Lower Colorado River Authority
Highland Lakes Dredge and Fill Ordinance
Dredge and Fill Permit
Engineering Report

Kingsland I S&G
Kingsland, Texas 78639
Llano County

Submitted to: LCRA
Prepared By:

Boerne, Texas
830-249-8284
Date: January 2023
Project No. 10553-095
-NM-

Signature: ____________________________
Curt G. Campbell, PE
License No. 106851
TX PE Firm No. 4524
Date: 1/20/2023
Collier Materials, Inc.

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Collier Materials, Inc.

Permit Submittal Requirements
Dredge and Fill Permit Submittal Requirements

All documents and plans shall be provided in PDF format. Calculations may be provided in an Excel spreadsheet. Plans must legible and produced to a commonly-used engineering scale. Capitalized terms are defined in the Highland Lakes Dredge and Fill Ordinance.

(1) An application form prescribed by LCRA.
(2) Required fees.
(3) A description of the Project, including:
   a. The purpose of the proposed Dredge and Fill activity.
   b. The anticipated duration of the proposed Dredge and Fill activity.
   c. A detailed map of the Project Limits that specifically identifies:
      1. The boundaries of the Project Limits.
      2. Each parcel of land within the Project Limits, including the identity of the landowner.
      3. The location of any Utility infrastructure, public water system intakes, or other Critical Infrastructure located within the Project Limits or within 1,000 feet of the Project Limits.
      4. The location of any proposed facilities that will be constructed (i.e., retaining walls, boat slips, etc.).
      5. The specific areas that will be Dredged or Filled.
      6. Tier III applications, the boundaries of the zone or zones designated by the General Manager pursuant to Section 5.3(b) relative to the boundaries of the Project Limits.
   d. An estimate of surface area within the Project Limits and the linear feet of shoreline included within the Project Limits.
   e. A description of the type and quantity (in cubic yards) of Dredged Material or Fill to be removed from or added to the Project Limits.
   f. The results of any sediment screening that has been performed consistent with Section 5.3(h)(i).
   g. Specifications, drawings or detailed descriptions of the means and methods, including Best Management Practices, that will be used to conduct the proposed Dredge and Fill activity in compliance with the required Standards.

(4) A list of all other required permits, authorizations or approvals required for the Project, including copies of any final permits, authorizations or approvals, and
a summary of the status and anticipated date of any required permit, authorization, or approval that has not yet been secured.

(5) A list identifying all Landowners located within the Project Limits or within 500 feet of the Project Limits and any written waivers or agreements between the Applicant and such Landowners.

(6) A list identifying all Utility infrastructure, public water system intakes, or other critical infrastructure located within the Project Limits or within 1,000 feet of the Project Limits and any written waivers or agreements between the Applicant and the owner(s) of such infrastructure or intakes.

(7) Any Required Environmental or Safety Plan.

(8) A cost estimate for installation and maintenance of turbidity controls, Shoreline Stabilization, and remediation or restoration required by the Ordinance.
Collier Materials, Inc.

Permit Application Form
Permit Application Form

Application # (to be completed by LCRA)

LCRA HIGHLAND LAKES WATERSHED ORDINANCE
PERMIT APPLICATION

X Development Permit  ___ Master Plan  ___ General Utility Permit

___ Quarry/Mine Certification  ___ Quarry/Mine Permit  X Dredge/Fill Permit

APPLICANT
(NAME)

NAME: Kevin Collier  FIRM: Collier Materials, Inc.

STREET ADDRESS: P.O. Box 86

CITY/STATE/ZIP: Marble Falls, TX 78654

PHONE: 830-693-2228  FAX: 830-249-0221  EMAIL: kc@colliermaterials.com

PROPERTY OWNER
(NAME)

NAME: Marsha Spinner  FIRM: Spinner Beheim, LLC

STREET ADDRESS: 120 Amber Creek

CITY/STATE/ZIP: Burnett, TX 78611

PHONE: 830-249-8284  FAX: 830-249-0221  EMAIL: marshaspinner@gmail.com

AGENT/ENGINEER
(NAME)

NAME: Curt G. Campbell, P.E.  FIRM: Westward Environmental, Inc.

STREET ADDRESS: 4 Shooting Club Road (P.O. Box 2205)

CITY/STATE/ZIP: Boerne, TX 78006

PHONE: 830-249-8284  FAX: 830-249-0221  EMAIL: ccampbell@westwardenv.com

PROJECT NAME: Kingsland S&G

NUMBER OF ACRES IN PROJECT: 79.59 acres

ADDRESS/LOCATION OF PROPERTY: From the intersection HW 2900, go west on FM 309 for ~1.5 miles, then the property is on the right.

