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November 7, 2013

Mr. Zac Covar
Executive Director
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78753

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Order Compliance Team
Enforcement Division, MC 149A
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

Attn:

Mr. Gary Beyer, TCEQ Mr. Bill Shafford, TCEQ

Subject:

Interim Action Work Plan

Slag and Battery Case Fragment Removal and Disposal Exide Technologies Frisco Recycling Center, Frisco, Texas

TCEQ Agreed Order Docket No. 2011-1712-IHW-E; IHW Permit No. HW-50206; TCEQ SWR No. 30516;

Customer No. CN600129779; Regulated Entity No. RN100218643; EPA ID No. TXD 006451090; EPA Administrative Order on Consent

RCRA 06-2012-0966

Dear Mr. Covar, and Ms. Singhvi,

On July 9, 2013, Exide Technologies ("Exide") submitted to the TCEQ and EPA an Affected Property Assessment Report ("APAR") and a Tier 2 Screening Level Ecological Risk Assessment

Mr. Zac Covar Ms. Sunita Singhi TCEQ Order Compliance Team November 7, 2013

("SLERA") for the subject property. The APAR was submitted to comply with ordering provisions of TCEQ Agreed Order Docket 2011-1712-IHW-E ("AO") and EPA Administrative Order on Consent RCRA 06-2012-0966 ("EPA AOC"). On October 8, 2013, the TCEQ issued a letter conveying comments on the APAR and SLERA. Included in TCEQ comments was a request that Exide submit an interim slag and battery chip investigation and recovery plan to address slag and battery chips in and around the downstream portion of Stewart Creek. The requested interim action work plan is enclosed.

I certify that I am the Executive Vice President & President of all of Exide's recycling facilities (including the Frisco, Texas facility) and am duly authorized to sign the certifications attached to this letter.

Sincerely,

#### **EXIDE TECHNOLOGIES**

Bruce Cole

EVP & President, Industrial/Recycling Americas & Asia Pacific

#### Enclosure

cc: Mr. Gary Beyer – TCEQ – 2 copies

Mr. Bill Shafford - TCEQ

Ms. Margaret Ligarde - TCEQ

Mr. John Shelton - TCEQ

Mr. Chris Shaw - TCEQ

Mr. Paul James – EPA

Mr. Guy Tidmore – EPA

Mr. Jay Przyborski – EPA

Mr. Mack Borchardt - City of Frisco

Mr. Matthew Love – Exide Technologies

Ms. Aileen Hooks – Baker Botts

Waste Section Manager, Dallas/Fort Work Regional Office, Texas Commission on Environmental Quality, 2309 Gravel Drive, Fort Worth, Texas 77118-6951

Mr. Zac Covar Ms. Sunita Singhi TCEQ Order Compliance Team November 7, 2013

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

I certify that this document and all attachments were prepared under my direction or supervision. I certify that the information contained in or accompanying this submittal is true, accurate, and complete. I certify that this submittal and all attachments were prepared in compliance with the RCRA § 3013 Administrative Order on Consent entered into between EPA and Exide Technologies; docket number RCRA 06-2012-0966. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Bruce Cole, Exide Technologies

State of Illinois County of DuPage

The foregoing instrument was subscribed and sworn before me this 7<sup>th</sup> day of November, 2013 by Bruce Cole.

Notary Public, State of Illinois

My commission expires: March 10, 2015

OFFICIAL SEAL
CHERYL A IMHOF
Notary Public - State of Illinois
My Commission Expires Mar 10, 2015

# INTERIM ACTION WORK PLAN SLAG AND BATTERY CASE FRAGMENT REMOVAL AND DISPOSAL

Exide Frisco Recycling Facility
7471 5<sup>th</sup> Street, Frisco, Texas 75034-5047
TCEQ SWR No. 30516
TCEQ Hazardous Waste Permit No. HW-50206
TCEQ Agreed Order Docket No. 2011-1712-IHW-E
EPA ID No. TXD006451090
Customer No. CN600129779
Regulated Entity No. RN100218643

Submitted To: Exide Technologies, Inc.

3000 Montrose Ave Reading PA 19605

Submitted By: Golder Associates Inc.

