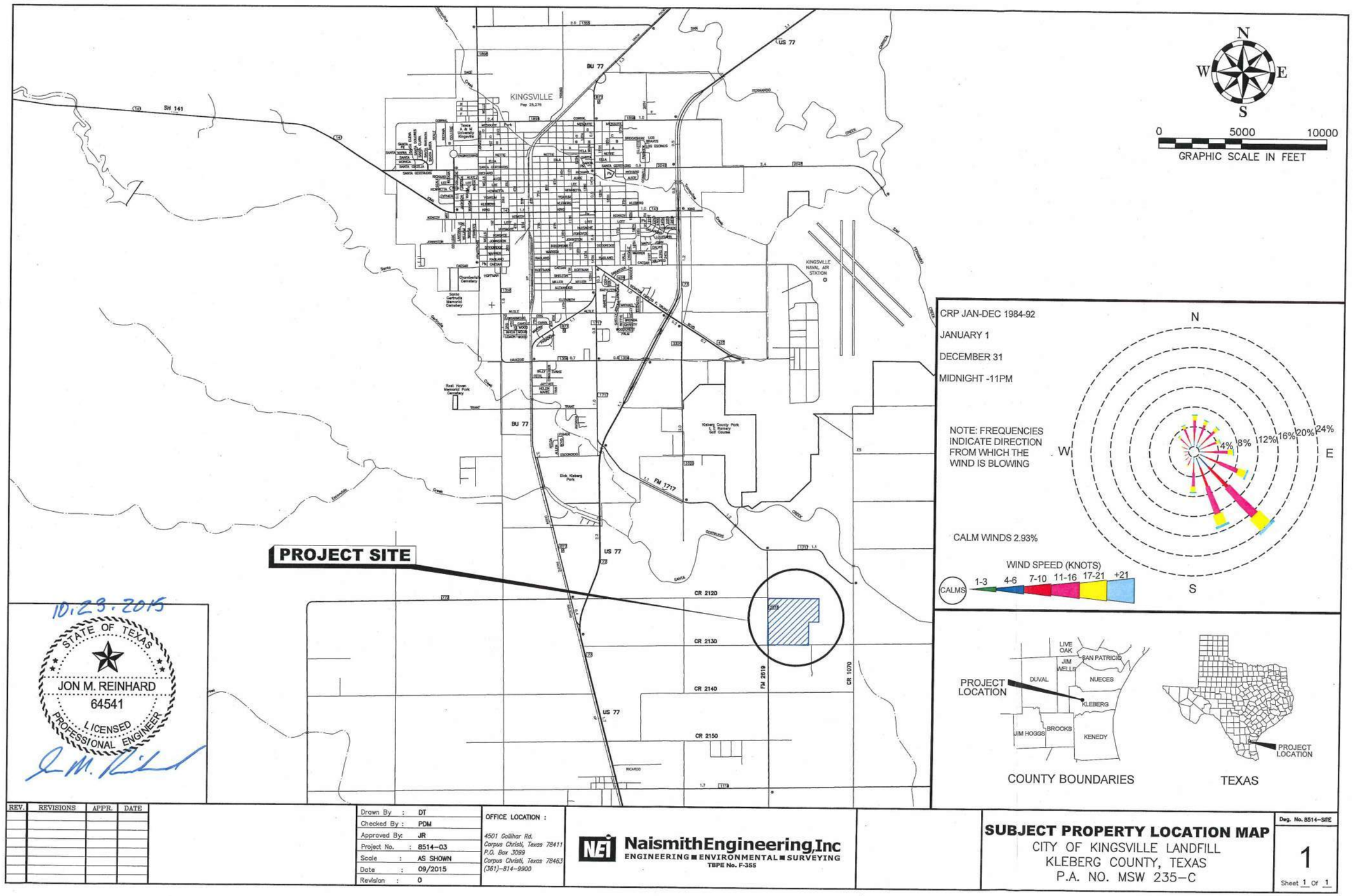
TBPE No. F-355



10.23.2015
STATE OF TEXAS
JON M. REINHARD
64541
LICENSED
PROFESSIONAL ENGINEER

REV.	REVISIONS	APPR.	DATE

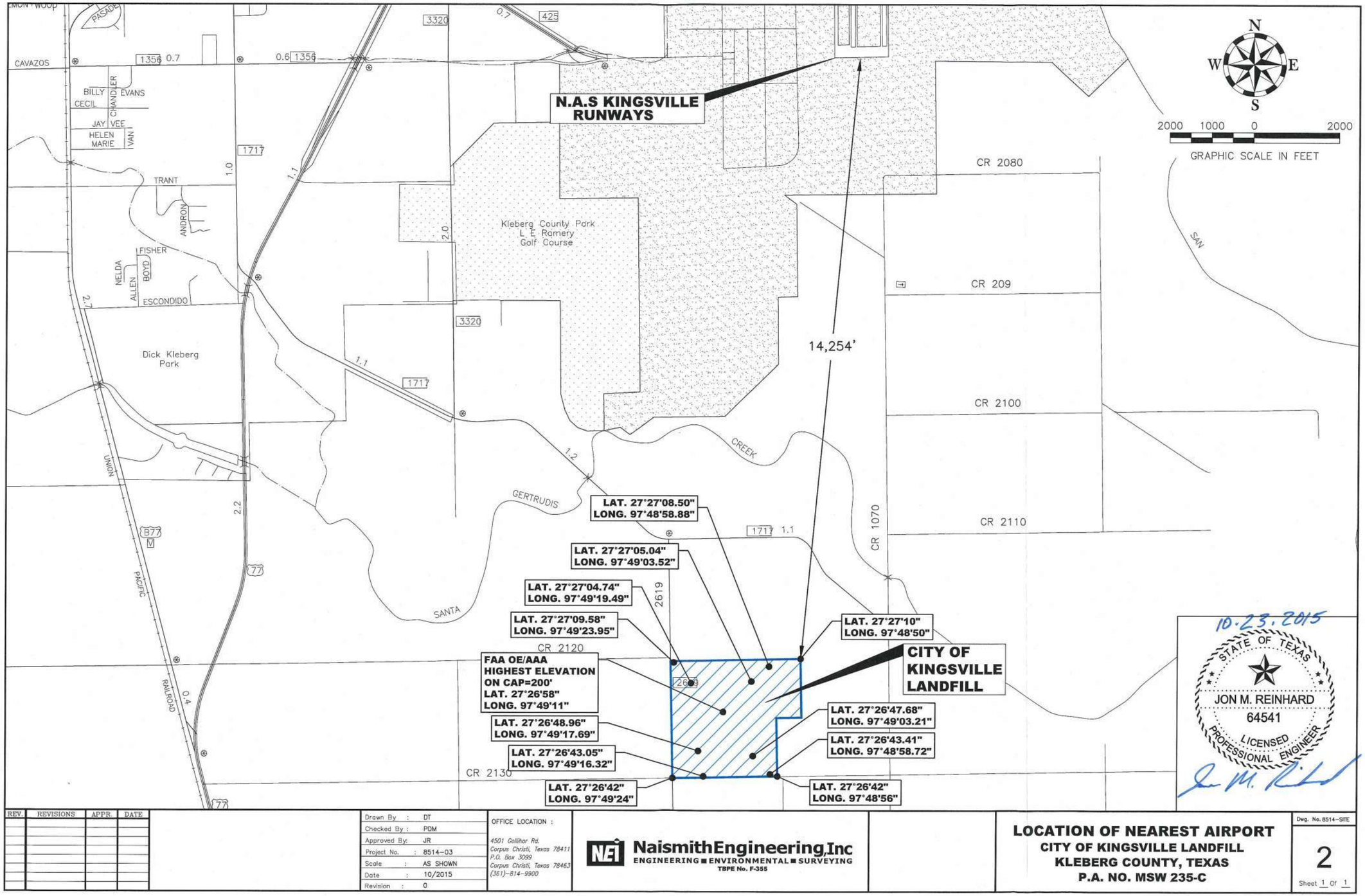
Drawn By	: DT
Checked By	: PDM
Approved By	: JR
Project No.	: 8514–03
Scale	: AS SHOWN
Date	: 09/2015
Revision	: 0

OFFICE LOCATION :
4501 Gollihar Rd.
Corpus Christi, Texas 78411
P.O. Box 3099
Corpus Christi, Texas 78463
(361)–814–9900

NaismithEngineering,Inc
ENGINEERING ■ ENVIRONMENTAL ■ SURVEYING
TBPE No. F-355

SUBJECT PROPERTY LOCATION MAP
CITY OF KINGSVILLE LANDFILL
KLEBERG COUNTY, TEXAS
P.A. NO. MSW 235–C

Dwg. No. 8514–SITE
1
Sheet 1 Of 1



REV.	REVISIONS	APPR.	DATE

Drawn By	DT
Checked By	PDM
Approved By	JR
Project No.	8514-03
Scale	AS SHOWN
Date	10/2015
Revision	0

OFFICE LOCATION :
4501 Gollihar Rd.
Corpus Christi, Texas 78411
P.O. Box 3099
Corpus Christi, Texas 78463
(361)-814-9900

NaismithEngineering,Inc
ENGINEERING ■ ENVIRONMENTAL ■ SURVEYING
TBPE No. F-355

LOCATION OF NEAREST AIRPORT
CITY OF KINGSVILLE LANDFILL
KLEBERG COUNTY, TEXAS
P.A. NO. MSW 235-C

Dwg. No. 8514-SITE
2
Sheet 1 Of 1

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2015-ASW-6920-OE

Issued Date: 10/06/2015

Kelly Mayfield
Naismith Engineering, Inc.
4501 Gollihar Road
Corpus Christi, TX 78387

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill City of Kingsville Landfill #1 Center/Top
Location:	City of Kingsville, TX
Latitude:	27-26-58.00N NAD 83
Longitude:	97-49-11.00W
Heights:	59 feet site elevation (SE) 141 feet above ground level (AGL) 200 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination expires on 04/06/2017 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within

6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

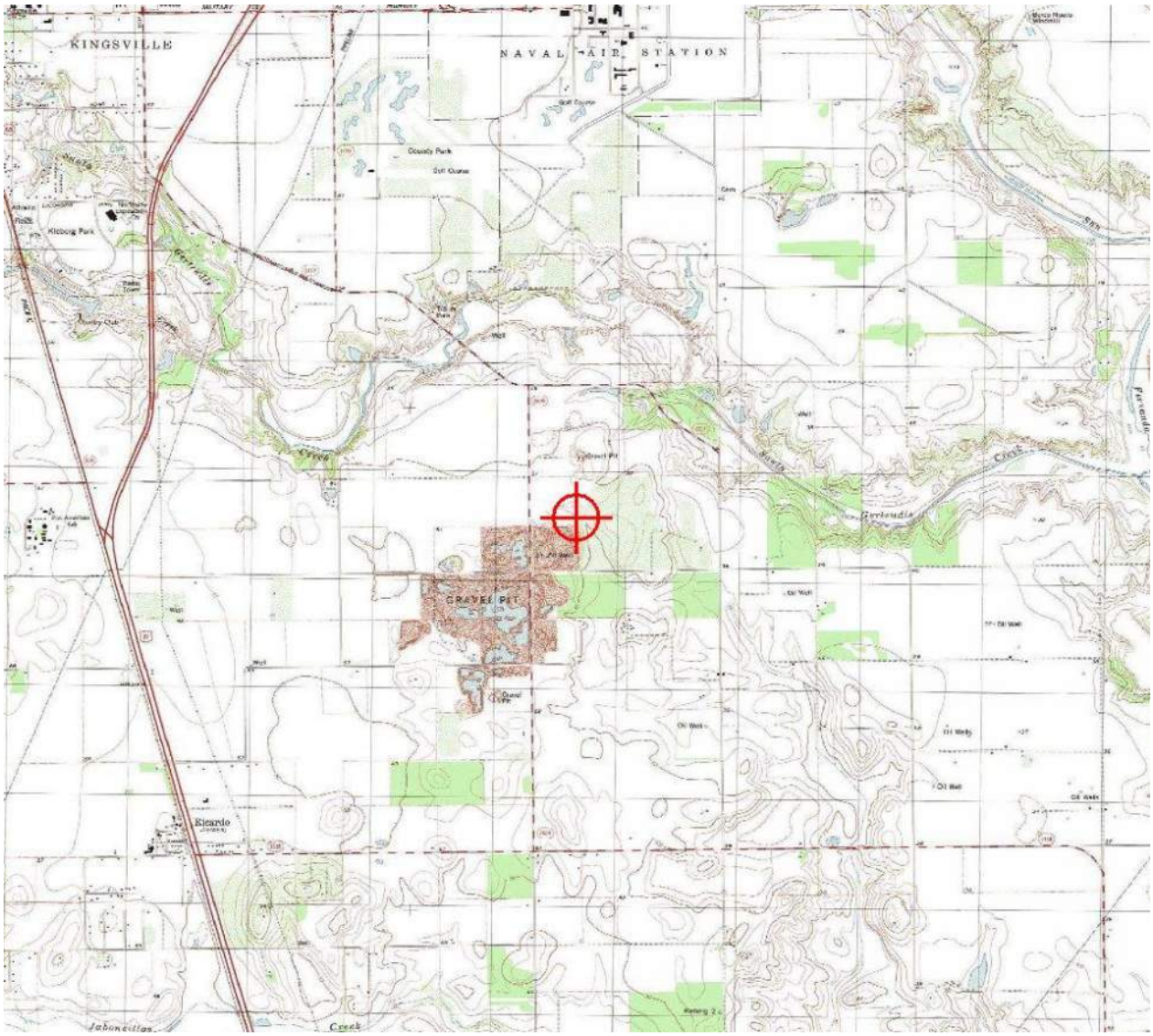
Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (817) 222-5933. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-ASW-6920-OE.

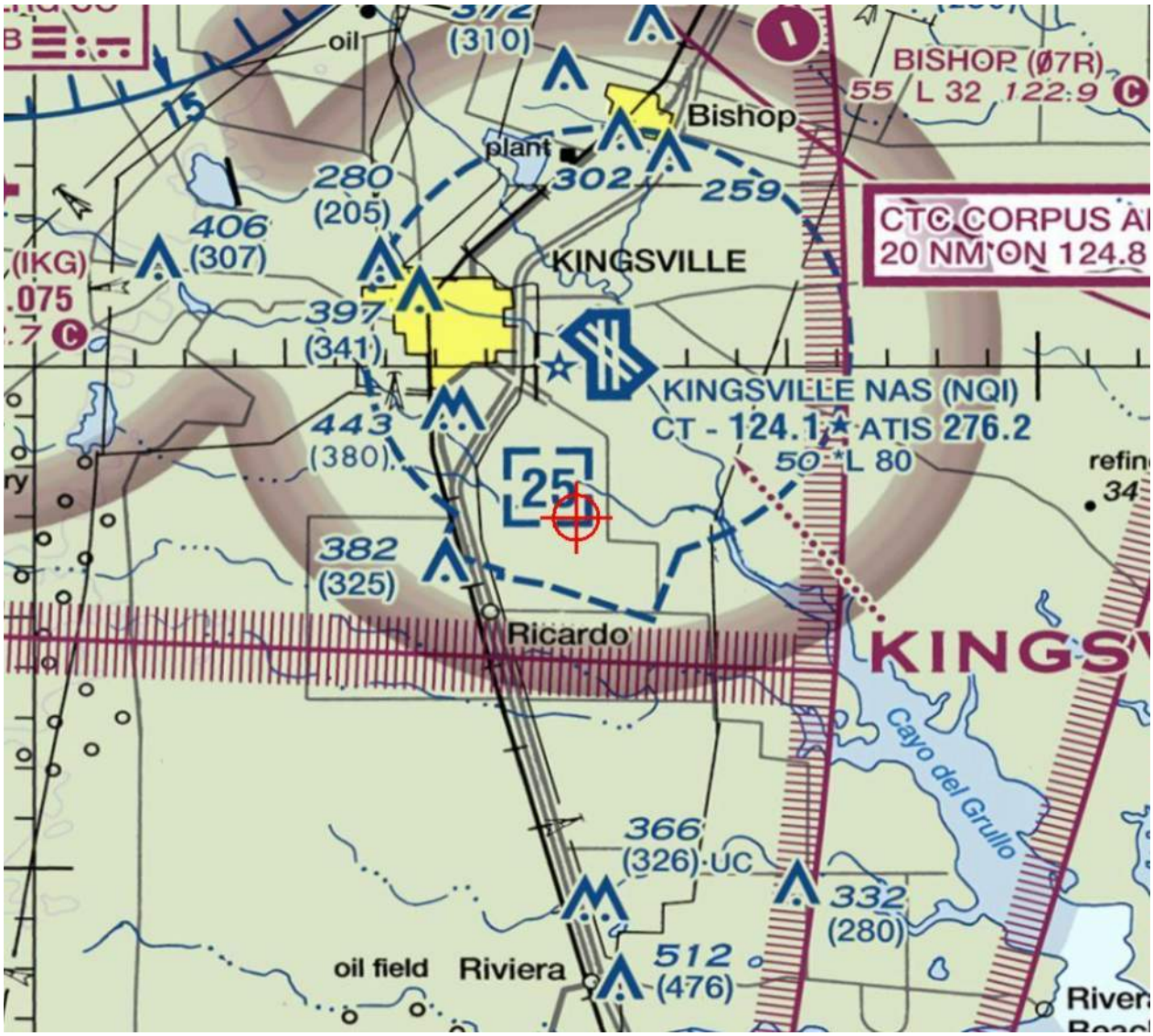
Signature Control No: 264434108-267799557 (DNE)
Andrew Hollie
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2015-ASW-6920-OE