COUNTY: Llano  LAKE: Lyndon B. Johnson  TAX PARCEL ID: 58308

BRIEF DESCRIPTION OF PROJECT: Collier Materials, Inc. plans to set up a dredging operation in Lyndon B. Johnson Lake, Zone D. This operation will include drawing sediment from the lakebed using suction pumps, pontoons, and piping it to a processing facility on a private property near dredge project limits.

CERTIFICATION

I (we), the undersigned, do hereby certify that to the best of our knowledge this application correct, complete and complies with the LCRA Highland Lakes Watershed Ordinance. By submitting an application, the applicant and/or owner is authorizing LCRA to enter the site to obtain information required for review of this permit application.

[Signature]  Date: 10/28/20

[Signature]  Date: 10/28/2020

[Signature]  Date: 11/3/2020
Collier Materials, Inc.

Owner Information
Curt Campbell

From: David Land <David.Land@GLO.TEXAS.GOV>
Sent: Friday, December 18, 2020 2:45 PM
To: Curt Campbell
Cc: Tommy Craddick
Subject: RE: [EXTERNAL] GLO Letter and Map

Follow Up Flag: Follow up
Flag Status: Flagged

Curt,
Thank you for taking the time to discuss the proposed dredging project and answer some of my additional questions this morning. It is my understanding that the project involves dredging sand and/or gravel from the bed including the historical river channel within the confines of Lake LBJ and located approximately one mile west of the Highway 2900 bridge near Kingsland, TX. As we discussed, the General Land Office does grant easements for certain activities that cross state owned riverbeds such as roads, pipelines or utilities pursuant to Chapter 51 of the Texas Natural Resources Code; however, such authorization is not required from the GLO for the proposed dredging activities. We would recommend working with LCRA and the County to determine if any other permits and/or authorizations are required for the proposed project from the federal, state or local government. If I can be of further assistance, please feel free to give me a call at the number below. I hope you enjoy your vacation have a nice holiday.

Best Regards,

David

David Land
Attorney at Law
Director, Coastal & Public Lands
Office of the General Counsel
Texas General Land Office
David.Land@GLO.Texas.gov
512-463-5450 (office)
512-826-5810 (cell)

From: Curt Campbell <ccampbell@westwardenv.com>
Sent: Friday, December 18, 2020 7:21 AM
To: David Land <David.Land@GLO.TEXAS.GOV>
Cc: Tommy Craddick <tommy@craddick.com>
Subject: RE: [EXTERNAL] GLO Letter and Map

Good Morning Mr. Land,

I hope you are doing well. I just wanted to check back in with you and see if you needed any additional information for the email/letter we discussed a couple weeks ago. Please feel free to call or email at your convenience if you need anything.

Season Greetings!

Curt G. Campbell, PE, CFM, LEED AP ND
Highland Lakes Dredge and Fill Ordinance Fee Schedule
Effective Jan. 1, 2022

Permit Application Fee
Tier II Permit - $500
Tier III Permit - $5,000 + the greater of $20 per water surface acre or $20 per 500 feet of linear shoreline
$5,000 + $20 x 79.6 ac water surface acres = $6,592
$5,000 + $20 per 500 feet of linear shoreline (9,135 ft / 500) = $5,365.40

Annual Fees for Inspection and Administration
Tier III Permit - $5,000 + the greater of $100 per water surface acre or $100 per 500 feet of linear shoreline

Major Permit Amendment
Tier II Permit - $150
Tier III Permit - $3,000

Permit Renewal
Tier II Permit - $100
Tier III Permit - $2,000

Reinspection Fee
Tier II Permit - $100
Collier Materials, Inc.

Project Description

Collier Materials, Inc. (Collier) plans to dredge from the Lyndon B. Johnson Lake (LCRA Zone D) operating from a leased site in Kingsland Texas. Collier intends to construct and use a dock and boat ramp, settling ponds and an aggregate plant complex. Commercial sand and gravel will be abstracted from the sediment pulled from the lake bottom bed and sold commercially, thus Collier is applying for a Tier III permit.