500 Century Plaza Drive, Suite 190

Houston, TX 77073 USA

Distribution: TCEQ - 8 copies

EPA – 3 copies City of Frisco – 1 copy

Exide – 1 copy

Baker Botts – 1 copy

TCEQ Regional Office - 1 copy

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November 7, 2013



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Site Location Map: Downstream Extent of Stewart Creek Interim Action Area Site Layout Map: Interim Action Area Parcel Boundaries Figure 1

Figure 2



#### 1.0 INTRODUCTION

Golder Associates Inc. (Golder) has prepared this Interim Action Work Plan (IAWP) for Slag and Battery Case Fragment Removal from Stewart Creek downstream of the Exide Technologies, Inc. (Exide) Former Operating Plant (FOP) located at 7471 South 5<sup>th</sup> Street in Frisco, Texas (Interim Action Area, **Figure 1**). The IAWP has been prepared in response to the Texas Commission on Environmental Quality (TCEQ) comments to the Affected Property Assessment Report (APAR) dated October 8<sup>th</sup>, 2013 which requested that this IAWP be submitted by November 7<sup>th</sup>, 2013. This IAWP includes the rationale and methodology that will be used while performing removal and disposal activities for slag and battery case fragments exposed on the ground surface along Stewart Creek downstream from the FOP.

#### 1.1 Site Background

Exide Technologies' predecessors reportedly placed treated and untreated slag and battery case fragments from crushed lead-acid batteries in areas located on the north and south portions of the FOP. The disposal areas no longer receive waste materials and are capped with soil and vegetative cover. In addition to these general disposal areas, small and localized areas containing slag and battery casing fragments have been observed on the ground surface in other areas of the FOP property beyond the limits of the disposal areas and in certain areas along Stewart Creek.

In 2011, Exide identified and sampled suspect slag in the western reach of Stewart Creek on the FOP property. Based on analytical results and visual observations, occasional slag occurrences were noted along this stretch of Stewart Creek (W&M, 2011). The results of that survey are summarized in a letter report prepared by W&M entitled Suspect Slag Sampling Report; Stewart Creek – West Segment, dated March 28, 2011.

In its May 14, 2013 Interim Report – Visual Survey of Stewart Creek, Southwest Geosciences (SWG) identified four observations of possible slag material in downstream areas of Stewart Creek on U.S. Army Corps of Engineers (USACE)-owned property south of 4<sup>th</sup> Army Memorial Road. Exide will attempt to gain access to this area and include it in the Interim Actions. SWG also identified and sampled slag and battery case fragments from other areas of Stewart Creek downstream of the FOP and upstream of the USACE-owned property in June 2013. In addition, to our knowledge, an area downstream of Legacy Drive has not yet been accessible to the City of Frisco for inspection. Exide will attempt to gain access to this area. The boundaries of those parcels through which access to the Interim Action Area is needed are depicted on **Figure 2**. For the purposes of this report, the Interim Action Area consists of the stream bed of Stewart Creek as well as the associated immediate bank areas.

## 1.2 Interim Action Objectives

The goal of the interim action is to identify and remove individual pieces of exposed slag and battery case fragments from the ground surface in the Interim Action Area using hand shoveling and other manual



methods, and to collect laboratory analytical data regarding arsenic, cadmium and lead concentrations at 10% of the locations where slag materials are removed and where no prior data exists to determine if future larger scale remediation is warranted in any of these areas. Removal of soil/sediment that has no slag or battery case fragments will not be part of this interim action.

This IAWP details the proposed removal actions, including the methodology for identification of the areas requiring removal, specific material handling and disposal procedures, post removal sampling, safety considerations, and quality assurance procedures. It was prepared in an effort to be generally consistent with the rational and methodology identified in the W&M Environmental Group, Inc. (W&M) *Interim Action Work Plan for Slag and Battery Case Fragment Removal and Disposal* prepared for the FOP dated April 29, 2013 (W&M, 2013a), which was previously approved by TCEQ.

Because streams are naturally dynamic and have periods of erosion and deposition, there may be some slag or battery case fragments that were historically deposited but that are not visible at the time of the initial survey and may surface in the future. Exide proposes to perform an initial survey/removal action and then perform a follow-up survey/removal action approximately six months later. The need for and recommended frequency of follow-up surveys will be assessed after the second survey is completed. The second survey report will include recommendations for additional surveys, if warranted.