Sectional Map for ASN 2015-ASW-6920-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2015-ASW-6921-OE

Issued Date: 10/06/2015

Kelly Mayfield
Naismith Engineering, Inc.
4501 Gollihar Road
Corpus Christi, TX 78387

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill City of Kingsville Landfill #2 NW Corner
Location:	City of Kingsville, TX
Latitude:	27-27-09.58N NAD 83
Longitude:	97-49-23.95W
Heights:	59 feet site elevation (SE) 2 feet above ground level (AGL) 61 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination expires on 04/06/2017 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within

6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

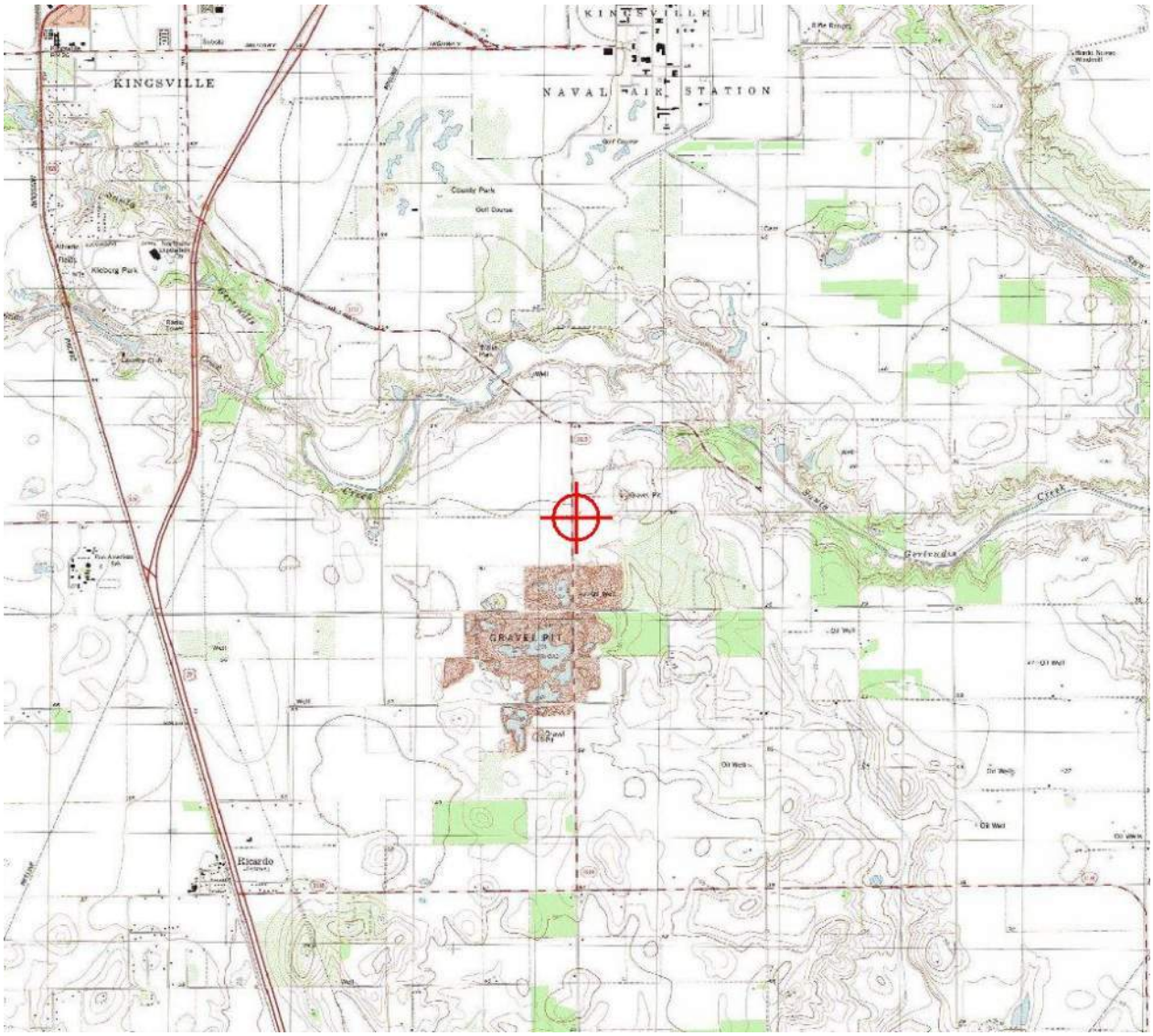
Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (817) 222-5933. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-ASW-6921-OE.

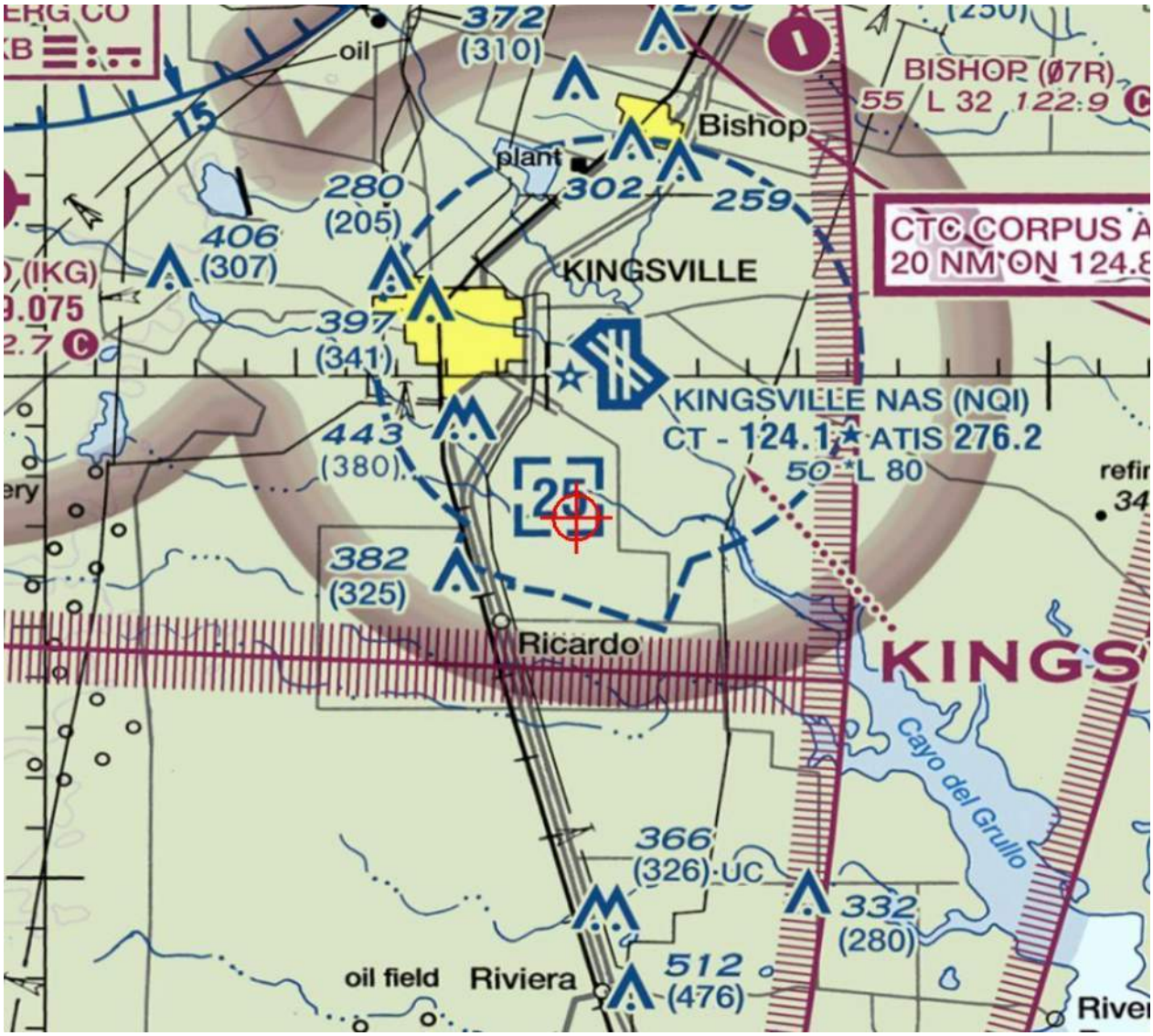
Signature Control No: 264434109-267799556 (DNE)
Andrew Hollie
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2015-ASW-6921-OE



Sectional Map for ASN 2015-ASW-6921-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2015-ASW-6922-OE

Issued Date: 10/06/2015

Kelly Mayfield
Naismith Engineering, Inc.
4501 Gollihar Road
Corpus Christi, TX 78387

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill City of Kingsville Landfill #3 NE Corner
Location:	City of Kingsville, TX
Latitude:	27-27-08.50N NAD 83
Longitude:	97-48-58.88W
Heights:	59 feet site elevation (SE) 2 feet above ground level (AGL) 61 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination expires on 04/06/2017 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within

6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

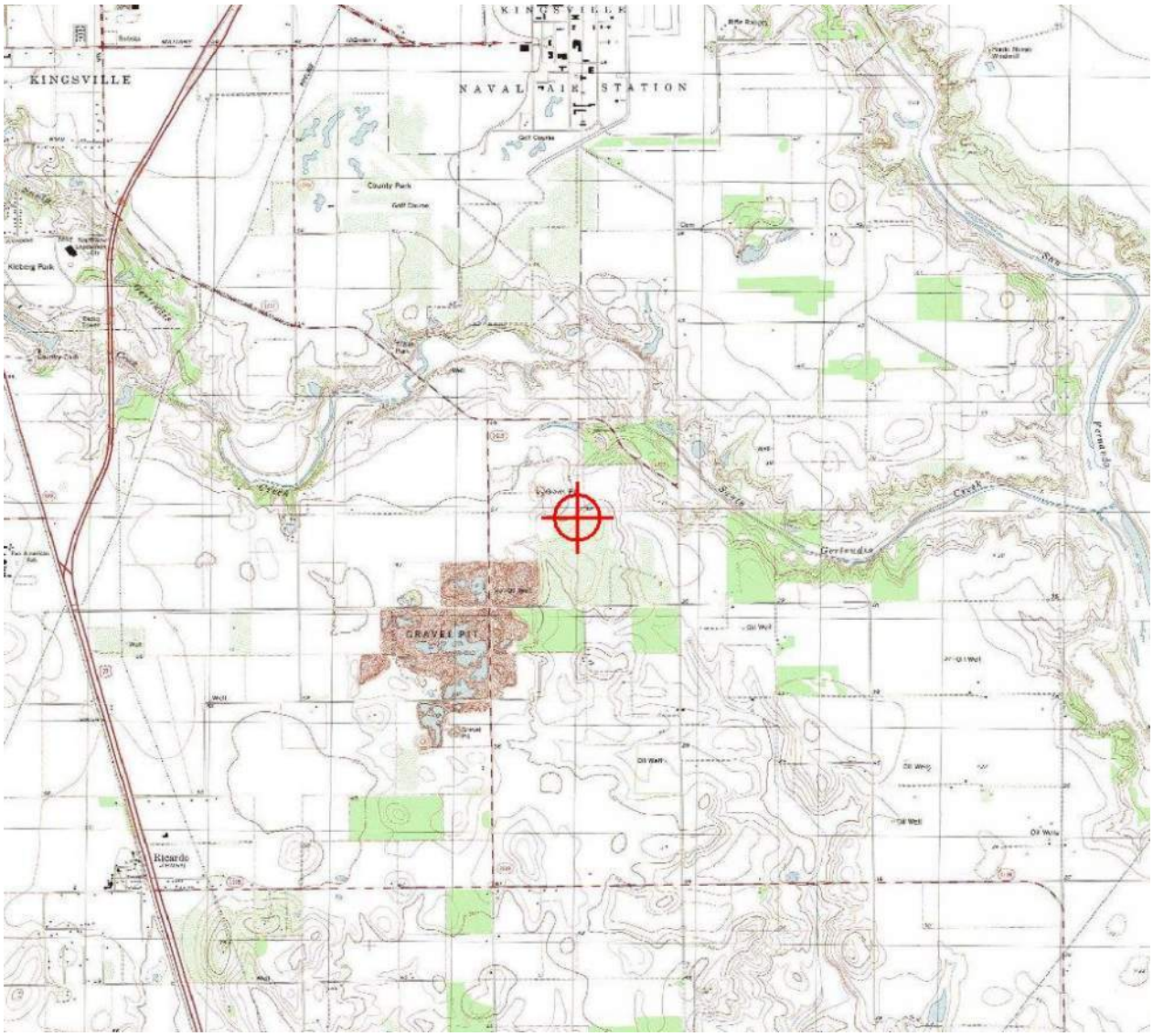
Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (817) 222-5933. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-ASW-6922-OE.

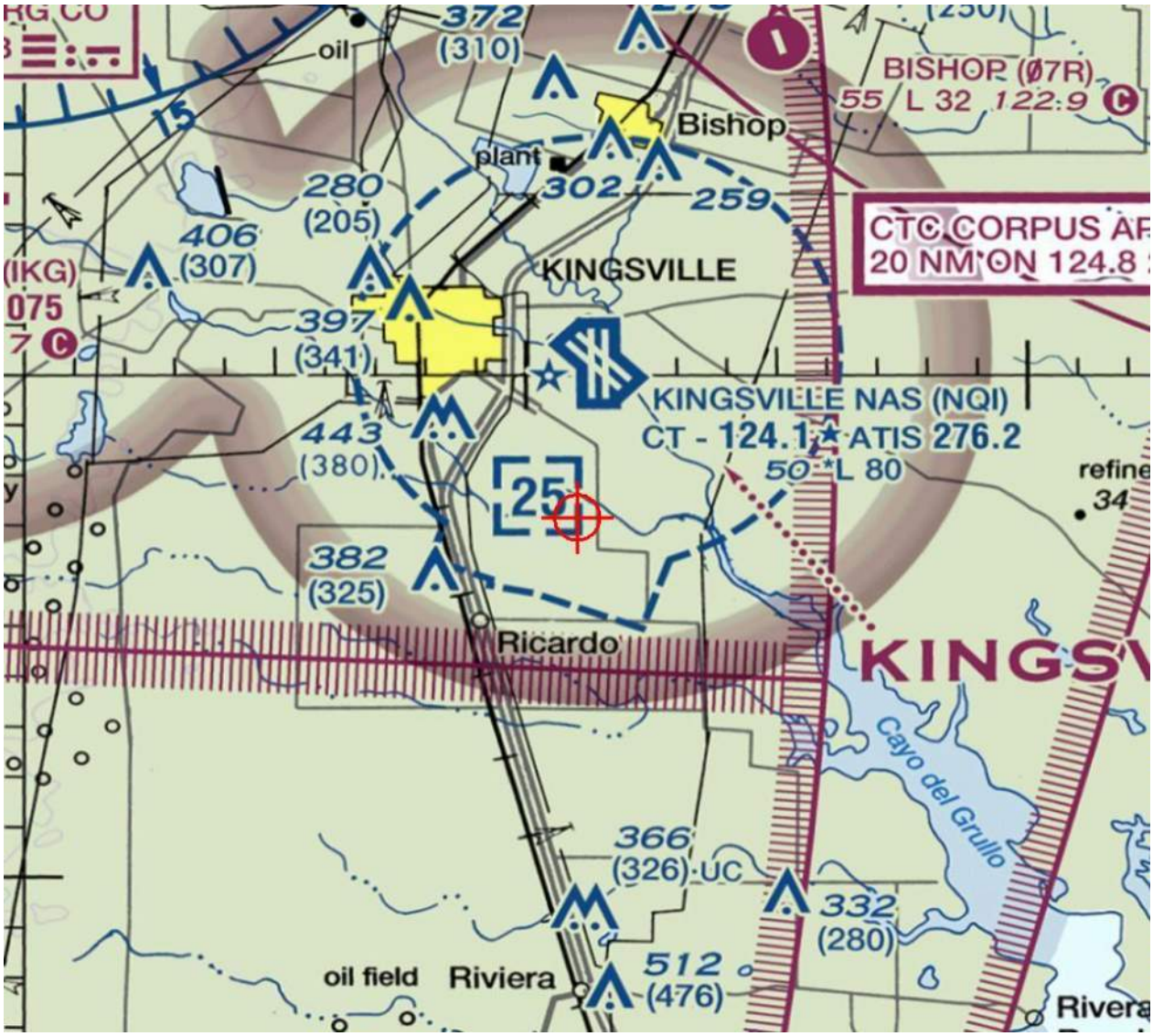
Signature Control No: 264434110-267799552 (DNE)
Andrew Hollie
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2015-ASW-6922-OE