The Project Limits for dredging is proposed to be on the south portion of Zone D, inside the gradient boundary on the shorelines, except in areas where private parcels (not leased by Collier), extend into the lake. Dredging will not extend onto private parcels. The expected surface area is about 79.59 acres, and the associated shoreline length is about 9,137 feet. The shoreline will not be disturbed. Boat traffic will need to be directed along the shoreline opposite of the adjacent property, which Collier will operate from. Two dredge barges with two pump sizes (3,500 gpm and 5,000 gpm) will be operating either separately or at the same time within their designated zones.

Material will be removed from the lakebed by pulling slurry through a floating pump into a dewatering bucket wheel on land. The operation will begin towards the northern end of Zone D and away from the shores, thus shoreline stabilization is not expected to be required. The shorelines will be monitored to ensure no erosion is caused by the operation, and stabilization will be included once dredging begins near the shoreline.

The intake pipe will be on the south side of the lake and northwest of the processing site. Solids, primarily sand and gravel, will be removed from the waters through the bucket wheel then conveyed to the plant for processing. Water from the bucket wheel will run through a series of recycle ponds before being returned to the lake. The floating pump will be navigated on a barge and attached to an intake hose. The intake hose will scour the lake bed sediment at a controlled suction head that will minimize turbidity. Turbidity will be monitored and BMPs (i.e. turbidity curtain) will be implemented, if they reach unacceptable levels.

Collier plans to remove over 1,000 cubic yards of dredge material. Of this it is estimated over 1,000 cubic yards of sand and gravel will be processed. Any waste material that cannot be returned to the lake will be properly disposed of. No fill is proposed for the area once sediment has been extracted. It is anticipated that over time additional sediment will be deposited by natural events. A flood study is being done to determine the impact that may occur from removing the material.

Operations are expected to continue for years. Normal operation hours will run from 8:00 am to 5:00 pm Monday through Thursday and is not expected to occur on Friday’s, weekends or holidays.
Boat Ramp Plan
Collier Materials, Inc.

All Other Required Permits

1. LCRA HLWO PERMIT (ADJACENT LOT)
   a. To be submitted concurrently with this application
2. LCRA WATER RIGHTS CONTRACT
   a. To be submitted concurrently with this application
3. USACE 404/401 Compliance
   a. In progress with USACE – The dredge activity does not require a permit with
      USACE. However, the discharge of water back to the lake will require coverage
      under NW permit number 16. We are currently working with USACE (404) and
      TCEQ (401) for concurrence. Documentation will be supplied when it is
      available.
4. TEXAS PARKS AND WILDLIFE
   a. Westward is currently working with TPWD to get the aquatic resource relocation
      plan approved.
   b. Westward will provide LCRA with copy of the approved protocol.
5. LLANO COUNTY FLOODPLAIN PERMIT (ADJACENT LOT)
   a. A floodplain permit has been submitted to Llano County. Llano has indicated that
      approval of the floodplain permit is pending approval of the LCRA permits.
Collier Materials, Inc.

Public Notice Map
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**Notes:**
- **Single Owner** indicates a property with a single owner.
- **Multiple Owners** indicates a property with multiple owners.
- ** Parcel ID and Neighbor #** provide additional identification details for each property.
Utility Infrastructure Map

No Public Water System inlets, wells or major infrastructures were found within 1000 feet of the dredge project limits.
Mailed Notice

Mailing Date: __________________________

NOTICE OF DREDGE AND FILL PERMIT APPLICATION

Application Number: __________________________

Project Name: __________________________

Applicant Name & Address: Collier Materials, Inc.
P.O. Box 86
Marble Falls, Texas 78654

Site Location: LCRA Dredge Zone D

Dear Sir or Madam:

The Lower Colorado River Authority (LCRA) has received an application for Dredge and Fill Permit approval for the referenced project. You are being notified of this application because the LCRA Highland Lakes Watershed Ordinance requires notification of neighboring property owners when a Dredge and Fill Permit application is submitted.

Project Description: Collier Materials, Inc. plans to set up a dredging operation in Lake LBJ, Zone D. This operation will include drawing sediment from the lakebed using dredge suction pumps, pontoons, and piping it to a processing facility on a private property adjacent to the lake. This operation will be designed and maintained in accordance with the Highland Lakes Watershed Dredge and Fill Ordinance Technical Manual. LCRA has determined that the application is administratively complete. Any interested person may comment on the application. Written comment must be received by the LCRA no later than 15 days from the date on this letter in order to be considered in review of the application.