#### 2.0 INTERIM ACTIONS

The interim action at the Interim Action Area will consist of the following steps. Details regarding the removal activity sequencing are provided in Sections 3.2.

- Identify property owners and secure access to the Interim Action Area properties.
- Identify and record the location of slag and battery case fragments using methods previously developed.
- Discretely remove the slag and battery case fragments with manual equipment only. A small amount of soil/sediment in direct contact and immediately surrounding the excavated fragments will also be removed during these activities.
- Collect soil/sediment samples at approximately 10% of the locations where slag materials are removed, and where previous data is not available.
- Store removed materials in less than 90-day containers (55-gallon drums) within the confines of the FOP.
- Characterize the removed materials for disposal purposes.
- Properly dispose of 55-gallon drums of removed materials at off-site disposal facilities.

#### 2.1 Site Access

The first step to performing the interim actions is to obtain access to the Interim Action Area properties. Golder has already started assembling property owner information and will work with Exide to develop a proposed access agreement and contact appropriate parties. If no response is received, or access is denied, Golder and Exide will request assistance from TCEQ as needed. In order to efficiently evaluate the downstream portions of Stewart Creek, it is anticipated that the field portion of the assessment activities will not be started until access for the entire stretch of the creek is obtained.

# 2.2 Site Reconnaissance and Identification of Removal Action Areas

Once access is obtained, methods for identifying slag developed by W&M will be implemented. These methods will involve observing visual and physical characteristics and collecting/removing suspect materials. A number of materials were previously identified and sampled along Stewart Creek to develop a protocol to distinguish slag materials from native rock or stone fragments. Sampling results indicated that probable slag is generally denser and has darker colors along with reddish hues whereas natural materials suspect of being slag tended to be lighter colored and more readily identifiable as limestone fragments and/or asphalt material.

Using this information, Golder will complete a field survey to identify and remove slag and battery case fragments along the Interim Action Area. Golder will locate and identify slag and battery case fragments by traversing the creek bed and associated immediate bank areas of the entire interim action area of Stewart Creek as shown in figure 2. The identification process will consist of visual, on the ground



observations only and will not include physical digging or intrusive investigations. Exact locations where slag and/or battery case fragments are observed will be measured using a Trimble R8-4 Global Positioning System (GPS) handheld receiver, or equivalent device. For each identified feature, the geographic coordinates as well as visual observations at each location will be recorded.

#### 2.3 Removal Activities

Identified slag or battery case fragments will be removed wherever observed. The removal method has been designed to minimize the generation of dust. Removal of slag and battery case fragments will be completed with hand tools such as shovels and trowels. The hand tool blades will consist of stainless steel or other inert material. All tools used in removal efforts will be decontaminated between each removal event. The soil in direct contact and immediately surrounding the slag or battery casing fragments will also be removed.

Only areas where slag and/or battery case fragments can be removed by use of hand tools will be completed as part of this interim action. Areas of slag and battery case fragments sufficiently large to require the use of mechanical excavation equipment (if any) will be identified in the field and addressed at a later date.

The slag and battery case fragments and soil/sediment in direct contact and immediately surrounding, will be loaded into 5 gallon buckets and subsequently transferred into 55-gallon drums. Each bucket or drum will be covered when material is not being actively added and will be labeled to identify its contents (i.e., slag/battery case fragments). Drums will be sealed at the end of each day and when they have reached their capacity. Once a drum has been filled, it will be transferred to a storage location on a paved area at the FOP. The drum label will also identify the drum as "Currently Being Analyzed" and the date of accumulation. A composite sample will be collected from the drums and analyzed for TCLP lead and cadmium using EPA Method SW1311/6020. Additional analysis will be performed as required by the anticipated disposal facility. Based upon the results of the waste characterization analysis, each 55-gallon drum will be labeled and transported to an appropriate off-site disposal facility within 90 days of removal. No treatment or disposal of the drummed materials will be performed at the FOP.