Sectional Map for ASN 2015-ASW-6922-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2015-ASW-6923-OE

Issued Date: 10/06/2015

Kelly Mayfield
Naismith Engineering, Inc.
4501 Gollihar Road
Corpus Christi, TX 78387

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill City of Kingsville Landfill #4 SE Corner
Location:	City of Kingsville, TX
Latitude:	27-26-43.41N NAD 83
Longitude:	97-48-58.72W
Heights:	59 feet site elevation (SE) 2 feet above ground level (AGL) 61 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination expires on 04/06/2017 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within

6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

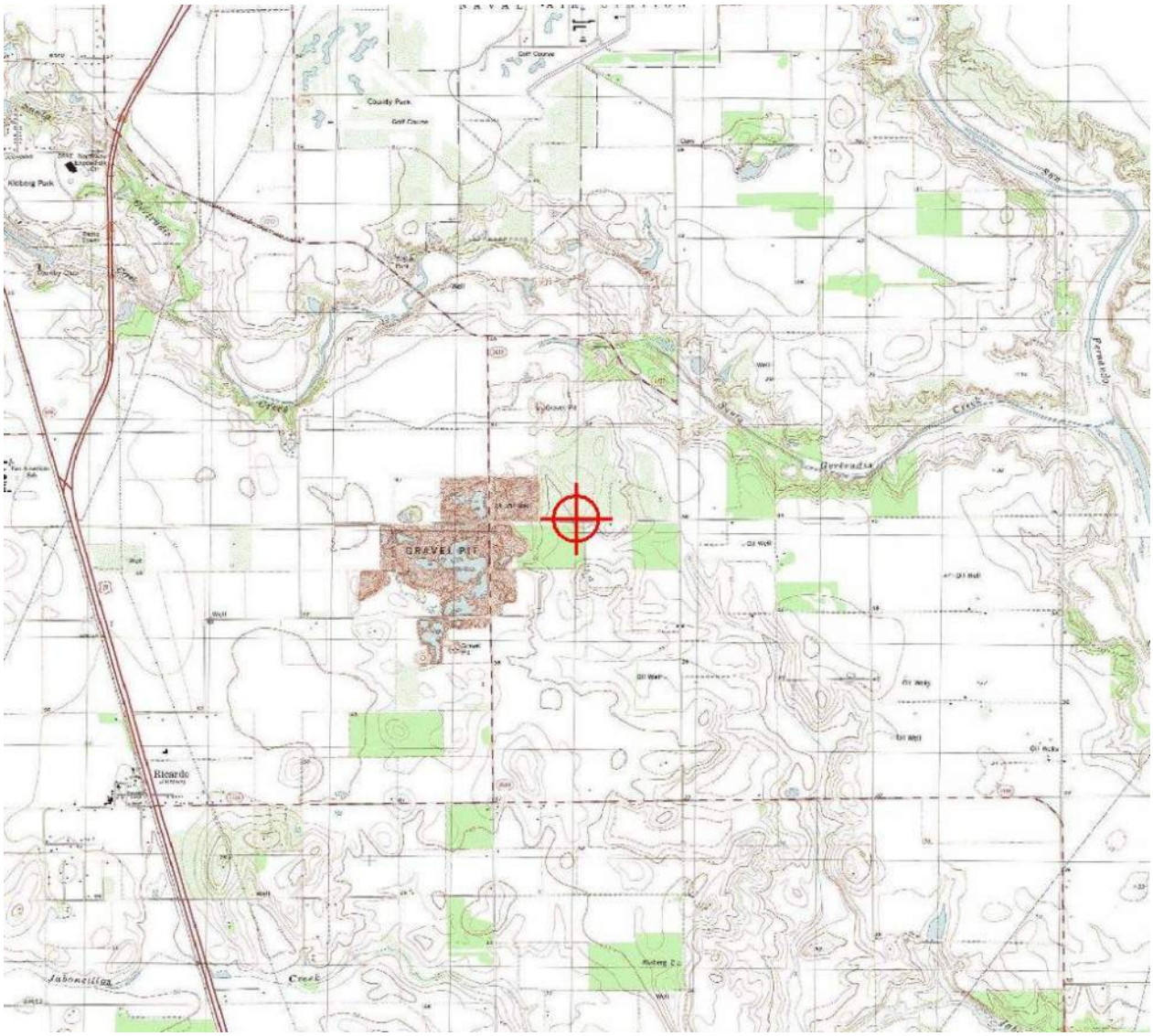
Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (817) 222-5933. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-ASW-6923-OE.

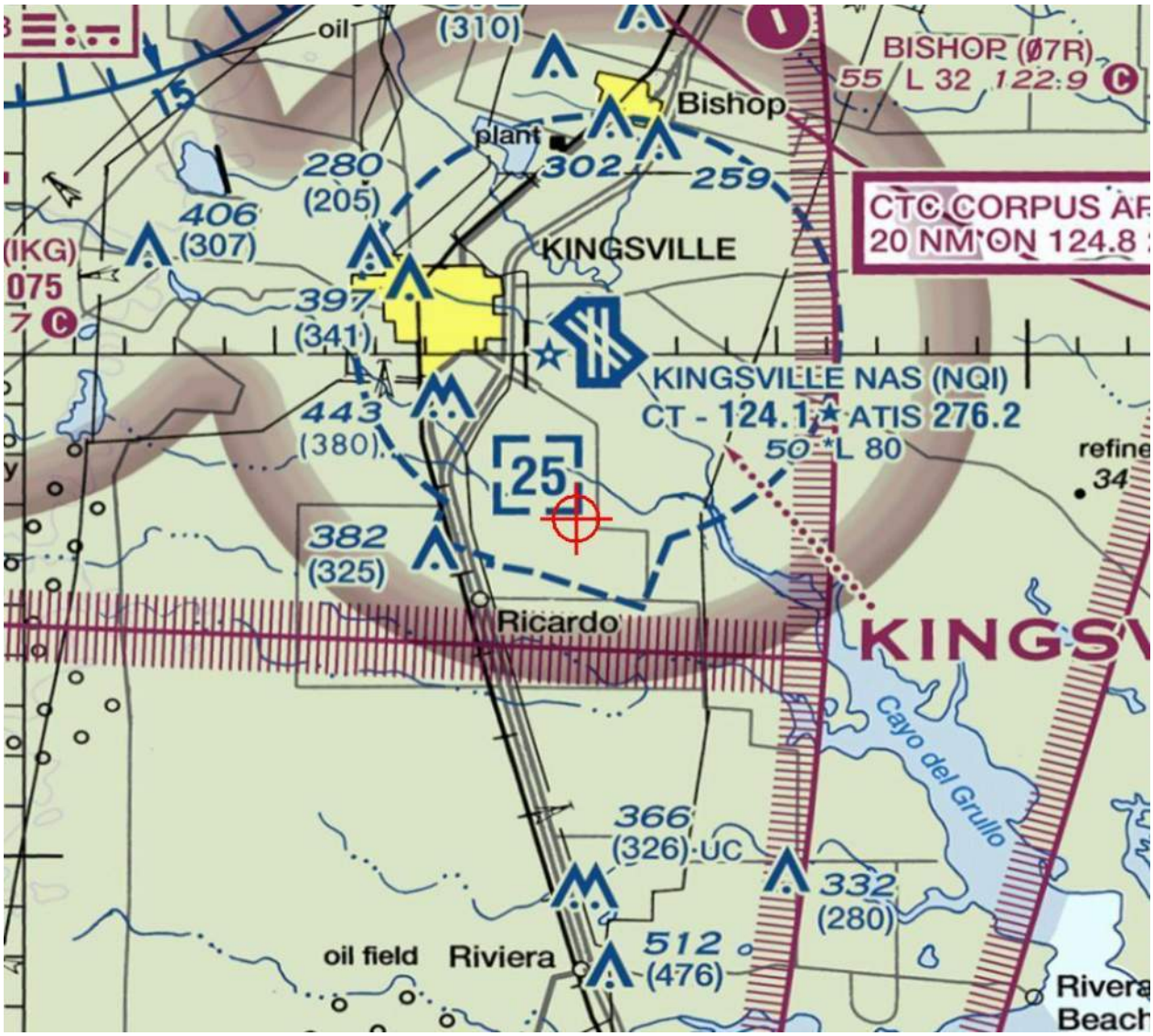
Signature Control No: 264434111-267799559 (DNE)
Andrew Hollie
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2015-ASW-6923-OE



Sectional Map for ASN 2015-ASW-6923-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2015-ASW-6924-OE

Issued Date: 10/06/2015

Kelly Mayfield
Naismith Engineering, Inc.
4501 Gollihar Road
Corpus Christi, TX 78387

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill City of Kingsville Landfill #5 SW Corner
Location:	City of Kingsville, TX
Latitude:	27-26-43.05N NAD 83
Longitude:	97-49-16.32W
Heights:	59 feet site elevation (SE) 2 feet above ground level (AGL) 61 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination expires on 04/06/2017 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within

6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

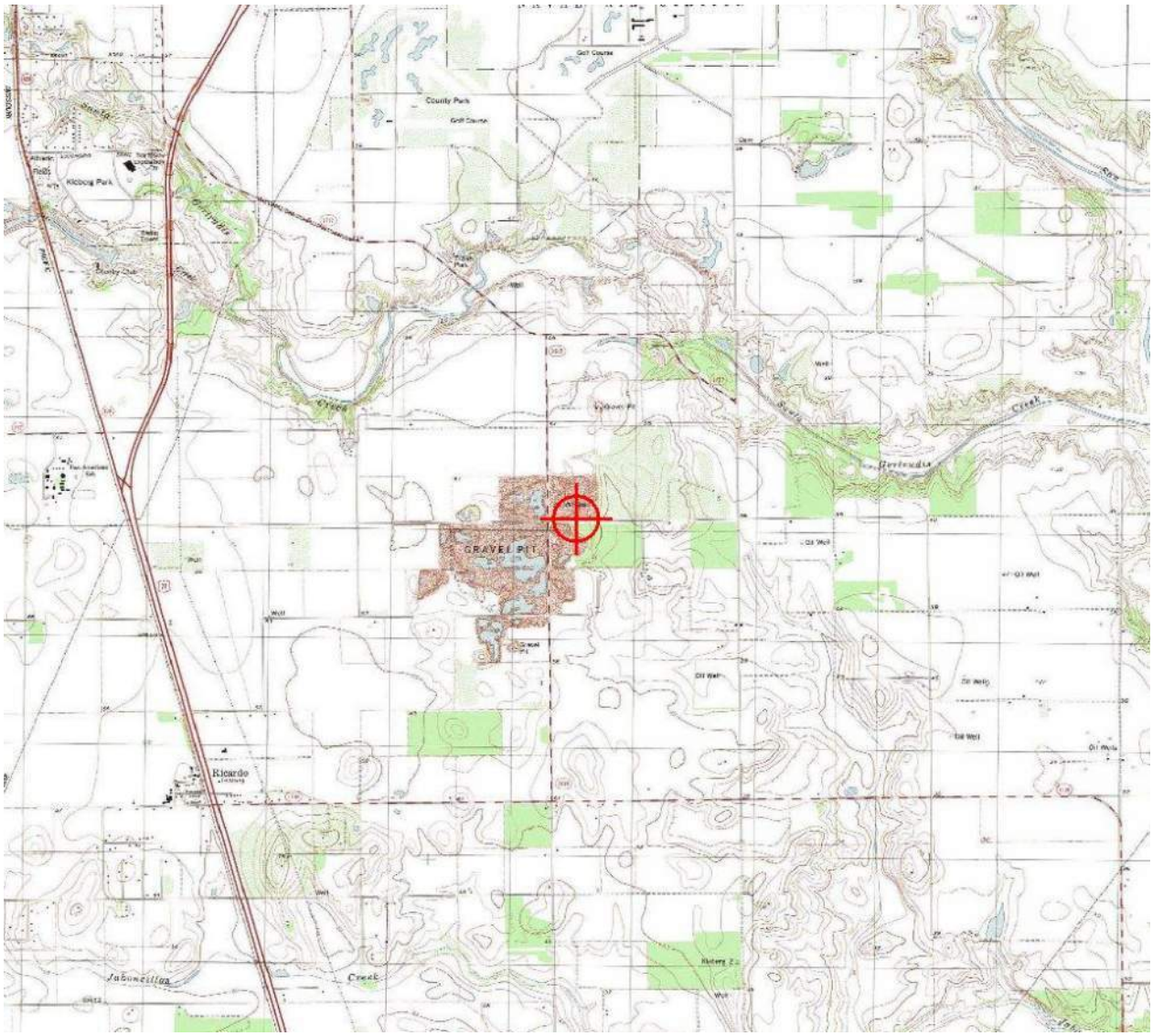
Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (817) 222-5933. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-ASW-6924-OE.

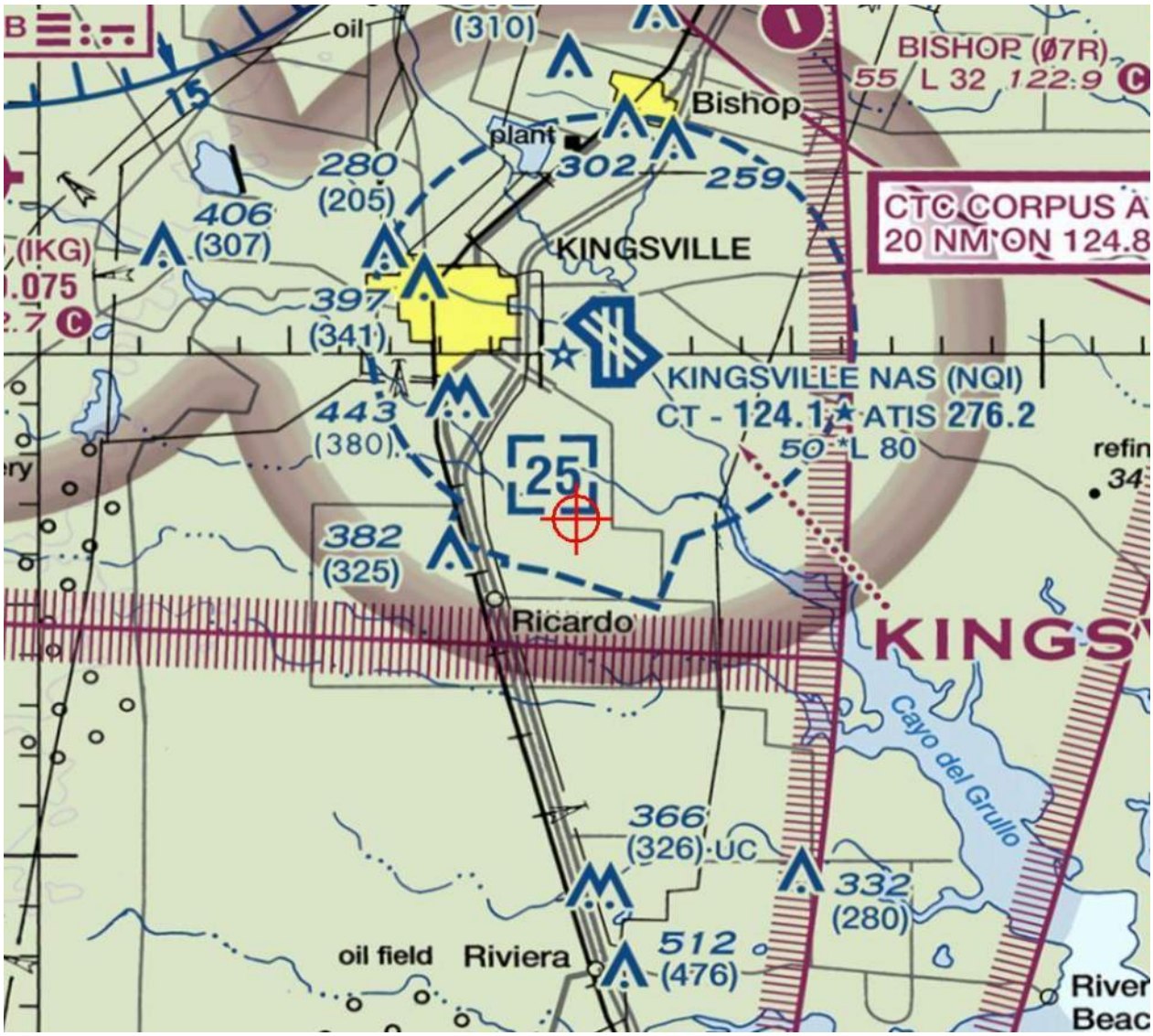
Signature Control No: 264434112-267799555 (DNE)
Andrew Hollie
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2015-ASW-6924-OE



Sectional Map for ASN 2015-ASW-6924-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2015-ASW-6925-OE