Mail: LCRA, Mail Stop L106
Watershed Engineering & Planning
P.O. Box 220
Austin, TX 78767

Delivered: LCRA, Mail Stop L106
Watershed Engineering & Planning
3700 Lake Austin Blvd.
Austin, TX 78703

Additional information regarding this application may be obtained by contacting the LCRA Watershed Engineering & Planning Office at 512-578-2324.
Collier Materials, Inc.

Environmental or Public Safety Plan
Public Safety Plan

I. Introduction
   a. Collier Materials, Inc. in planning to operate a commercial dredge operation at
      and adjacent to their leased site located in Kingsland, Texas. The operation will
      include equipment located on and below the water surface, along the lake banks
      and on land.

II. Purpose
   a. This purpose of this plan is to ensure Collier Materials, Inc. may put into action a
      plan that deters the public from operations activities via signals and hours of
      operation

III. Scope
   a. This plan applies to all Collier Materials, Inc. public located in the area
      surrounding the project site.
   b. This plan will cover the public safety sequences.
   c. It is anticipated that the public which may be affected by activities onsite will
      include boaters, fishers, swimmers, adjacent landowners, and other public that
      may be utilizing the lake for recreational purposes.

IV. Public Safety Resources
   a. Highland Lakes Dredge and Fill Ordinance – January 1, 2022

V. Responsible Persons
   a. The responsible person is an employee charged with monitoring public safety.
      i. Name:_____________________________________________________
         1. Phone: _________________________________________________
         2. Email: _________________________________________________
      ii. Name:___________________________________________________
         1. Phone: _________________________________________________
         2. Email: _________________________________________________

VI. Emergency Alarms
   a. Procedure
      i. Develop a siren with a distinct sound.
      ii. Train employees to recognize this distinct siren.
      iii. Alarm will be triggered by responsible person in the event of an
           emergency that has the potential to affect the public.

VII. Sequence of events
    a. Prior to initial dredging operations:
       i. Inspect/observe work area for obstructions
       ii. If clear – place buoys in accordance with the approved LCRA plan
       iii. Place lighting/signals (if necessary)
       iv. Place BMPs as necessary
       v. Observe stated hours of operation
vi. If necessary, coordinate with LCRA inspectors for any specific requirements

b. Prior daily dredging operations:
   i. Inspect/observe work area for obstructions
   ii. If clear – confirm bouys and lighting are in place
   iii. Verify BMPs are in place and functional
   iv. Observe stated hours of operation
   v. If necessary, coordinate with LCRA inspectors for any specific requirements
I have completed a review and evaluation of this Dredge and Fill Permit, Project Number (10553-095), and being familiar with the requirements of the Lower Colorado River Authority (LCRA) Highland Lakes Watershed Ordinance and applicable industry standards, attest that it has been prepared in accordance with good engineering practices, including consideration of applicable industry standards. Best Management Practice (BMP) implementation and maintenance procedures have been established in this Plan. This Plan is adequate for the facility. This certification in no way relieves the owner or operator of this facility of his duty to prepare and fully implement this Plan in accordance with the requirements of the LCRA Highland Lakes Watershed Ordinance (as effective on January 1, 2022).

Curt G. Campbell, PE - TX License. No. 106851
Registered Professional Engineer

Signature of Registered Professional Engineer

Date: 1/20/2023

Westward Environmental, Inc. – Texas Firm Registration # F- 4524
Turbidity Monitoring Plan

Collier Materials, Inc. plans on performing a dredge operation in Lake London B. Johnson in Kingsland, Texas. Dredging can have the effect of stirring up particles of sediment, which may remain suspended in the lake for an extended time. Collier Materials intends on taking every step to minimize this possibility through their operational practices and mechanical technology. As part of the operational measures to minimize turbidity, Collier Materials will incorporate a Turbidity Monitoring Plan. This Turbidity Monitoring Plan will include regular observations and measurement of turbidity compared to background levels.

Turbidity measures the amount of light that is reflected from the suspended particles in the water. A portable turbidimeter may be utilized in doing field measurements. All sampling locations are to be determined in coordination with LCRA personnel.

Portable turbidimeters are typically operated by taking an aqueous sample at a given depth and location on the lake, then input into the device. The machine will typically read the results measured in Nephelometric Turbidity Units (NTU). LCRA allows a maximum of 20 NTU greater than the background conditions.

Makers for various turbidimeters available on the market include Thomas Scientific, HACH, Fisher Scientific, Geotech Environmental Equipment, and others.