#### 2.4 Post Removal Sampling

Soil/sediment beneath removed slag fragments will be sampled at 10% of the locations, but only in areas where previous data is not readily available, or where previous soil/sediment samples have not been collected. Each post removal sample will be collected in a small plastic bag and soil in the bag will be homogenized. Samples will be placed in laboratory-supplied four-ounce sample jars, labeled with the sample number, date, and time of collection. The soil samples will be couriered or hand delivered to the designated project laboratory for analysis of total arsenic, lead and cadmium using EPA Method 6010/6020.



# 2.5 Health and Safety Considerations

Removal activities will be performed only by hand removal of slag and battery case fragments which will result in minimal dust generation. A site-specific health and safety plan will be generated prior to implementation of the IAWP.

#### 2.6 Public Notification

A discussion of the interim action activities will be presented on the Exide website dedicated to disseminating information regarding the FOP closure (<a href="http://www.exidefriscoclosure.com">http://www.exidefriscoclosure.com</a>).



#### 3.0 QUALITY ASSUARNCE/QUALITY CONTROL

Primary quality assurance/quality control (QA/QC) procedures for the proposed response action will include:

- Following written procedures for all sampling, sample handling and preservation.
- Recording all sampling and other field activities conducted at the Interim Action Area in a field logbook.
- Collecting duplicate samples and split confirmation samples.
- Completing chain-of-custody documentation for all samples collected.
- Ensure that all laboratory sampling procedures and chemical analyses are performed in accordance with the latest versions of SW-846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods".
- Reviewing QA/QC data package from the analytical laboratory.



#### 4.0 SCHEDULE AND REPORTING

Implementation of the IAWP will begin following TCEQ approval. As noted above, Golder has already initiated activities to start identifying appropriate property owners and will request assistance from TCEQ if delays in receiving access are encountered.

Once appropriate Site access has been obtained, the proposed interim actions will be completed within 30 days or less from the start of field work, weather conditions permitting. Following completion of the removal activities and receipt of laboratory data reports, a report will be prepared detailing the activities performed under this IAWP and post removal sampling. This report will include a summary of completed activities, photographic log, post removal sampling results, and review of QA/QC data. After completion, the report will be forwarded to TCEQ.

As discussed above, because streams are naturally dynamic and have periods of erosion and deposition, there may be some slag or battery case fragments that are not visible at the time of the initial survey but were historically deposited and may surface in the future. Exide proposes to perform an initial survey/removal action and then perform a follow-up survey/removal action approximately six months later. The same field procedures, schedule, and reporting protocol will be used for both surveys. The need for and recommended frequency of follow-up surveys will be assessed after the second survey is completed. The second survey report will include recommendations for additional surveys, if warranted.



#### 5.0 REFERENCES

The following references were used in the preparation of this IAWP.

- Exide, 2013a. Affected Property Assessment Report (APAR), Exide Technologies Frisco Recycling Center, Frisco, Texas, July 8, 2013.
- Exide, 2013b. Response to TCEQ and EPA Comments on Affected Property Assessment Report (APAR) and Tier 2 Screening Level Ecological Risk Assessment (SLERA) for the Former Operating Plant, Exide Technologies Frisco Recycling Center, Frisco, Texas, October 29, 2013.
- TCEQ, 2013. Comments to the Affected Property Assessment Report (APAR) and the Tier 2 Screening Level Ecological Risk Assessment (SLERA) for the Former Operating Plant, dated July 9, 2013, Request for a Revised APAR, Exide Frisco Facility, 7471 5<sup>th</sup> St., Frisco, TX 75034-5047, October 8, 2013.
- W&M, 2011. Suspect Slag Sampling Report; Steward Creek West Segment, March 28, 2011.
- W&M, 2013a. Interim Action Work Plan, Slag and Battery Case Fragment Removal and Disposal, Exide Frisco Recycling Facility, 7471 5<sup>th</sup> Street, Frisco, Texas 75034-5047, April 29, 2013.
- W&M, 2013b. Report on Interim Actions, Slag and Battery Case Fragment Removal and Disposal, Exide Frisco Recycling Facility, 7471 5<sup>th</sup> Street, Frisco, Texas 75034-5047, October 14, 2013.



### 6.0 CLOSING

Golder appreciates the opportunity to assist Exide with this project. Please contact the undersigned if you have any questions or would like any additional information about this work plan.