Issued Date: 10/06/2015

Kelly Mayfield
Naismith Engineering, Inc.
4501 Gollihar Road
Corpus Christi, TX 78387

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill City of Kingsville Landfill #6NW Top of Slope
Location:	City of Kingsville, TX
Latitude:	27-27-04.74N NAD 83
Longitude:	97-49-19.49W
Heights:	59 feet site elevation (SE) 111 feet above ground level (AGL) 170 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination expires on 04/06/2017 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within

6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

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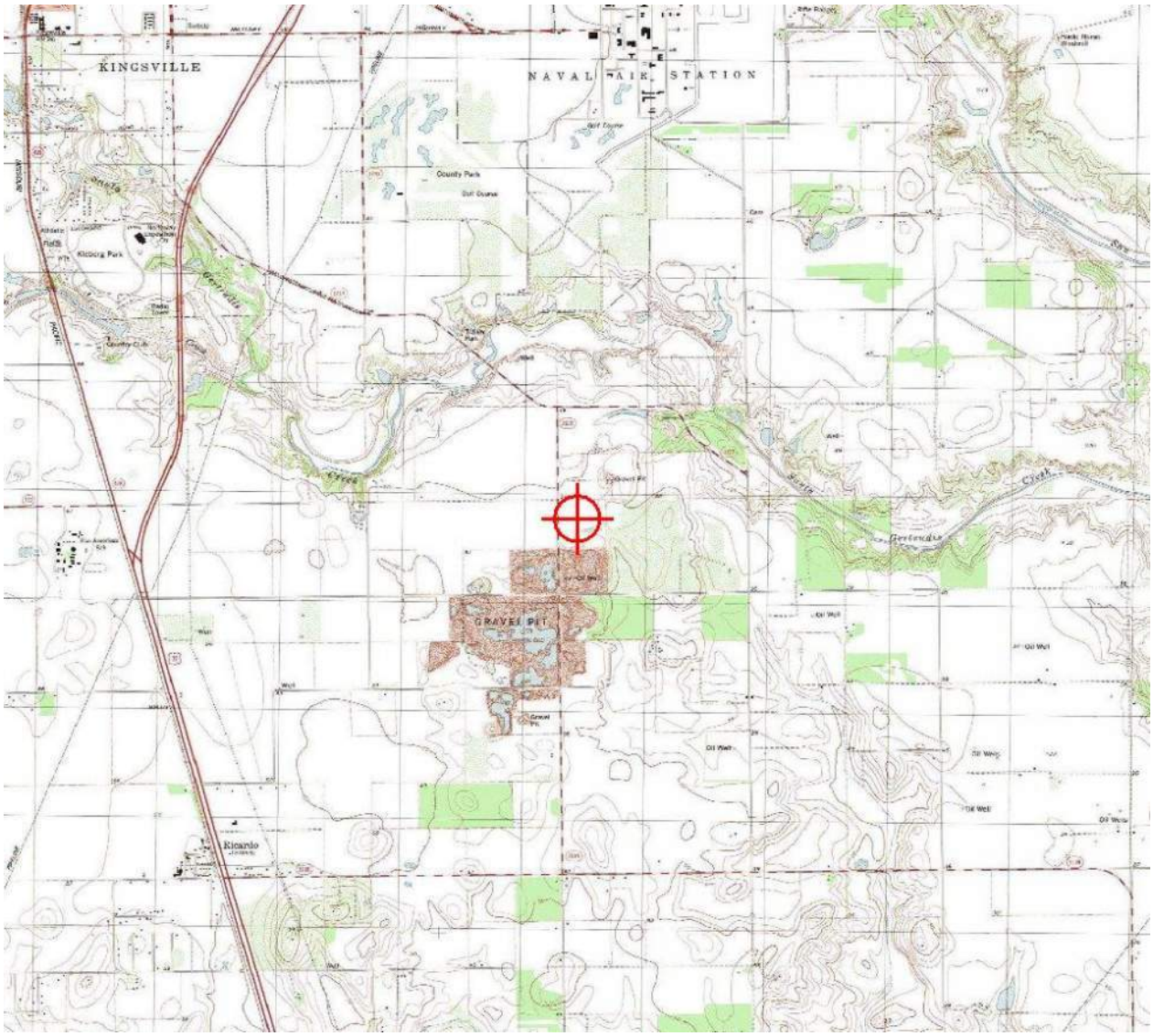
Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (817) 222-5933. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-ASW-6925-OE.

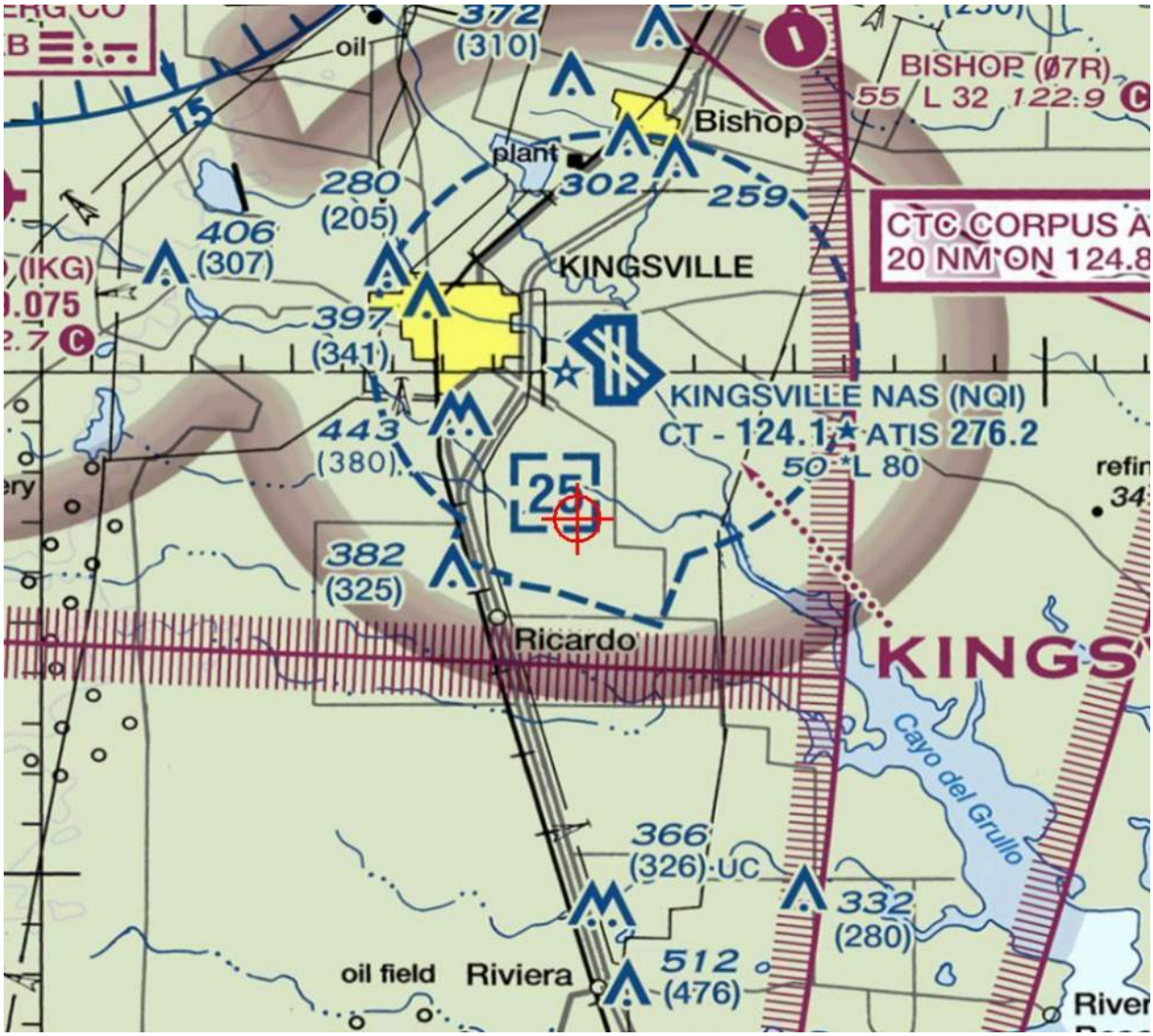
Signature Control No: 264434113-267799560 (DNE)
Andrew Hollie
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2015-ASW-6925-OE



Sectional Map for ASN 2015-ASW-6925-OE



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Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2015-ASW-6926-OE

Issued Date: 10/06/2015

Kelly Mayfield
Naismith Engineering, Inc.
4501 Gollihar Road
Corpus Christi, TX 78387

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill City of Kingsville Landfill #7NE Top of Slope
Location:	City of Kingsville, TX
Latitude:	27-27-05.04N NAD 83
Longitude:	97-49-03.52W
Heights:	59 feet site elevation (SE) 111 feet above ground level (AGL) 170 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination expires on 04/06/2017 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within

6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

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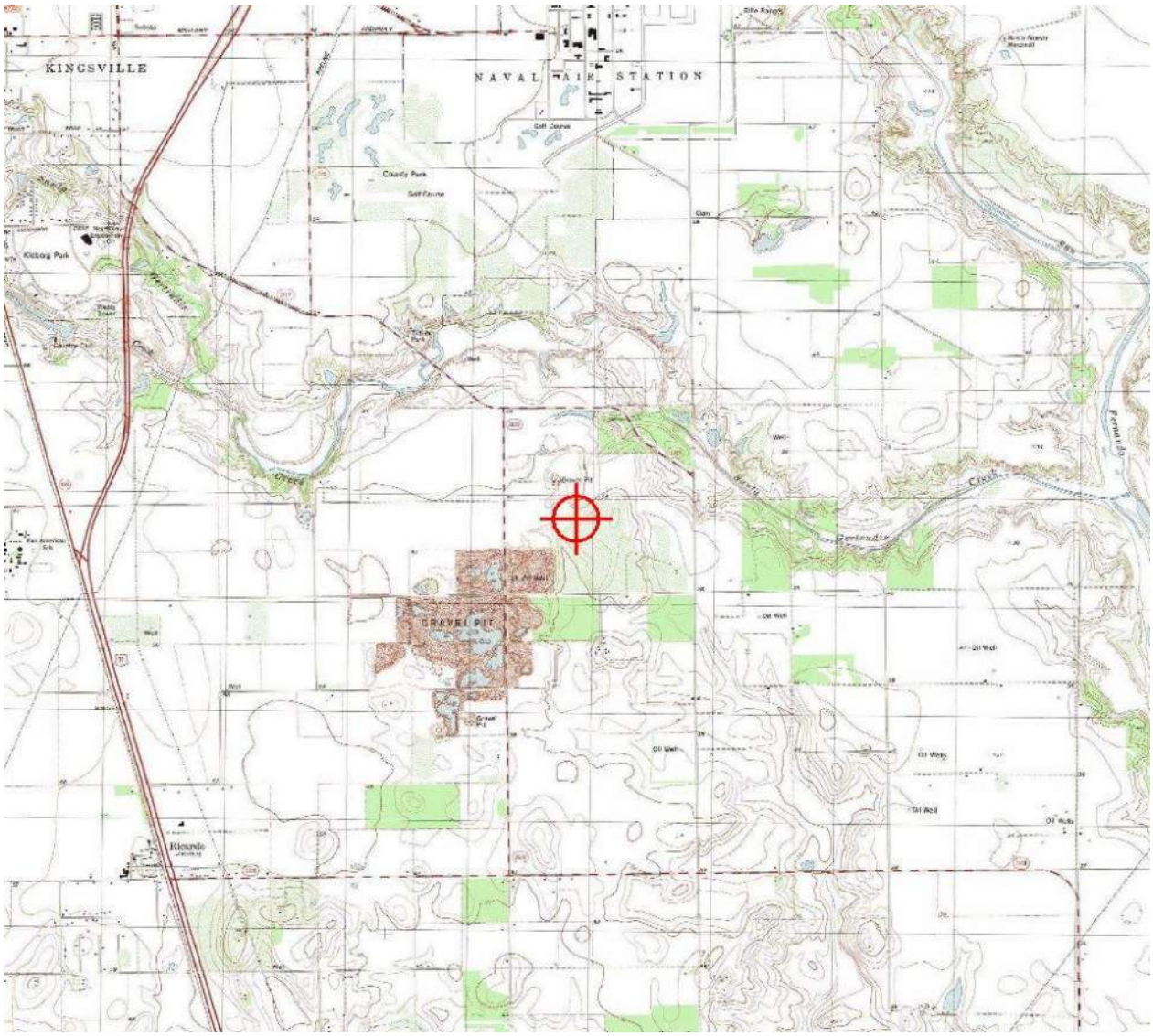
Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (817) 222-5933. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-ASW-6926-OE.

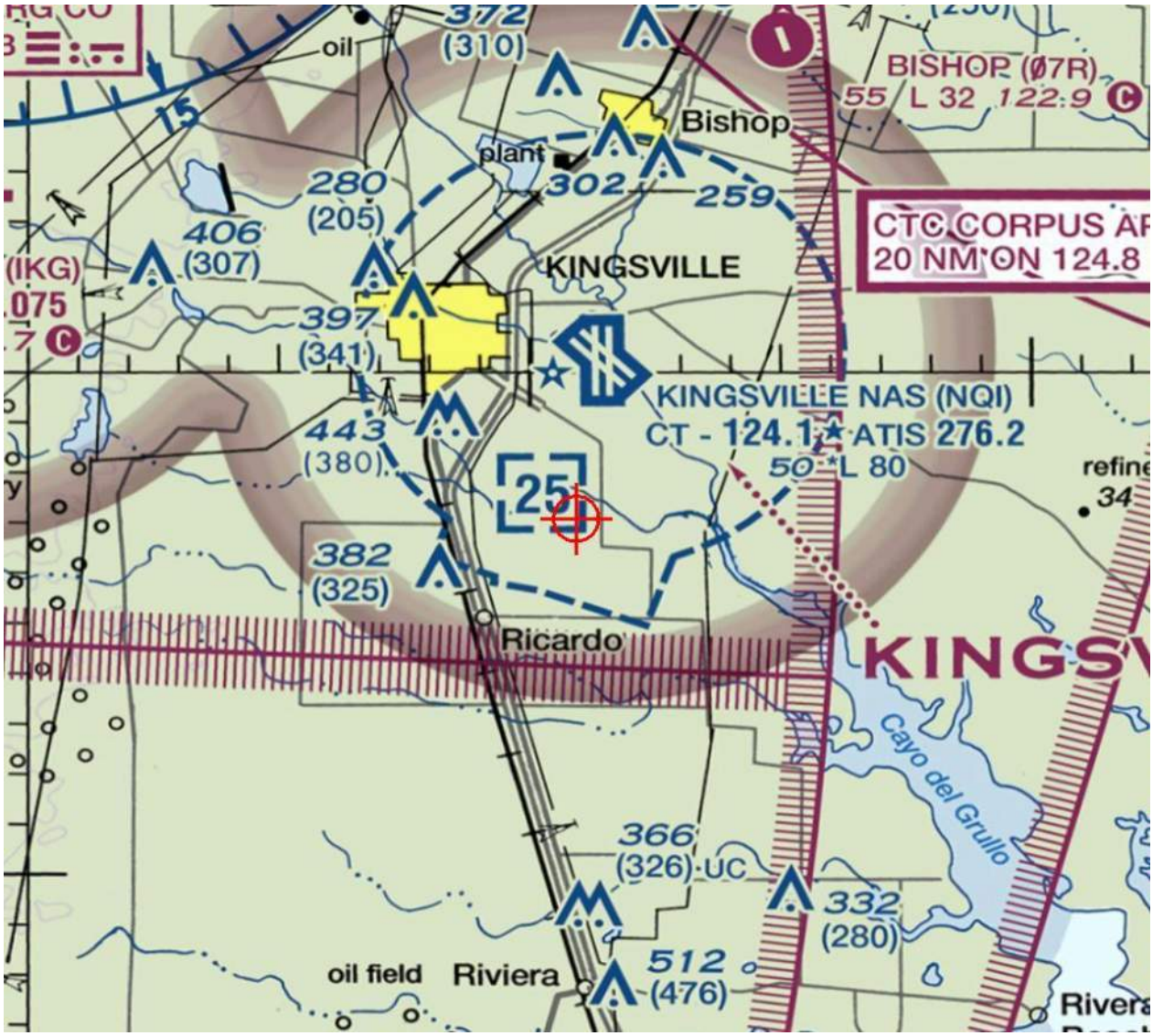
Signature Control No: 264434114-267799553 (DNE)
Andrew Hollie
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2015-ASW-6926-OE



Sectional Map for ASN 2015-ASW-6926-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2015-ASW-6927-OE

Issued Date: 10/06/2015

Kelly Mayfield
Naismith Engineering, Inc.
4501 Gollihar Road
Corpus Christi, TX 78387

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill City of Kingsville Landfill #8SE Top of Slope
Location:	City of Kingsville, TX
Latitude:	27-26-47.68N NAD 83
Longitude:	97-49-03.21W
Heights:	59 feet site elevation (SE) 116 feet above ground level (AGL) 175 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