Samples will be tested and recorded in the following format:

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<th>Sampler’s Name</th>
<th>Background? Y or N</th>
<th>Subject Sample Location ID</th>
<th>Date of Sample</th>
<th>Time of Sample</th>
<th>Reading (NTU)</th>
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All records must be kept on site and ready to give to LCRA inspector upon request. If reading is 20 NTU over the background conditions, dredging activity will cease and facility personnel will notify LCRA.

Procedure:

1. Background Readings should be taken regularly (at least weekly and after any rainfall events) prior to the start of operations to determine the current turbidity levels and set a benchmark.
2. Operators should visually assess the dredge operation daily for any visual signs of turbidity.
3. Readings should be taken weekly during operation to determine compliance. Readings should be taken downstream of the active dredge.
4. If readings indicate an increase over 20 NTUs above the background reading, dredging activity will cease and facility personnel will notify LCRA.
5. Turbidity curtains shall be immediately installed to prevent any downstream migration of the turbidity.
Contaminant Response Plan

I. Introduction
   a. Collier Materials, Inc. is planning to operate a commercial dredge operation at
      and adjacent to their leased site located in Kingsland, Texas within LCRA Dredge
      Zone D. The operation will include equipment located on and below the water
      surface, along the lake banks, and on land.

II. Purpose
   a. The purpose of this plan is to ensure Collier Materials, Inc. is able to respond
      effectively should contamination associated with dredge material were to occur
      within the lake. Potential contaminants may include fuel or hydraulic fluid from
      the two dredge systems: one with a 300-gallon fuel capacity (hydraulics reservoir
      at 120 gallons) and the other with a 400-gallon fuel capacity (hydraulics reservoir
      at 120 gallons).

III. Scope
   a. This plan applies to all Collier Materials, Inc. employees and subcontractors
      located on this project site.
   b. This plan will cover the contaminant response sequences.

IV. Contaminant Response Resources
   b. LCRA Spill Prevention Plan
   c. EPA Spill Prevention Control and Countermeasure Plan

V. Responsible Persons
   a. Responsible person is employee charged with monitoring the contaminant
      response plan.
      i. Name: ________________________________________________
         1. Phone: ____________________________________________
         2. Email: ____________________________________________
      ii. Name: ______________________________________________
          1. Phone: ____________________________________________
          2. Email: ____________________________________________

VI. Emergency Alarms
   a. Distinct audible siren
      i. Develop a distinct audible alarm for contaminant response issues.
      ii. Train employees to recognize this distinct siren.
      iii. Alarm will be triggered by responsible person.

VII. Sequence of events
   a. Immediate cessation of operations
   b. Sound alarm siren
c. Evaluate spill and determine if in place BMPs will control spill or if action should be taken to adjust BMPs or implement additional BMPs to ensure spill remains within work areas
d. Notification to LCRA and TCEQ as soon as possible but not more than 24 hours after encountering the Contaminated Dredge Material
e. Removal and disposal of the Contaminated Dredge Material in accordance with applicable TCEQ rules
f. If applicable, remediation of the area. Dredging may only resume upon receipt of written authorization from LCRA and TCEQ.

VIII. Training
a. Employees must check the dredge pontoons, engines, equipment, etc. for lakes prior to operations within the lake.
b. Employees must be able to detect sheens in the water and discoloration of the banks that were not there prior to operating.
c. Employees must check fuel levels and oil reserves before and after operation hours to identify if levels dropped below normal than expected.
d. Should a leak be detected, employees must follow the sequence of events.
APPENDIX III

SEDIMENT SCREENING PLAN AND RESULTS
Sediment Screening Plan

I. Introduction
   a. Collier Materials, Inc. plans on dredging Lyndon B. Johnson Lake through an operation from their leased site located in Kingsland, Texas. The operation will include equipment located on and below the water surface, along the lake banks and on land.

II. Purpose
   a. This plan was developed to demonstrate that the proposed Dredge and Fill activity will not release pollutants found in the dredge material in concentrations that exceed the TCEQ ecological screening benchmarks.

III. Scope
   a. This plan applies to all Collier Materials, Inc. activities located in the area surrounding the project site.
   b. Samples shall be collected at a select volume of sediment below the regulated pool level (825 ft. amsl for Lake LBJ) and lab tested pollutants. Results must not exceed TCEQ Ecological Screening Benchmarks which may be found on their website https://www.tceq.texas.gov/remediation/eco.