9

**GOLDER ASSOCIATES INC.** 

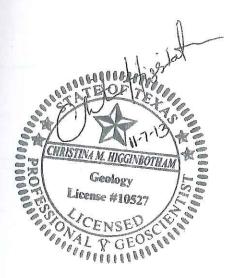
Christina M. Higginbotham, P.G. Remediation Project Manager

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Anne Faeth - Boyd

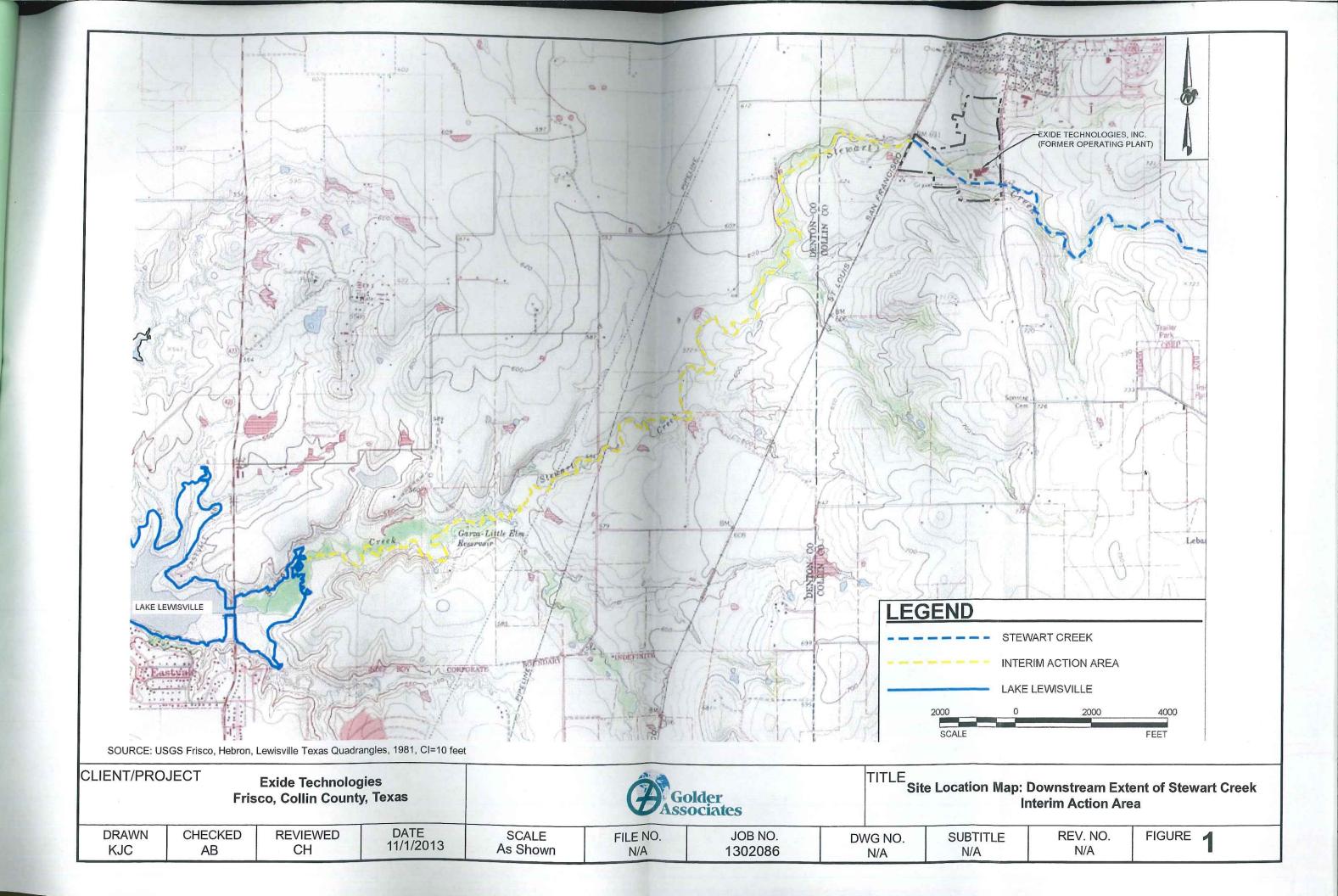
Jay. A. Winters, P.G. Principal