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While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination expires on 04/06/2017 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within

6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

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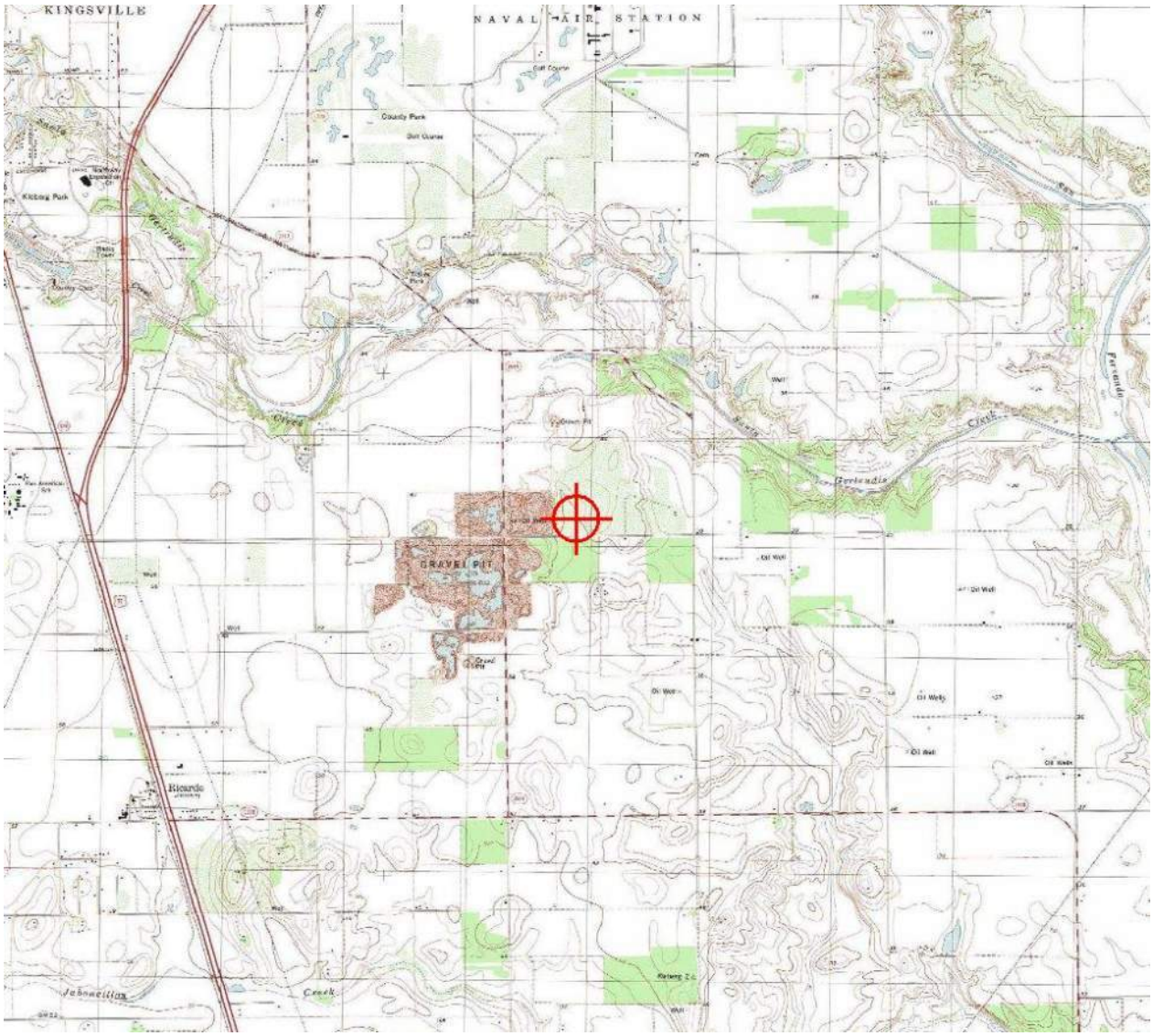
If we can be of further assistance, please contact our office at (817) 222-5933. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-ASW-6927-OE.

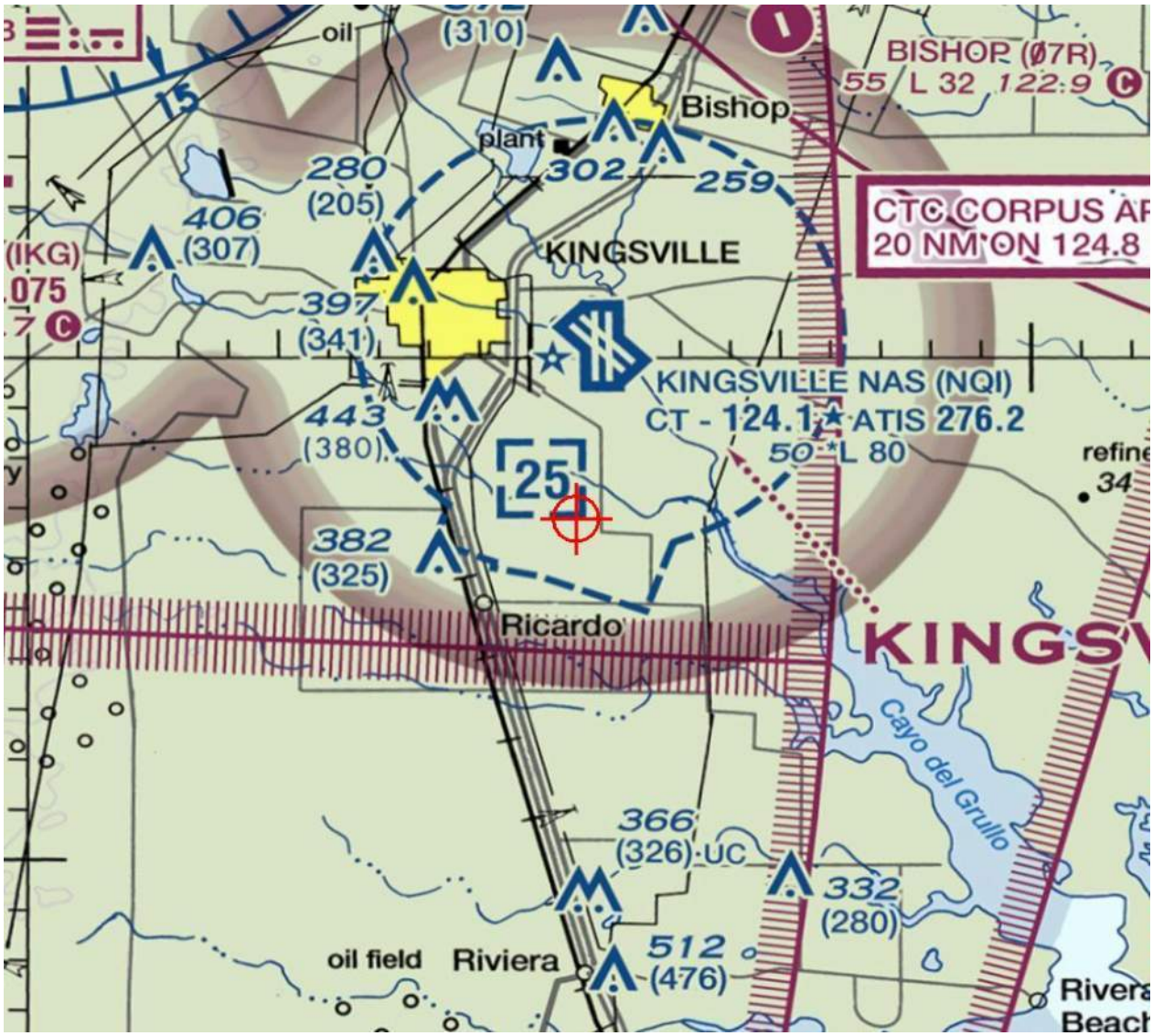
Signature Control No: 264434115-267799554 (DNE)
Andrew Hollie
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2015-ASW-6927-OE



Sectional Map for ASN 2015-ASW-6927-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2015-ASW-6928-OE

Issued Date: 10/06/2015

Kelly Mayfield
Naismith Engineering, Inc.
4501 Gollihar Road
Corpus Christi, TX 78387

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill City of Kingsville Landfill #9SW Top of Slope
Location:	City of Kingsville, TX
Latitude:	27-26-48.96N NAD 83
Longitude:	97-49-17.69W
Heights:	59 feet site elevation (SE) 111 feet above ground level (AGL) 170 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination expires on 04/06/2017 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within

6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

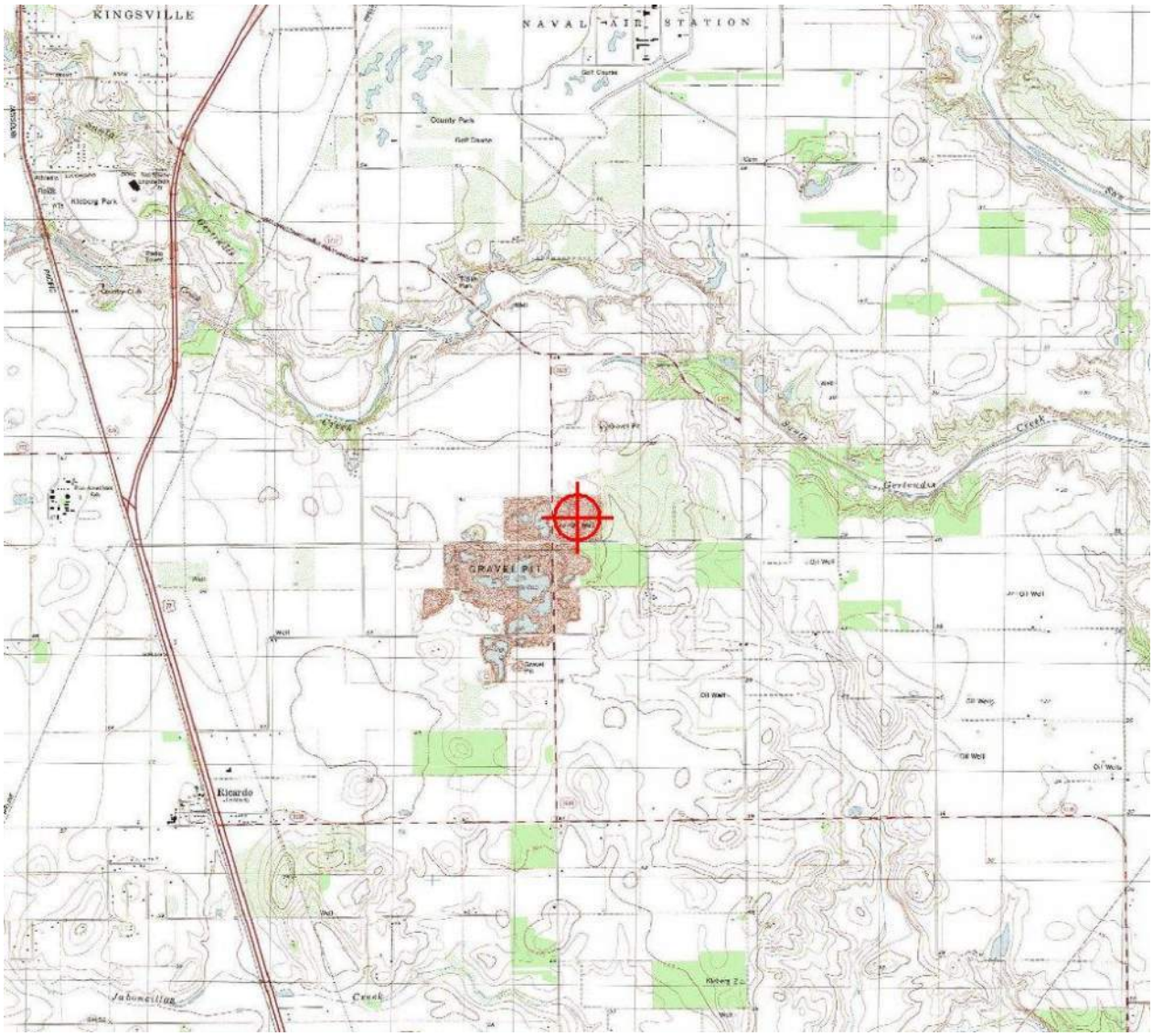
Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (817) 222-5933. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-ASW-6928-OE.

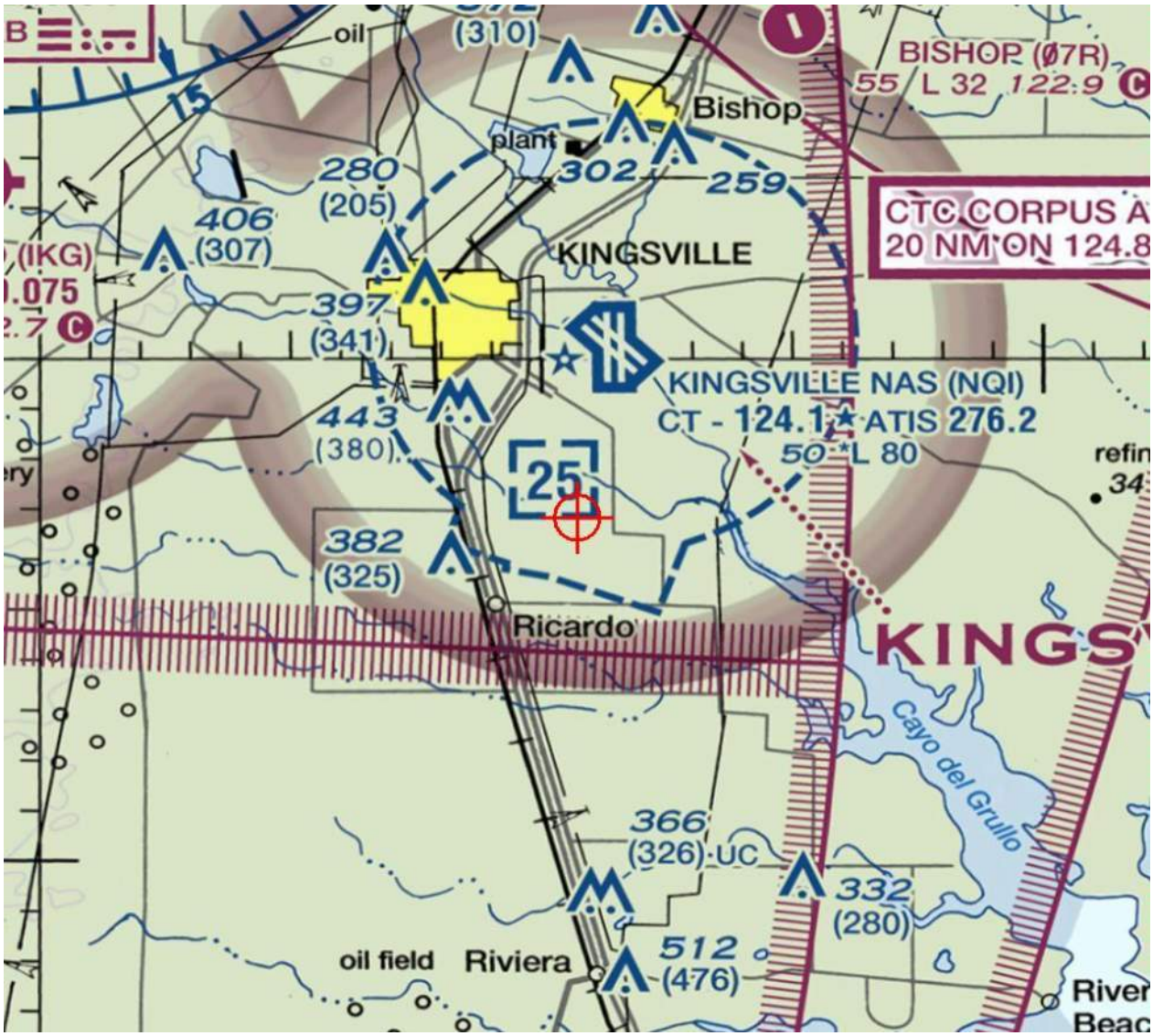
Signature Control No: 264434118-267799558 (DNE)
Andrew Hollie
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2015-ASW-6928-OE



Sectional Map for ASN 2015-ASW-6928-OE



DEPARTMENT OF THE NAVY
NAVAL AIR STATION
554 MC CAIN ST. SUITE 310
KINGSVILLE TX 78363 5054

11000
Ser N00/001
JAN 07 2015

Mr. Charlie Cardenas
City Engineer and Director of Public Works
City of Kingsville
P.O. Box 1458
200 E. Kleberg St.
Kingsville, TX 78364

Mr. Cardenas,

This letter is in response to Assistant Public Works Director Mr. William Donnell's request of November 3rd, 2014 to increase the permit height of the city's land fill located approximately three miles south of NAS Kingsville from 115 feet mean sea level (MSL) to a not-to-exceed height of 200 feet (MSL).