IV. Public Safety Resources
   a. Highland Lakes Dredge and Fill Ordinance – January 1, 2022
   b. EPA Methods E8081, 7471, and 6020

V. Responsible Persons
   a. Responsible person is an employee charged with monitoring sediment screening plan.
      i. Name:______________________________________________________
         1. Phone: ________________________________________________
         2. Email: ________________________________________________
      ii. Name:____________________________________________________
         1. Phone: ________________________________________________
         2. Email: ________________________________________________

VI. Sequence of events
   i. Collect and screen at least two initial sediment samples prior to initial dredging activities
   ii. Collect and screen one additional sample for every 25,000 cubic yards of dredged material
   iii. Sediments shall be screened using EPA Methods E8081, 7471, and 6020.
APPENDIX IV

SPILL PREVENTION PLAN
Spill Prevention Plan

I. Introduction
   a. Collier Materials, Inc. in planning to operate a commercial dredge operation at and adjacent to their leased site located in Kingsland, Texas. The operation will include equipment located on and below the water surface, along the lake banks and on land.

II. Purpose
   a. The purpose of this plan to ensure that Collier Materials, Inc. has prevention measures in place to prevent spills from happening. Potential contaminants may include fuel or hydraulic fluid from the two dredge systems: one with a 300-gallon fuel capacity (hydraulics reservoir at 120 gallons) and the other with a 400-gallon fuel capacity (hydraulics reservoir at 120 gallons).

III. Scope
   a. This plan applies to all Collier Materials, Inc. employees and subcontractors located on this project site.
   b. This plan will cover the spill prevention plan sequences.

IV. Spill Prevention Plan Resources
   b. LCRA Spill Prevention Plan
   c. EPA Spill Prevention Control and Countermeasure Plan

V. Responsible Persons
   a. Responsible person is an employee charged with monitoring the spill prevention plan.
      i. Name: ________________________________________________
         1. Phone: ______________________________________________
         2. Email: ______________________________________________
      ii. Name: ________________________________________________
          1. Phone: ______________________________________________
          2. Email: ______________________________________________

VI. Sequence of events
   a. Assess risk
   b. Confine spill
   c. Stop all activities that are the source of the spill
   d. Evaluate the spill
   e. Cleanup
   f. Notify spill or leak to LCRA, and if necessary TCEQ and any public water system within the Project Limits as soon as possible, but not more than 24 hours after the spill or leak occurs.
APPENDIX V

ENGINEER’S INSTALLATION AND MAINTENANCE COST ESTIMATE
## Engineer’s Turbidity Control Cost Estimate

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Units</th>
<th>$ per unit</th>
<th>Estimate per Pay Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbidity Curtain</td>
<td>6,000 L ft.</td>
<td>$19.51/L ft.</td>
<td>$117,060.00</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td><strong>$117,060.00</strong></td>
</tr>
<tr>
<td>10% Contingency</td>
<td></td>
<td></td>
<td><strong>$11,706.00</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>$128,766.00</strong></td>
</tr>
</tbody>
</table>

Curt G. Campbell, PE - TX License. No. 106851  
Registered Professional Engineer

Signature of Registered Professional Engineer

Date: 1/20/2023

Westward Environmental, Inc. – Texas Firm Registration # F-4524
Collier Materials, Inc.

APPENDIX VI

EMERGENCY OPERATIONS PLAN
Emergency Operations Plan

I. Introduction
   a. Collier Materials, Inc. in planning to operate a commercial dredge operation at and adjacent to their leased site located in Kingsland, Texas. The operation will include equipment located on and below the water surface, along the lake banks and on land.

II. Purpose
   a. The purpose of this plan is to ensure that Collier Materials, Inc. may be able to quickly identify and react to any emergency conditions should they arise and provide safety to their employees and the public.

III. Scope
   a. This plan applies to all Collier Materials, Inc. employees and subcontractors located on this project site.
   b. This plan will cover weather and flood monitoring resources and response sequences.