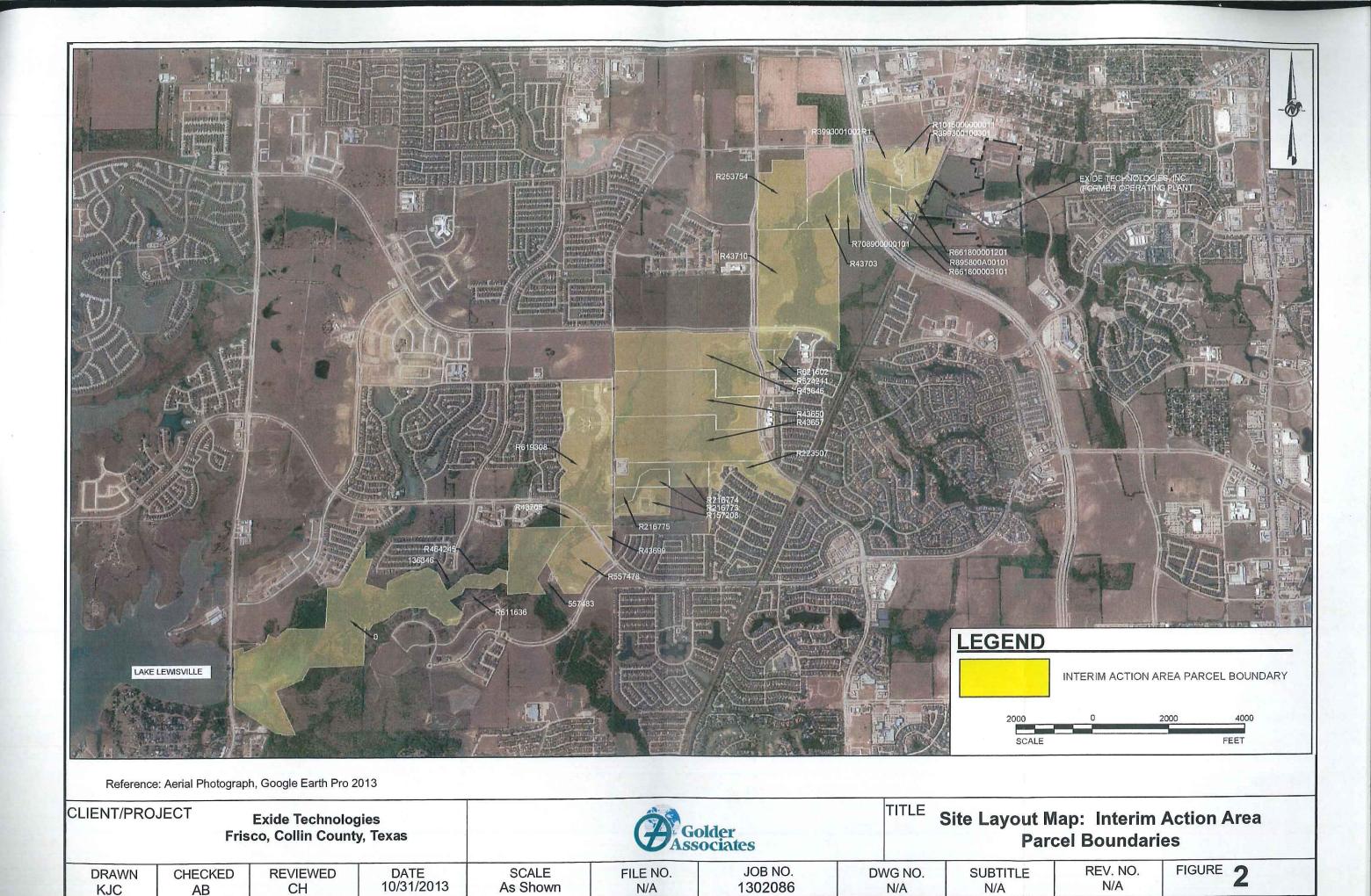
CH/AMF/JAW



GOLDER ASSOCIATES INC.
Geoscience Firm Registration
Certificate Number 50369

**FIGURES** 





At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

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