This request, having been vetted through Naval Flight Information Group and Training Air Wing TWO, is approved. I do request that when the city secures the new land fill permit that you provide a copy for our records.

Thank you for allowing NAS Kingsville to comment and taking into consideration the possible impact of this project to our mission. Should you require additional information, my point of contact is Mr. Glenn Jones, Community Plans Liaison Officer, (361) 516-4770.

Sincerely,

C. C. MISNER
Captain, U.S. Navy
Commanding Officer

U.S. Department of Transportation
Federal Aviation Administration

Federal Aviation Administration
Airports Division, Southwest Region Safety and Standards Branch

10101 Hillwood Parkway
Fort Worth, Texas 76177

November 20, 2015

Mr. Jon M. Reinhard
Project Engineer
Naismith Engineering Inc.
4501 Gollihar Road
Corpus Christi, TX 78411

Subject: Kingsville Municipal Solid Waste Landfill
Kleberg County, Texas

FAA File No. 2015-010-TX

Dear Mr. Reinhard:

This letter is in response to your October 23, 2015 notice advising us of the application for a vertical and lateral expansion of the City of Kingsville's Municipal Solid Waste Landfill. Your letter confirmed that you have notified the FAA Southwest Region Obstruction Evaluation Group and the Navy Air Service (NAS). The NAS and the FAA Obstruction Evaluation Group responded with no objection to the proposed lateral and vertical expansion of the landfill.

Using your coordinates of 27 27' 10"N and 97 48" 50"W representing the northeast corner of the facility, we determined that there are no privately owned or publically owned public use airports within 5 statute miles of the landfill site. With the landfill located outside of our 5-mile review criteria, we have no objection to the proposed lateral and vertical expansion of the landfill. Our position of no objection is based on the application of our guidance for hazardous wildlife attractants on or near airports FAA Advisory Circular 150/5200-33B.

This site has been assigned our file No. 2015-010-TX. Please refer to this number in any future correspondence regarding this site. Thank you for coordinating this project with us. If there are any questions, you can contact me at 817-222-5621or bill.mitchell@faa.gov.

Sincerely,

William Mitchell
Lead Airport Certification Safety Inspector
Airports Division Southwest Region
(817) 222-5621
Bill.mitchell@faa.gov

cc: Texas Department of Transportation
Division of Aviation
125 East 11th Street
Austin, TX 78701-2483

Texas Commission on Environmental Quality
Municipal Solid Waste Permits Section
Waste Permits Division
P.O. Pox 13087
Austin, TX 78711-3087

ASW-930 (with copy of 10/23/2015 letter)

Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Clean Copy - Appendix 4 -

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Appendix 4

CITY OF KINGSVILLE
PO BOX 1458
KINGSVILLE TX 78364-1458

DARRIN LEE RADFORD
WILLIAM DEAN RADFORD
238 N COUNTY ROAD 1080
KINGSVILLE TX 78363-2623

MICHAEL DEW YEARY
ETUX NANCY
523 N COUNTY ROAD 1020
KINGSVILLE TX 78363-2677

KLEBERG COUNTY TRUSTEE
PO BOX 1457
KINGSVILLE TX 78364-1457

KINGSVILLE MATERIALS INC
PO BOX 1533
KINGSVILLE TX 78364-1533

OLIVERO HINOJOSA JR
EMMA HINOJOSA
PO BOX 5390
KINGSVILLE TX 78364-5390

ENEDELIA M SAENZ
148 E COUNTY ROAD 2170
KINGSVILLE TX 78363-2601

LAURA ANITA MERCADO
1301 E JOHNSTON AVE
KINGSVILLE TX 78363-5921

SUBELDA M ORTEGON
426 GARCIA HILL RD
KINGSVILLE TX-78363

NELDA BASALDUA
PO BOX 1223
KINGSVILLE TX 78364-1223

MARIO MARTINEZ
3401 DAFFODIL AVE
MCALLEN TX 78501-5807

WOELFEL CHARLES R FAMILY TRUST
RUTH WOELFEL TR
1909 DEBBIE DR
BRYAN TX 77802-2006

IRBY PROPERTIES INC 401K TRUST
811 E CO RD 2198
KINGSVILLE TX 78363

ROGER ZIMMERMAN
1302 BALL ST
GALVESTON TX 77550-5019

STANLEY R WOELFEL
202 E COUNTY ROAD 2120
KINGSVILLE TX 78363-8866

BETTY ANN ALEXANDER
725 N SPAULDING AVE
LOS ANGELES CA 90046-7421

JOSIE WILDNER
ETAL & VERLENE T CITZLER
7755 CITZLER RD
LA GRANDE TX 78945-4211

SUEMAUR EXPLORATION AND PRODUCTION LLC
539 N CARANCAHUA ST 1100
CORPUS CHRISTI TX 78401-0999

REGINA WELGE FAMILY PARTNERSHIP LTD
413 S GREEN ST
LONGVIEW TX 75601-7534

STEVEN HEINEMAN
1000 N LAKE SHORE PLZ APT 31B
CHICAGO IL 60611-5154

RITA M MCCAULEY EST
DAVID CHARLES MCCAULEY JR IND EXEC
9674 PAULA DR
CORPUS CHRISTI TX 78410

ALFRED OTTO EST
% STANLEY WOELFEL
202 E COUNTY ROAD 2120
KINGSVILLE TX 78363-8866

ELAINE A MENN (LIFE EST)
LINDA & KENNETH
290 E FM 1118
KINGSVILLE TX 78363

LOUIS HUEBNER EST
8704 DRIFTWOOD DR
COLLEGE STATION TX 77845-5573

STANLEY R WOELFEL
ETUX SYLVIA J
202 E COUNTY ROAD 2120
KINGSVILLE TX 78363-8866

Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Clean Copy - Appendix 5 -

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Appendix 5

TCEQ Core Data Form

TCEQ Use Only

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.)

☐ New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)

☐ Renewal (Core Data Form should be submitted with the renewal form) ☒ Other: Permit Amendment Application

2. Customer Reference Number (if issued): CN 600674246

Follow this link to search for CN or RN numbers in Central Registry**

3. Regulated Entity Reference Number (if issued): RN 102334570

SECTION II: Customer Information

4. General Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy)

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name (If an individual, print last name first: e.g.: Doe, John): City of Kingsville

If new Customer, enter previous Customer below:

7. TX SOS/CPA Filing Number

8. TX State Tax ID (11 digits)

9. Federal Tax ID (9 digits)

10. DUNS Number (if applicable)

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees ☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated? ☐ Yes ☐ No

14. Customer Role (Proposed or Actual) - as it relates to the Regulated Entity listed on this form. Please check one of the following:

☐ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:

City | State | ZIP | ZIP + 4

16. Country Mailing Information (if outside USA)

17. E-Mail Address (if applicable)

18. Telephone Number ( ) -

19. Extension or Code

20. Fax Number (if applicable) ( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If `New Regulated Entity" is selected below this form should be accompanied by a permit application)

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☒ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.): City of Kingsville Landfill

23. Street Address of the Regulated Entity: (No PO Boxes)	348 E COUNTY ROAD 2130						
	City: Kingsville	State: TX	ZIP: 78363	ZIP + 4: 9653			
24. County	Kleberg						

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	1.7 Miles SE of the City of Kingsville at the NE corner of the intersection of FM 2619 and E CR 2130				
26. Nearest City		State	Nearest ZIP Code		
Kingsville		TX	78363		
27. Latitude (N) In Decimal:	27.444986°	28. Longitude (W) In Decimal:	-97.815525°		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
27°	26'	41.95"	97°	48'	55.89"

29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)

33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)

34. Mailing Address:							
	City:	State:	ZIP:	ZIP + 4:			
35. E-Mail Address:							

36. Telephone Number	37. Extension or Code	38. Fax Number (if applicable)
( ) -		( ) -

39. **TCEQ Programs and ID Numbers** Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☒ Municipal Solid Waste 235B	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name: Athalia Kelly Mayfield			41. Title: Environmental Technician
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(361) 814 - 9900		( ) -	kmayfield@hanson-inc.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	City of Kingsville	Job Title:	City Manager
Name(*In Print*):	Jesus A. Garza	Phone:	(361) 595-8002
Signature:		Date:	11/1/18

Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Clean Copy - Appendix 6 -

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Appendix 6

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

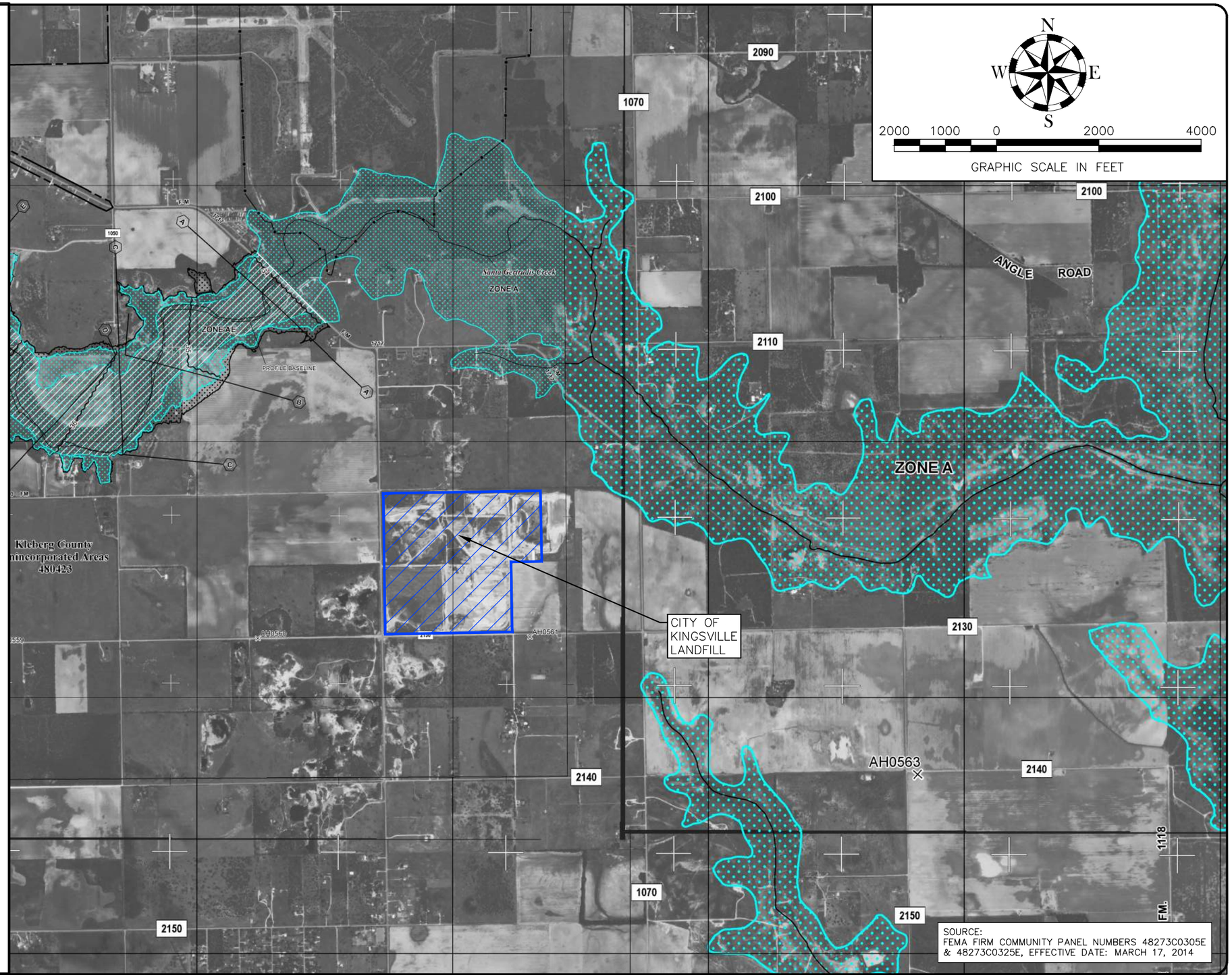
OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
	Limit of Noderate Wave Action
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 — 23	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
$^{24}76^{000m}$N	1000-meter Universal Transverse Mercator grid values, zone 14N
600000 FT	5000-foot grid values: Texas State Plane coordinate system, South zone (FIPSZONE 4205), Lambert Conformal Conic projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M1.5	River Mile



NUMBER	REVISION	DATE	DRAWN	DESIGNED	REVIEWED

STATE OF TEXAS
JON M. REINHARD
64541
LICENSED PROFESSIONAL ENGINEER
09/12/18

Hanson No.	16L0438
Filename	FLOODPLAIN
Scale	AS SHOWN
Date	09/12/2018

LAYOUT	DT	09/12/2018
DRAWN	DT	09/12/2018
REVIEWED	JMR	09/12/2018

HANSON

Hanson Professional Services Inc.
4501 Gollihar Rd.
Corpus Chrisiti, Texas 78411

TBPE F-417
TBPLS F-10039500
TBPG F-50556
TBAE F-BR 2458

Phone: (361) 814-9900
(800) 677-2831
www.hanson-inc.com
Offices Nationwide

PART II-ATTACHMENT 1
FLOODPLAIN MAP
CITY OF KINGSVILLE LANDFILL
MSW PERMIT No. 235-C
KINGSVILLE, TEXAS
KLEBERG COUNTY, TEXAS

FIGURE:
II.1-5

SEP 11, 2018 1:39 PM TORREO1809
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Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Clean Copy - Appendix 7 -

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Appendix 7

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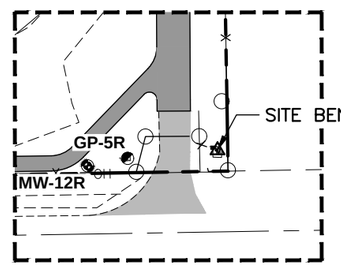
400 200 0 400

GRAPHIC SCALE IN FEET

LEGEND:

- MW-20 — MONITOR WELL LOCATION
- GP-8 — GAS PROBE LOCATION
- ○ — EXISTING FENCE CORNER
- x — EXISTING FENCE
- EXISTING PROPERTY BOUNDARY
- EXISTING ROAD
- PERMIT BOUNDARY LIMITS
- PROPOSED ROAD
- PROPOSED STORMWATER LETDOWN STRUCTURE
- PROPOSED STORMWATER PONDS
- PROPOSED LIMITS OF WASTE/WASTE FOOTPRINT

NOTE:
DIMENSIONS PROVIDED FOR THE ACTIVE SECTORS ARE BASED ON APPROVED GLERS AND HISTORICAL SECTOR CONSTRUCTION DOCUMENTS.



INSET A

NUMBER	REVISION	DATE	DRAWN	DESIGNED	REVIEWED

STATE OF TEXAS
JON M. REINHARD
64541
LICENSED PROFESSIONAL ENGINEER
09/12/18

Hanson No. 16L0438
Filename
Scale AS SHOWN
Date 09/12/2018

LAYOUT	DT	09/12/2018
DRAWN	DT	09/12/2018
REVIEWED	JMR	09/12/2018

HANSON

Hanson Professional Services Inc.
4501 Gollihar Rd.
Corpus Chrisiti, Texas 78411

TBPE F-417
TBPLS F-10039500
TBPG F-50556
TBAE F-BR 2458

Phone: (361) 814-9900
(800) 677-2831
www.hanson-inc.com
Offices Nationwide

PART I, ATTACHMENT 2
FACILITY LAYOUT PLAN
CITY OF KINGSVILLE LANDFILL
MSW PERMIT No. 235-C
KINGSVILLE, TEXAS
KLEBERG COUNTY, TEXAS

FIGURE:
I.-2-5

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Ms. Guanhua Gai
Business & Program Services Section, Waste Permits Division
Texas Commission on Environmental Quality
November 1, 2018
- Clean Copy - Appendix 8 -

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Appendix 8

THE CITY OF KINGSVILLE LANDFILL
TCEQ PERMIT MSW 235C

PERMIT AMENDMENT APPLICATION
PART III, ATTACHMENT 4
GEOLOGY REPORT

CITY OF KINGSVILLE, KLEBERG COUNTY, TEXAS

September 2018

Revision 1 – November 2018

STATE OF TEXAS
TAD A. GASS
GEOLOGY
11496
LICENSED
PROFESSIONAL GEOSCIENTIST

Tad A. Gass
11/01/2018

Prepared by

HANSON
Engineering | Planning | Allied Services

HANSON PROJECT NO. 16L0438-0003

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APPENDICES

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Finch Energy and Environmental Services, Inc.
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1.0 INTRODUCTION

1.1 Project Information

The City of Kingsville Landfill is located approximately 1.45 miles southeast of the City of Kingsville city limits, at the northeast corner of the intersection of Farm to Market Road 2619 and East County Road 2130 as shown on Attachment 1- Location Map (Figure III.4-1-1). The initial facility was permitted by the State of Texas in 1977 (Permit No. 235), and initial filling operations began in February 1977. The original 40 acre landfill is currently closed and is not Subtitle D compliant. The City of Kingsville was authorized a permit amendment for a 40-acre lateral landfill expansion of the site in 1986 (Permit No. 235-A). The approved Permit No. 235-A was developed and Sector 1 received its first load of waste material in March 1992. The City of Kingsville was again authorized a permit amendment in 1999 (Permit No. 235-B). This amendment increased the permitted acreage from 80 acres to approximately 120 acres and a maximum height of final cover of 125 feet-msl. The Kingsville Landfill is currently operating under Permit No. 235-B and subsequent permit modifications and/or authorizations.