IV. Weather Broadcasts and Monitoring Resources
   a. VHF-FM radio broadcasts by NOAA’s National Weather Service.
   c. River Gages to Monitor
      i. LCRA Inks Lake near Kingsland https://waterdata.usgs.gov/nwis/inventory/?site_no=08148100
      ii. LCRA Lake Buchanan near Burnet, Texas https://waterdata.usgs.gov/nwis/inventory/?site_no=08148000
      iii. Llano River at Llano, Texas https://waterdata.usgs.gov/nwis/inventory/?site_no=08151500
   d. “Wireless emergency alerts” on portable phones

V. Responsible Persons
   a. Responsible person is employee charged with monitoring weather/flood conditions and coordinating evacuation plan.
      i. Name: ______________________________________________________
         1. Phone: __________________________________________________
         2. Email: __________________________________________________
      ii. Name: _____________________________________________________
          1. Phone: __________________________________________________
          2. Email: __________________________________________________

VI. Assembly Points
   a. Area chosen where on-site persons will assemble during emergency. An assembly point must be established above the 100-year flood event elevation.
VII. First Aid
   a. Have a first aid kit on-site to have the ability to give first response.
   b. Mark clearly on site for employees and visitors to easily identify.

VIII. Emergency Alarms
   a. Responsible persons to set alarm on phone to severe weather notifications and floodgate operations notifications
   b. Depth marker shall be installed in the lake to monitor rising waters
      i. A hazard level will be marked on the depth marker rod
   c. Distinct audible siren
      i. Train employees to recognize this distinct siren.
      ii. Alarm will be triggered by responsible person.

IX. Sequence of events
   a. Alarm triggered by responsible person
   b. Dredging equipment secured
      i. If no immediate risk, equipment will be removed from the lake via the boat ramp and moved to high grade
      ii. If there is not time to remove equipment from the water, the equipment shall be secured prior to staff departure
      iii. If possible the dredge equipment shall be sturdily secured to maintenance dock or other fixed structure within the lake
   c. Crew to meet at assembly points

Severe Weather and Natural Disasters

d. Flood
   i. Secure equipment
   ii. Climb to high ground and stay there
   iii. Avoid walking or driving through flood water
   iv. If equipment stalls, abandon it immediately and climb to higher ground

e. Tornado
   i. When a warning is issued by sirens or other means, seek inside shelter
   ii. Stay away from outside wall and windows
   iii. Use arms to protect head and neck
   iv. Remain sheltered until the tornado threat is announced to be over

f. Lighting
   i. Seek inside shelter
   ii. Avoid contact with exposed metals and other conductive materials

g. Hale
   i. Seek inside shelter
   ii. Stay away from outside windows
Collier Materials, Inc.

APPENDIX IX

INVASIVE SPECIES PREVENTION PROCEDURES
Invasive Species Prevention Procedures

I. Introduction
   a. Collier Materials, Inc. plans on dredging Lake Lyndon B. Johnson (Lake LBJ) through an operation from their leased site located in Kingsland, Texas (Kingsland I Dredge). The operation will include equipment located on and below the water surface, along the lake banks, and on land.

II. Purpose
   a. Texas Parks and Wildlife (TPWD) has identified zebra mussels (*Dreissena polymorpha*) and their microscopic larvae as an aquatic invasive species (AIS). AIS can cause harm to native ecosystems, negative economic effects, as well as negative impacts to human quality of life. An established, reproducing population of zebra mussels was identified in Lake LBJ by TPWD officials in 2019. In order to minimize and prevent the transfer of zebra mussels, Collier Materials will follow TPWD Best Management practices during the operation of dredge equipment.
   b. Biology: Zebra mussels have a free-floating larval stage which allows them to spread quickly throughout a water body. Larva can persist in water for up to a month and may be transported to new water bodies in the ballast water of boats or via other contaminated equipment. Once the larvae have bound to their substrate of choice, mussels develop into adults and are permanently secured via anchors known as byssal threads. Zebra mussels can attach to practically any hard surface, including wood, fiberglass, and metal. This allows many zebra mussels to cluster together on objects including pipes, boats, boat trailers, buoys, and dinghies.
   c. Threat: High monetary cost has been associated with removing zebra mussels from intake pipes to power plants, air conditioning, fire hoses, and many others as they constrict water flow. Large mussel loads may also sink buoys, destroy fishing equipment, and take over objects left in the water for a long period of time. Millions of dollars are spent each year controlling, cleaning, and monitoring zebra mussels. Zebra mussels disrupt native ecosystems and are known to cause dramatic declines populations of fish, birds, and native mussel species. Zebra mussels have a high rate of water filtration which can cause detrimental changes to water quality, including increasing sunlight penetration and raising water temperatures.
   d. Identification: Zebra mussels are small, with maximum shell size from 3.5 - 4 centimeters, and are typically found growing in large clusters. The shell of the zebra mussel has a distinct striped pattern. Zebra mussels will lie flat on a smooth surface, unlike most other mussel species, which can be used as an identifying characteristic.
III. Best Management Practices