The City of Kingsville Landfill is currently comprised of 120 acres. The City of Kingsville wishes to increase the capacity of the landfill site via a vertical and horizontal expansion through a permit amendment. The proposed permit amendment will increase the total permitted area to 176.33 acres. This will be accomplished by incorporating additional acreage to the northeast and southwest of the current permitted boundary. The existing active 108-acre waste disposal area will be expanded to a total of 121.3-acres. Other parts of this permit amendment are to; convert the current Type IV waste sector to accept Type I waste, request approval to process and dispose of liquid wastes and used tires, and to revise the floor contour and final contour plans to incorporate the vertical and horizontal expansion previously discussed.

1.2 Scope of Investiagation

The purpose of this study is to provide geological and geotechnical data for the design of the city of Kingsville Landfill. The scope of services included reviewing previous subsurface studies, summarizing the engineering properties of the subsurface materials and determining certain geotechnical design criteria such as estimated settlement and future slope stability.

1.3 Previous Subsurface Investigations

Previous subsurface investigations were conducted for the City of Kingsville Landfill to characterize subsurface conditions and assist with the development of landfill disposal cell designs. The previous testing and soils exploration work was performed by:

- Finch Energy and Environmental Services, Inc. (FEE)
- and Professional Service Industries, Inc. (PSI).

These reports are included in Appendix 1. A total of 23 soil borings were installed at this site at varying depths and testing intervals during these previous investigations.

Finch Energy and Environmental Services, Inc. conducted an investigation of subsurface materials at the Landfill location. Twelve (12) soil borings were installed and sampled. Laboratory tests were performed to determine the engineering properties of the subsurface materials. The report discussed the soils, sediments, and geologic and groundwater conditions encountered by FEE, Inc. during the hydrogeological/geotechnical investigations at the City of Kingsville Landfill. The report also discussed the characteristics of the soil samples collected and tested during the investigation.

As requested by the Texas Natural Resource Conservation Commission (TNRCC) in an NOD letter, Professional Service Industries, Inc. also conducted a subsurface investigation for FEE, Inc. and the City of Kingsville to evaluate the soil and groundwater conditions present at the site and to better define the aquiclude below the landfill site. A total of eleven (11) soil test borings were drilled and laboratory tests were performed to determine the engineering properties of the subsurface materials. This additional study discussed the types of subsurface materials encountered in the test borings and the results of the field and other laboratory tests performed for this site.

1.4 Current Subsurface Investigation

As previously identified, the proposed permit boundary for this facility will incorporate 176 acres of land with 128 acres being utilized for waste disposal. In accordance with 30 TAC 330.63 (e)(4)(B), a facility of this size requires 23-26 borings with 13-15 of these borings being installed at least 30 feet below the elevation of deepest excavation (EDE) and the remainder of the borings being installed at least 5 feet below the EDE. Before this subsurface investigation, there were fifteen (15) borings that were installed at least 5 feet below the EDE and four (4) of those borings were installed at least 30 feet below the EDE.

For this investigation, nine (9) soil borings were advanced to a minimum depth of 30 feet below the elevation of the deepest excavation of 22.5 ft and one (1) additional soil boring was advanced to 5 feet below the elevation of the deepest excavation to supplement the existing facility data. The borings were drilled in the locations identified on Attachment 2- Soil Boring Location Map (Figure III.4-2-1). Attachment 2 also identifies the locations of the previously installed soil borings. Attachment 3- Groundwater Contour Map (Figure III.4-3-1) identifies groundwater elevations in addition to the current groundwater monitoring system.

The soil borings for the current subsurface investigation were installed by Tolunay-Wong Engineers, Inc. Representative samples were collected with split-barrel sampling procedures in general accordance with the procedures for “Penetration Test and Split-Barrel Sampling of Soils” (ASTM Designation D-1586) and Standard Practice for Thin-Walled Tube Sampling of Soils for Geotechnical Purposes (ASTM Designation D-1587). Borings were dry-augered using hollow stem augers to advance the boreholes until groundwater was encountered or until the boreholes became unstable and/or collapsed. Wash rotary drilling techniques were used as necessary in order to continue advancing the borings to their required completion depths. Samples were identified according to boring number and depth, protected against moisture loss, and transported to the laboratory for analysis. After obtaining all required soil samples and groundwater level readings, the soil borings were properly plugged and abandoned in accordance with 16 TAC Chapter 76,

Texas Department of Licensing and Regulation (TDLR)-Water Well Drillers and Pump Installers rules. Table 1-1 below identifies specific details for both existing and newly installed soil borings. For this investigation, borings B30 through B41 were installed. These borings were advanced to depths ranging from 33.5 to 86 feet beneath the existing ground surface. Tolunay-Wong Engineers, Inc. prepared a Geotechnical Engineering Study Report that is provided in Appendix 2. Hanson Professional Services also prepared a soil boring report that has been included as Appendix 3.

Table 1-1
Soil Borings

Boring Identification	Surface Elevation (ft. AMSL)	Boring Depth (ft. bgs)	Bottom Elevation (ft. AMSL)	≥5 Feet Below E.D.E?	≥30 Feet Below E.D.E?
B-1	59.25	42	17.25	YES	NO
B-2	52.64	27	25.64	NO	NO
B-3	56.1	37	19.1	NO	NO
B-4	58.01	39	19.01	NO	NO
B-5	60.54	48	12.54	YES	NO
B-6	55.46	38	17.46	YES	NO
B-7	61.05	36	25.05	NO	NO
B-8	59.79	43	16.79	YES	NO
B-9	62.51	44	18.51	NO	NO
B-9R	41.41	17	24.41	NO	NO
B-10	49.78	29	20.78	NO	NO
B-11	60.2	33	27.2	NO	NO
B-12	52.38	48	4.38	YES	NO
B-13	59.13	50	9.13	YES	NO
B-14	49.94	42	7.94	YES	NO
B-15	48.39	37	11.39	YES	NO
B-16	55.96	47	8.96	YES	NO
B-17	41.35	33	8.35	YES	NO
B-18	50.04	42	8.04	YES	NO
B-21	52.41	84	-31.59	YES	YES
B-23	49.5	86	-36.5	YES	YES
B-24	47.38	72	-24.62	YES	YES
B-25	61.12	88	-26.88	YES	YES
B-30	45.99	82.5	-36.51	YES	YES
B-31	58.37	68	-9.63	YES	YES
B-32	48.46	82.5	-34.04	YES	YES

Boring Identification	Surface Elevation (ft. AMSL)	Boring Depth (ft. bgs)	Bottom Elevation (ft. AMSL)	≥5 Feet Below E.D.E?	≥30 Feet Below E.D.E?
B-33	64.51	86	-21.49	YES	YES
B-34	61.14	43	18.14	NO	NO
B-35	64.5	72.5	-8	YES	YES
B-36	59.13	68	-8.87	YES	YES
B-37	45.52	48	-2.48	YES	NO
B-38	41.64	58	-16.36	YES	YES
B-39	60.26	68	-7.74	YES	YES
B-40	52.31	33.5	18.81	NO	NO
B-41	50.2	62.5	-12.3	YES	YES

E.D.E.-Elevation of Deepest Excavation (22.5' Above Mean Sea Level (AMSL))

2.0 REGIONAL INFORMATION

2.1 Regional Physiography

As discussed in Finch Energy and Environmental Services' Report (Appendix 1, Section 2.0, Page 11-12), the site of the landfill is located in the part of the Gulf Coastal Plain that has been defined as the Coastal Bend of Texas. The coastal plain is gently, but irregularly, inclined gulfward at about 5 feet or less per mile. In many areas, coastal plain slopes range from 1 to 3 feet per mile, and on the lagoonal wind-tidal flats, slopes are usually less than 1 foot per mile. Elevations within the county range from 0 feet (Gulf of Mexico) to 125 feet above Mean Seal Level (MSL) in the extreme northwestern part. It is characterized as an arid, desert like region where wind (Eolian) erosion and wind transported sediment have determined much of the area's character and distinctiveness. The surface features of the county are broad, dune covered mainland prairies and extensive coastal wind-tidal flats.

Eolian transport of silts and sands has produced the South Texas Eolian System (Sand Sheet). Extensive, hummocky prairies within the South Texas sand sheet are underlain by relic sand dunes and wind-deflated depressions which extend inland from broad wind-tidal flats along the landward margin of Laguna Madre and parts of Baffin Bay.

2.2 Regional Stratigraphy

Table 2-1 presents the geologic formations that characterize the regional stratigraphy of Kleberg County.

Table 2-1
Geologic Formations for Kleberg County

Period	Epoch	Geologic Formation	Approximate Maximum Thickness (FT)	Litholgy	Water-Bearing Properties
Quaternary		Alluvium	?	Mostly very fine to fine sand, silt, and calcareous clay	Not significant as an aquifer. Not known to be tapped by wells.
		Barrier Island Deposits	50	Tan to gray, fossiliferous, medium sand containing wood fragments; interbedded tan sand and gray clay, locally gypseous; and gray, fossiliferous sandy clay	Capable of yielding small quantities of fresh water to shallow wells on Padre Island.
	Holocene and Pleistocene (?)	South Texas Eolian Plain Deposits	60+	Tan to white, unfossiliferous, massive, fine to very fine sand, greenish gray sandy clay, highly calcareous clay or marl, and thin-bedded clayey sand.	Yields small quantities of sl ightly saline water to a few stock wells in Kenedy County. in sofne areas in Kenedy County the sand contains brine
	Pleistocene	Barrier Island and Beach Deposits	1,400	Barrier island and beach deposits mostly light gray, massive, crossbedded fine sand about 60 feet thick; contains some shell fragments.	Barrier island and beach deposits yield small quantities of fresh to probably moderately saline water to a few stock wells in eastern Kleberg County near Laguna Madre.
		Beaumont Clay and Lissie Formation, Undifferentiated		Beaumont Clay and Lissie Formation mostly very calcareous, slightly carbonaceous, blue and yellow clay and a few lenticular beds of sand.	Beaumont Clay and Lissie Formation yield small quantities of slightly to moderately saline water to a few mostly stock wells in eastern part of Kleberg and Kenedy Counties.
Tertiary	Pliocene	Goliad Sand	1,100	Fine to coarse, mostly gray calcareous sand interbedded with sandstone and varicolored calcareous clay. Sand beds or sandstone compose from 40 to 60 percent of the formation.	Principal aquifer. Yields small to large quantities of fresh to slightly saline water to public supply, industrial, and irrigation wells as well as to numerous rural domestic and stock wells. Many of the wells tapping the Goliad in Kleberg and Kenedy Counties flow.
	Miocene	Lagarto Clay	1,200+	Mostly stiff, compact, gray, calcareous clay and some thin lenticular beds of gray sand.	Not known to be tapped by wells, but capable of yielding small quantities of slightly saline water in Kenedy and Jim Wells Counties.
		Oakville Sandstone	600	Very fine to coarse, brown to gray sand and sandstone interbedded with silt and a considerable amount of clay.	Yields small to moderate quantities of sl ightly saline water to industrial and stock wells in southern Jim Wells County.

*Texas Water Development Board, Report 173, Ground-Water Resources of Kleberg, Kenedy, and Southern Jim Wells Counties, Texas, July 1973. (Shafer, 1973)

2.3 Regional Hydrogeology

As discussed in Finch Energy and Environmental Services' Report (Appendix 1, Section 4.0, Page 34-35), The Evangeline Aquifer is the principal aquifer in the region and is considered one of the most prolific aquifers in the Texas Coastal Plain. The aquifer is composed of at least the Goliad Sand and includes sections of sand in the Fleming Formation. Also discussed in Finch Energy and Environmental Services' Report (Appendix 1, Section 3.2, Page 17-18), the Goliad Sand of Pliocene age occurs in the subsurface of the site area. It is the principal aquifer in the site area with wells producing small to large quantities of fresh to slightly saline water to public supply, industrial, irrigation, rural-domestic, and stock wells. The aquifer is considered a large, leaky artesian aquifer. A stratigraphic column of geologic formations including a brief discussion of lithology and water-bearing properties found in the area of Kingsville is presented in Table 2-1.

The Pleistocene formations exposed in the region are the Beaumont Clay and Lissie Formation. The Beaumont Clay is recognized as lying to the east of U.S. Highway 77. The Beaumont Clay is a series of delta-plain deposits composed principally of mud with localized elongate sand and silt bodies. The Lissie Formation is composed of meanderbelt sands and muds which underlie thin loess (Eolian silt) deposits and Eolian sand deposits west of U.S. Highway 77. These two formations are generally discussed as one unit; Beaumont Clay and Lissie Formation, undifferentiated (Chicot Aquifer). Regional hydrogeology for the site is discussed further in Appendix 1 beginning on page 16.

2.4 Water Quality

As stated in Appendix 1 (Section 4.1, Page 23), water quality of the Goliad is highly variable. The quality of water from wells in the Goliad Sand deteriorates at depths greater than 1,000 feet, and the salinity of the water increases eastward. Generally, water from wells in the Goliad Sand in southern Jim Wells County and about the western one-half of Kleberg County meets the quality standards of the U.S. Public Health Service. Shallow, moderately saline to very saline water overlies the fresh to slightly saline water at most places (Shafer, 1973).

The Beaumont Clay and Lissie Formation (Chicot Aquifer) yield small quantities of slightly to moderately saline water to a few shallow wells used mostly for stock needs in eastern Kleberg and Kenedy Counties. Test wells drilled for observation purposes 1.25 miles west of Riviera (approximately 15 miles south of Kingsville), show that shallow sands of the Beaumont and Lissie usually contain very saline water in this area. The casings of many wells are cemented through the Beaumont and Lissie due to highly mineralized water associated with these formations (Shafer, 1973).

A groundwater contour map has been included in Attachment 3 (Figure III.4-3-1). A monitoring well groundwater elevation table has been included as Exhibit 1 of Attachment 3 and an analytical data summary table has been included as Exhibit 2 of Attachment 3. Detailed analytical data and groundwater elevations from historic ground water monitoring of monitor wells at the site can be found in the Groundwater Characterization Report which is included in Appendix 1 beginning on page 752. On-site groundwater monitoring well installation information has also been included in

Appendix 1 beginning on page 962, and additional on-site monitor well installation information shall be provided as wells are installed.

2.5 Groundwater Recharge

As discussed in Appendix 1 (Section 4.3, Page 37), Recharge within a 5 mile radius is from downward percolation of surface water, infiltration from streams, impoundments, and water retained in abandoned caliche pits. A map of the recharge area can be seen in Figure 4.14 on page 44 of Appendix 1.

3.0 SITE CHARACTERIZATION

3.1 Site Topography

The natural topography in the vicinity of the landfill is relatively flat to slightly depressed. The general direction of drainage is to the east-southeast and east-northeast. The natural ground elevation at the City of Kingsville Landfill is approximately 52 feet above mean sea level (MSL). The proposed elevation of the deepest excavation at the site is approximately 22.5 feet above MSL, and the highest permitted elevation for the site is approximately 200 feet above MSL. Lines displaying site topography for the City of Kingsville Landfill have been included on Attachment 2- Soil Boring Location Map (Figure III.4-2-1). The site vicinity is surrounded by extensive areas of agriculture. There are also abandoned caliche mines to the west and southwest. The Santa Gertrudis Creek, located 0.7 miles to the north, trends to the east-southeast 3.25 miles to it's confluence with the San Fernando Creek which then flows southeast to the Cayo del Grullo of Baffin Bay. Jaboncillos Creek, Ebanito Creek and several small unnamed ephemeral streams, are located several miles south of the site.

3.2 Subsurface Investigation Report

3.2.1 Site Exploration

Three subsurface studies have been performed to evaluate the stratigraphy of the landfill site. A total of thirty-five (35) borings have been drilled to depths ranging from 17 to 88 feet below the natural ground surface.

Finch Energy and Environmental Services, Inc. installed twelve (12) borings ranging in depth from 17 to 48 feet below the existing ground surface. Professional Service Industries, Inc. installed eleven (11) borings ranging from 33 to 88 feet below the existing ground surface. Tolunay-Wong Engineers, Inc. installed twelve (12) borings ranging in depth from 33.5 to 86 feet below the existing ground surface.

3.2.2 Field Drilling, Sampling, and Logging

For the three investigations, the soil test borings were installed using a drilling rig capable of sampling cohesive and cohesionless materials. Samples of cohesive materials were obtained by hydraulically pushing a thin walled tube in accordance with ASTM D 1587. Non-cohesive soils were obtained by performing a standard penetration test (SPT) using a split barrel sampler in accordance with ASTM D 1586-D. The samples were extruded in the field, wrapped in foil, placed in moisture sealed containers, and protected from disturbance prior to transport to the laboratory.

All samples were transported to the laboratory for testing and were identified according to boring number and depth at a minimum. Soil test borings were visually logged in the field and boring logs have been provided in Appendices 1, 2, and 3.

3.3 Site Stratigraphy

As seen on Figure 4.4 and 4.4a (Page 19-20), the primary geologic formations exposed at the surface of the site are silt sheet deposits, clay dune, and clay-sand dune deposits. The topsoil consists of clay which is black, silty, and contains humic material. Sediments encountered in borings at the site are Holocene and Pleistocene in age and consist of clays, silts, sands, and caliche deposited in two (2) separate and distinct environments of deposition. The subsurface geology is presented on cross sections A–A' through I–I' included in Appendix 1 beginning on page 67.

The site is underlain by sediments that can be divided into five discontinuous units and one continuous unit. The discontinuous units are caliche bearing channel unit (I), sand filled channel unit (II), clayey sand (clay dune, III), clayey sand (clay dune IV), and sandy silty clay (V). The continuous unit consists of the light olive green to gray clay which is an aquiclude present below the site. The water bearing zone is made up of the five discontinuous units which are all in communication. The average ground water level is at approximately 35 feet below National Geodetic Vertical Datum (NGVD).

3.3.1 Body I- Caliche Bearing Channel

As stated in Appendix 1 (Page 59), this is the youngest, most extensive, sand containing body that can be correlated across the site. This body consists of interbeds of caliche, clays, and sands which, in themselves, are noncorrelative. The individual beds within this body appear to be of limited extent and probably represent braided deposits within a single channel approximately ½ mile in width. The base of this channel is placed at the base of the lowest caliche encountered in the borings at the site. When grouped together, it can be shown via cross section and isopach mapping that the body can obtain a maximum thickness of 40 feet and, as a whole, cuts downward into underlying beds. This body was deposited as a channel system which trends in a down dip direction, southwest to northeast, across the City of Kingsville Landfill site. Much of the caliche contained within this body has been previously removed from the site by mining operations.

3.3.2 Body II- Sand Filled Channel

As stated in Appendix 1 (Page 59), Body II was deposited as a channel filled with a homogeneous, well sorted, very fine grained to fine grained, clean, unconsolidated sand. The fill sediment in Body II is much simpler than the fill sediment in Body I. The preserved length and width of this channel sand is less than one half mile due to truncation and incisement by the overlying Body I channel. Body II is interpreted as being a channel due to down cutting evident on the cross sections. This channel sand is apparent in borings 10 and 17. Body II was also evident in boring 37, which was installed in the most recent geotechnical investigation by Tolunay-Wong Engineers, Inc., approximately 14.5 feet below ground elevation 45.52. Deposition of the Body II channel sand was oriented in a dip direction, southwest to northeast across the site.

3.3.3 Body III- Clayey Sand (Clay Dune)

As stated in Appendix 1 (Page 59-60), the Clayey Sand (Clay Dune) Body III lies under the eastern edge of the City of Kingsville Landfill site and is composed of a homogeneous, very fine grained, well sorted, clayey sand. Well 13 was previously the only known penetration of the sand encountering a thickness of 17'. Borings 35 and 39, installed by Tolunay-Wong Engineers, Inc., also penetrated Body III at approximately 24 feet and 36.5 feet below ground elevations of 64.5 and 60.26 feet respectively. At it's base, the sand appears to be conformable with the underlying "orange" sand which is interpreted as a near shore or beach sand. Body III is interpreted as a clay dune based on clay content, sorting, and stratigraphic position within an overall regression section.

3.3.4 Body IV- Clayey Sand (Clay Dune)

As stated in Appendix 1 (Page 60), the Clayey Sand (Clay Dune) Body IV is believed to be a time and stratigraphic equivalent of Body III, described above, and underlies a portion of the western edge of the City of Kingsville Landfill site. Borings 16 and 23 penetrated 18 feet and 12 feet respectively, immediately above the underlying "orange" sand. Body IV sand is similar in all respects to the homogeneous, very fine grained, well sorted, clayey sand which comprises Body III above. Cross section G-G' included in Appendix 1 (wells 16 and 23) illustrates the top of Body IV as being concave downward with a flat base, indicating deposition as a "buildup" or clay dune. Again, Body IV appears conformable with the underlying "orange" which is interpreted as a near shore or beach sand. Bodies III and IV are typical of the QCD deposits seen on the Geologic Atlas of Texas Corpus Christi Sheet. QCD is comprised of clay due and clay-sand dune deposits and possess physical properties similar to those of the sandy and silty Beaumont Formation as indicated in the Geologic Atlas of Texas.

3.3.5 Sandy Clay Bed

As stated in Appendix 1 (Page 60), the sandy clay bed was deposited in conjunction with Bodies I through IV and is composed of a homogeneous, tan, sandy clay containing abundant decomposed organic material. Thickness of this clay ranged from 40 to 60 feet under the City of Kingsville Landfill site with the above described Sand Bodies deposited within or adjacent to this clayey interval. The basal contact is abrupt with the underlying "orange" Sand.

3.3.6 "Orange" Sand

As stated in Appendix 1 (Page 60), the "orange" sand appears to have been deposited in a near shore or beach environment. The sand is extremely well sorted and clean and the grains are well rounded and composed of approximately 90% fine quartz grains and 10% fine multicolored shell fragments giving the overall sand color an orange cast. The thin (<5 feet), sheet-like nature of the sand represents a beach environment of short duration developed at the top of the Beaumont clay (Light Olive Green to Gray Clay). It is present in all wells of sufficient depth.

3.3.7 Light Olive Green to Gray Clay

As stated in Appendix 1 (Page 61), tops of the Light Olive Green to Gray Clay are necessary to make the above interpretations of shallower beds in that it is the most definitive, planar marker bed under the City of Kingsville Landfill site. This clay is pure and therefore exhibits characteristic low permeabilites with a proven thickness of at least 38 feet as seen in Boring 21 (boring log included in Appendix 1). The light olive green clay layer begins at approximately 46 feet below the ground surface elevation of 52.41 feet in boring 21, and the boring was terminated at

approximately 84 feet below the surface elevation (bottom elevation of -36.5 feet). The clay layer is also evidenced in boring B-23 with an approximate thickness of 50 feet. The layer begins at approximately 36 feet below the surface elevation of 49.50 feet, and the boring terminates at approximately 86 feet below the surface elevation (bottom elevation of -36.5 feet).

3.4 Geologic Fault and Seismicity Assessment

A geologic fault and seismicity assessment was performed by FEE. Sections 3.3.1 (Page 26-27) and 3.3.4 (Page 28) in Appendix 1 discusses faults and faulting, and seismic impact zones at the City of Kingsville Landfill. Conclusions from FEE are as follows:

"An evaluation of potential faults or fault zones does not indicate the presence of *active* faults. Topographic Maps, literature searches, aerial photographs, Petroleum Industry maps and a field survey were used in this evaluation. The field survey combined with topographic maps did not *reveal* structural damage to buildings, ground scarps, or unusual surface depressions. Changes in drainage or vegetation patterns which are also associated with faulting were not present. Data presented by Algermissen, et al, 1990 suggests a low probability of major seismic activity in the vicinity of the site."

A Seismic Impact Zone Map from the USGS from 1990 has been provided by FEE in Figure 4.9 of Appendix 1 (Page 30). A Seismic-Hazard Map for the Conterminous United States from 2014 from the USGS has also been included as Attachment 4 (Figure III.4-4-1). Both maps show the City of Kingsville Landfill site to be clear of any potential seismic impact zones.

3.5 Geologic Processes

Active Geologic Processes are discussed in Section 3.3 of Appendix 1 (Page 26-28). The primary geologic process occurring in this area of Texas is erosion. Based on soil types and character, and topography, erosion does not appear to be a significant factor under "normal conditions" or if design criteria are met and maintained. The construction of silt fences, wind screens, diversion berms, and routine maintenance should keep erosion at the City of Kingsville Landfill manageable.

4.0 GEOTECHNICAL REPORT

4.1 Laboratory Results

Laboratory tests were performed by Finch Energy and Environmental Services, Inc., Professional Service Industries, Inc., and Tolunay-Wong Engineers, Inc. on recovered soil samples to determine the engineering properties of the strata during the previous and most recent geotechnical engineering studies. Laboratory tests were performed in general accordance with ASTM International standards to measure physical and engineering properties of the recovered samples. Laboratory testing descriptions and methods used in the most recent Tolunay-Wong Engineers, Inc. study can be viewed in table 4-1. Laboratory results gathered from previous subsurface investigations performed by FEE and PSI are located in section 8.0 of Appendix 1 beginning on page 87. A summary of Tolunay-Wong's laboratory results has been included below.

Table 4-1
Laboratory Testing Program

Test Description	Test Method
Amount of Material in Soils Finer than No. 200 Sieve	ASTM D 1140
Unconfined Compressive Strength of Cohesive Soil (UC)	ASTM D 2166
Water (Moisture) Content of Soil	ASTM D 2216
Liquid Limit, Plastic Limit and Plasticity Index of Soils	ASTM D 4318
Density (Unit Weight) of Soil Specimens	ASTM D 2937
One-Dimensional, Incremental Loading Consolidation	ASTM D 2435
Consolidated-Undrained Triaxial Compression w/ Pore Water Pressure	ASTM D 4767

Standard geotechnical laboratory test results and soil properties encountered in the project borings are presented on the logs of borings in Appendix B of Appendix 2 beginning on page 31. Results of completed one-dimensional consolidation and consolidated-undrained triaixial shear tests performed on the selected cohesive soil samples obtained for this study are included in Appendix D (Page 64) and E (Page 68) of Appendix 2.

In-situ moisture contents of selected cohesive clay samples ranged from 18% to 34%. Results of Atterberg Limits tests on selected clay samples indicated liquid limits (LL) ranging from 31 to 81 with plasticity indices (PI) ranging from 18 to 58. The amount of materials finer than the No. 200 sieve on the selected samples ranged from 55% to 100%. In-situ moisture contents of selected silty sand samples ranged from 23% to 24%. The amount of materials finer than the No. 200 sieve on the selected samples tested for grain size distribution ranged from 14% to 38%.

Undrained shear strengths derived from field pocket penetrometer readings ranged from 0.25-tsf to 4.50-tsf. Undrained shear strengths derived from laboratory unconfined compressive (UC) strength testing ranged from 0.16-tsf to 3.41-tsf with corresponding total unit weights of 86-pcf to 105-pcf. Shear strength of cohesive soils inferred from SPT blow counts generally were similar. Based on this undrained shear strength data, the consistency of the cohesive soils encountered in the project borings is considered to be very soft to very stiff. Tabulated laboratory test results at the recovered sample depths are presented on the boring logs in Appendix B of Appendix 2 beginning on page 31.

4.2 Geotechnical Analysis

4.2.1 Settlement Analysis

One-dimensional consolidation tests were performed by Tolunay-Wong Engineers, Inc. using select samples from the soil borings to evaluate the compressibility characteristics of the foundation soils. The results of the consolidation tests are presented in Appendix D of Appendix 2 (Page 65-67). The predicted settlements resulting from consolidation settlement of the foundation soils due to the weight of the overlying landfill material are on the order of 1 foot.

Mr. Ralph N. Lewis of PSI also performed a settlement analysis during PSI's previous geotechnical analysis, and his calculations are shown in Appendix H.2 of Appendix 1 (Page 539). His calculations show that conservatively the final landfill cover will settle 3.0 inches at the center

and 1.5 inches at the edges of the landfill. These calculations were based on previous landfill designs and capacities.

4.2.2 Slope Stability

A slope stability analysis was conducted by FEE. The objective of the analysis was to determine the local sliding stability of the liner system and cover as well as the overall stability of the embankment slope. The proposed embankments have a 4 (horizontal) to 1 (vertical) slope. FEE determined that a maximum allowable landfill height to satisfy a minimum factor of safety of 2.0 under static loading conditions was approximately 125 NGVD. Further discussion of the results from these analyses can be seen in Appendix 1 Section 8.3- Engineering Analyses beginning on page 120. Tolunay-Wong Engineers, Inc. also performed a waste mass stability analysis during their geotechnical engineering study. Tolunay determined that the calculated factor of safety for peak shear strength conditions exceeded 1.5 for their assumed strength and unit weight parameters, the analyzed cross sections, and assumed failure geometry. The calculated factor of safety for large displacement condition exceeds 1.5, which in their judgement, and based on published information, is acceptable. Further discussion of the results of this study have been included in Appendix 2 Section 7- Waste Mass Stability (Page 24-26).

5.0 CONCLUSIONS

As discussed in Finch Energy and Environmental Services, Professional Service Industries, Inc., and Tolunay-Wong Engineers Inc. reports and based upon the results of field and laboratory investigations performed during these studies, the following conclusions have been developed:

The site is located in the Gulf Coastal Plain of Texas with the Beaumont Clay and Lissie Formation undifferentiated near the surface. This formation underlies silt sheet deposits, clay dune, and clay-sand dune deposits on the surface at the site.

The site is underlain by sediments that can be divided into five discontinuous units [Caliche Bearing Channel Unit (I), Sand Filled Channel Unit (II), Clayey Sand (Clay Dune)(III), Clayey Sand (Clay Dune)(IV), Sandy (Silty) Clay] and one continuous unit [Light Olive Green to Gray Clay Aquiclude]. The water bearing zone is made up of the five discontinuous units which are all in communication. The normal ground water level is at approximately 35 ft NGVD.

The uppermost aquifer beneath the base grade of the existing site can be defined as a discontinuous fluvial-deltaic environment in which all units are in hydraulic communication with each other and bounded by the 38 foot thick plus Light Olive Green to Gray Clay aquiclude at depths of 5 ft to 17 ft above mean sea level. Groundwater movement is to all sides of the landfill except to the northwest.

The Landfill site has a Light Olive Green to Gray Clay layer of more than 38 feet thickness which forms an aquiclude between the uppermost local aquifer and the Chicot aquifer which is the uppermost regional aquifer. The Chicot aquifer is located between 200 and 300 feet below mean seal level (MSL) and generally contains slightly-saline to saline water in Kleberg County.

Tolunay determined that the calculated factor of safety for peak shear strength conditions exceeded 1.5 for their assumed strength and unit weight parameters, the analyzed cross sections, and assumed failure geometry. The calculated factor of safety for large displacement condition exceeds 1.5, which based on published information, is acceptable. Based on Tolunay-Wong's Geotechnical Engineering Study results, and in their opinion, it is anticipated that the planned landfill configuration should be stable, provided excess pore pressures are not generated within the waste mass or that there is no increase in piezometric head above 1 foot within the underlying liner cover material or leachate collection system. The generation of pore pressures and increase in piezometric head within the materials could substantially reduce the factor of safety and increase the risk for stability problems. Also, the predicted settlements resulting from consolidation settlement of the foundation soils due to the weight of the overlying landfill material are on the order of 1 foot.

References

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CITY OF KINGSVILLE LANDFILL

PART III, ATTACHMENT 4

APPENDIX 1

FEE GEOLOGY REPORT DATED MAY 29, 1998 AND JUNE 29, 1998, AND REVISED SEPTEMBER 30, 1998, WITH APPENDICES.

FEE GROUNDWATER CHARACTERIZATION REPORT DATED NOVEMBER 1997, REVISED JUNE 1998 AND SEPTEMBER 1998, WITH APPENDICES

Appendix 1

FEE Geology Report

Appendix 1

FEE GW Char Report

CITY OF KINGSVILLE LANDFILL

PART III, ATTACHMENT 4

APPENDIX 2

TOLUNAY-WONG ENGINEERS, INC. GEOTECHNICAL ENGINEERING STUDY

Appendix 2

Geotech Engineering Study

CITY OF KINGSVILLE LANDFILL

PART III, ATTACHMENT 4

APPENDIX 3

HANSON PROFESSIONAL SERVICES, INC. SOIL BORING REPORT

Appendix 3
Soil Boring Report

CITY OF KINGSVILLE LANDFILL

PART III, ATTACHMENT 4

ATTACHMENT 1

LOCATION MAP

Attachment 1

CITY OF KINGSVILLE LANDFILL

PART III, ATTACHMENT 4

ATTACHMENT 2

SOIL BORING LOCATION MAP

Attachment 2

CITY OF KINGSVILLE LANDFILL

PART III, ATTACHMENT 4

ATTACHMENT 3

GROUNDWATER CONTOUR MAP

EXHIBIT 1 – GROUNDWATER ELEVATION TABLE
EXHIBIT 2 – ANALYTICAL DATA SUMMARY

Exhibit 1 Exhibit 2

Attachment 3

CITY OF KINGSVILLE LANDFILL

PART III, ATTACHMENT 4

ATTACHMENT 4

SEISMIC-HAZARD MAP FOR THE CONTERMINOUS UNITED STATES

Attachment 4