The following prevention procedures apply to all Collier Materials, Inc. equipment at the Kingsland I Dredge Facility, including boats, pontoons, and water intakes. It should be noted that equipment used at the dredge facility is intended only for use within Lake LBJ and is not proposed to be used in any other body of water, thus the potential for spreading zebra mussels to an uninfected water body is considered low.

a. All in-water equipment should be cleaned, drained, and dried following TPWD procedures when removed from Lake LBJ for maintenance or storage.

b. **Clean:** Inspect all equipment and gear. Remove all plants, animals, mud, and debris and thoroughly clean equipment and gear (vessels/trailers/construction equipment/gear/clothing/boots/waders/wheels/axles/pumps/bladder dams/etc.) that have come in contact with water from Lake LBJ. If equipment and gear cannot be cleaned at the project site, it is important that cleaning procedures be conducted at a location where the debris/water/plants/etc. will not drain to or contaminate another water body. Equipment/materials with long-term contact with infested waters will need to be decontaminated following procedures in Section IV if it is intended to be moved to another water body.

c. **Drain:** Drain or eliminate all water from vessels and on-board receptacles (including live wells, bilges, motors, and any other receptacles).

d. **Dry:** Allow time for equipment/vessels/vehicles/gear to dry completely for at least one week before using them in other water bodies.

e. **Be Informed:** Collier Materials personnel should be informed of the serious threat of zebra mussels blocking intake pipes and/or spreading to other waters and should be able to identify zebra mussels.

f. **Inspect:** In-water equipment, including dredge water intakes, should be inspected for zebra mussels at least once per month. Efforts should be made to clear any visible mussel growth from equipment to ensure water intakes are not clogged.

g. **Report:** Report any zebra mussel sighting (preferably with specimens, photos, and location) to TPWD staff via **1-800-792-4263**. Reports of zebra mussels can provide valuable information regarding their distribution and expansion. If zebra mussels are encountered on equipment or gear, then coordinate with TPWD, do not allow the organisms to be returned to the water body. Scrape off and dispose of the organisms properly.

IV. Decontamination Procedures

a. **For dredged or fill material that may be reused in another waterway following exposure to infested waters:** If dredged or fill materials are to be used in other waters, they should be decontaminated by stockpiling the material in an open flat area and periodically grading the material to level, exposing the material to as much sunlight as possible. Two weeks of turning material over, through periodic grading and exposure to sunlight, should kill any zebra mussels or larvae in the material.
b. **For equipment and gear that will be used in another water body:** When equipment that has come in contact with infested waters such as Lake LBJ, TPWD requests that equipment and gear be decontaminated before being used in another water body. Decontamination can occur by cleaning equipment and gear using high-pressure scalding hot water (≥140°F). Use of ≥140°F water will kill zebra mussels in as little as 10 seconds of contact time. Water temperatures of ≥104°F are lethal to zebra mussels under longer durations of contact time (maintain contact for approximately 1-2 minutes). These steps followed by completely drying the equipment and gear should be effective at limiting the risk of accidentally moving zebra mussels from one waterbody to the next.

c. In some instances, soft rubber materials cannot withstand high-pressure and high-temperature, thus on those materials, spray at a softer pressure using 104-120°F water for a longer period of contact time. Small gear such as waders, nets, boots and buckets can be cleaned by using a heated/high pressure washer or soaking for 1-2 minutes in water that is maintained at a minimum of ≥104°F and then allowed to dry completely before next use.

d. If the gear and equipment cannot be cleaned using hot water and/or allowed to thoroughly dry for the recommended time, the use of chemical disinfectants can be used as an alternative. See the following table for information on potential disinfectants.

**Table 1. Potential disinfectants to be used on equipment following zebra mussel exposure.**

<table>
<thead>
<tr>
<th>Disinfectant</th>
<th>Minimum Contact Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% Bleach solution</td>
<td>10 minutes</td>
</tr>
<tr>
<td>1% Virkon Aquatic *</td>
<td>10 minutes</td>
</tr>
</tbody>
</table>

V. **Responsible Persons**

a. Responsible person is employee charged with Invasive Species Prevention.

i. Name: ________________________________________________________
   1. Phone: ____________________________________________________
   2. Email: ____________________________________________________

ii. Name: ______________________________________________________
   1. Phone: ____________________________________________________
   2. Email: ____________________________________________________