

Heidelberg Materials Southwest Agg LLC

Water Pollution Abatement Plan
(WPAP)

SERVTEX Quarry Plant
21303 FM 2252
Garden Ridge, TX 78132
Comal County

Submitted to: TCEQ Region 13, San Antonio

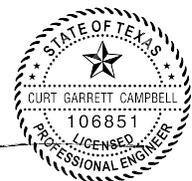
Prepared By:



Boerne, Texas
830-249-8284

Date: November 2023
Project No. 11442.014
-NMS/CJF-

Signature: 
Curt G. Campbell, PE - License No. 106851
TX PE Firm No. 4524
Date: 11/15/2023



Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

The Edwards Aquifer Program staff conducts an administrative and technical review of all applications. The turnaround time for administrative review can be up to 30 days as outlined in 30 TAC 213.4(e). Generally administrative completeness is determined during the intake meeting or within a few days of receipt. The turnaround time for technical review of an administratively complete Edwards Aquifer application is 90 days as outlined in 30 TAC 213.4(e). Please know that the review and approval time is directly impacted by the quality and completeness of the initial application that is received. In order to conduct a timely review, it is imperative that the information provided in an Edwards Aquifer application include final plans, be accurate, complete, and in compliance with [30 TAC 213](#).

Administrative Review

1. [Edwards Aquifer applications](#) must be deemed administratively complete before a technical review can begin. To be considered administratively complete, the application must contain completed forms and attachments, provide the requested information, and meet all the site plan requirements. The submitted application and plan sheets should be final plans. Please submit one full-size set of plan sheets with the original application, and half-size sets with the additional copies.

To ensure that all applicable documents are included in the application, the program has developed tools to guide you and web pages to provide all forms, checklists, and guidance. Please visit the below website for assistance: <http://www.tceq.texas.gov/field/eapp>.

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.
3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.
4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

An appointment should be made to resubmit the application. The application is re-examined to ensure all deficiencies are resolved. The application will only be deemed administratively complete when all administrative deficiencies are addressed.

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.
6. If the geologic assessment was completed before October 1, 2004 and the site contains “possibly sensitive” features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.
2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited.**
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

It is important to have final site plans prior to beginning the permitting process with TCEQ to avoid delays.

Occasionally, circumstances arise where you may have significant design and/or site plan changes after your Edwards Aquifer application has been deemed administratively complete by TCEQ. This is considered a “Mid-Review Modification”. Mid-Review Modifications may require redistribution of an application that includes the proposed modifications for public comment.

If you are proposing a Mid-Review Modification, two options are available:

- If the technical review has begun your application can be denied/withdrawn, your fees will be forfeited, and the plan will have to be resubmitted.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

If the application is denied/withdrawn, the resubmitted application will be subject to the administrative and technical review processes and will be treated as a new application. The application will be redistributed to the affected jurisdictions.

Please contact the regional office if you have questions. If your project is located in Williamson, Travis, or Hays County, contact TCEQ’s Austin Regional Office at 512-339-2929. If your project is in Comal, Bexar, Medina, Uvalde, or Kinney County, contact TCEQ’s San Antonio Regional Office at 210-490-3096

Please fill out all required fields below and submit with your application.

| | | | | | | | | | |
|---|---------------------------------------|--|---------------------------------|---|---------------------------|--|------------------------------|-------------------------|----------------------------|
| 1. Regulated Entity Name: SERVTEX Quarry Plant | | | | 2. Regulated Entity No.: 102541612 | | | | | |
| 3. Customer Name: Heidelberg Materials Southwest Agg LLC | | | | 4. Customer No.: 605858687 | | | | | |
| 5. Project Type: (Please circle/check one) | <input checked="" type="radio"/> New | Modification | | Extension | Exception | | | | |
| 6. Plan Type: (Please circle/check one) | <input checked="" type="radio"/> WPAP | <input type="radio"/> CZP | <input type="radio"/> SCS | <input type="radio"/> UST | <input type="radio"/> AST | <input type="checkbox"/> E <input type="checkbox"/> X | <input type="checkbox"/> EXT | Technical Clarification | Optional Enhanced Measures |
| 7. Land Use: (Please circle/check one) | <input type="radio"/> Residential | <input checked="" type="radio"/> Non-residential | | | 8. Site (acres): | | ~1,088 | | |
| 9. Application Fee: | \$10,000 | | 10. Permanent BMP(s): | | | Earthen berms, veg. buffers | | | |
| 11. SCS (Linear Ft.): | N/A | | 12. AST/UST (No. Tanks): | | | N/A | | | |
| 13. County: | Comal | | 14. Watershed: | | | Guadalupe | | | |

Application Distribution

Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which cross into multiple jurisdictions, can require additional copies. Refer to the “Texas Groundwater Conservation Districts within the EAPP Boundaries” map found at:

http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf

For more detailed boundaries, please contact the conservation district directly.

| Austin Region | | | |
|--------------------------------------|---|--|---|
| County: | Hays | Travis | Williamson |
| Original (1 req.) | — | — | — |
| Region (1 req.) | — | — | — |
| County(ies) | — | — | — |
| Groundwater Conservation District(s) | <input type="checkbox"/> Edwards Aquifer Authority <input type="checkbox"/> Barton Springs/ Edwards Aquifer <input type="checkbox"/> Hays Trinity <input type="checkbox"/> Plum Creek | <input type="checkbox"/> Barton Springs/ Edwards Aquifer | NA |
| City(ies) Jurisdiction | <input type="checkbox"/> Austin <input type="checkbox"/> Buda <input type="checkbox"/> Dripping Springs <input type="checkbox"/> Kyle <input type="checkbox"/> Mountain City <input type="checkbox"/> San Marcos <input type="checkbox"/> Wimberley <input type="checkbox"/> Woodcreek | <input type="checkbox"/> Austin <input type="checkbox"/> Bee Cave <input type="checkbox"/> Pflugerville <input type="checkbox"/> Rollingwood <input type="checkbox"/> Round Rock <input type="checkbox"/> Sunset Valley <input type="checkbox"/> West Lake Hills | <input type="checkbox"/> Austin <input type="checkbox"/> Cedar Park <input type="checkbox"/> Florence <input type="checkbox"/> Georgetown <input type="checkbox"/> Jerrell <input type="checkbox"/> Leander <input type="checkbox"/> Liberty Hill <input type="checkbox"/> Pflugerville <input type="checkbox"/> Round Rock |

| San Antonio Region | | | | | |
|--------------------------------------|---|---|---------------------------------|---|---|
| County: | Bexar | Comal | Kinney | Medina | Uvalde |
| Original (1 req.) | — | <u>X</u> | — | — | — |
| Region (1 req.) | — | <u>X</u> | — | — | — |
| County(ies) | — | <u>X</u> | — | — | — |
| Groundwater Conservation District(s) | <input type="checkbox"/> Edwards Aquifer Authority <input type="checkbox"/> Trinity-Glen Rose | <input checked="" type="checkbox"/> Edwards Aquifer Authority <input checked="" type="checkbox"/> Comal Trinity | <input type="checkbox"/> Kinney | <input type="checkbox"/> EAA <input type="checkbox"/> Medina | <input type="checkbox"/> EAA <input type="checkbox"/> Uvalde |
| City(ies) Jurisdiction | <input type="checkbox"/> Castle Hills <input type="checkbox"/> Fair Oaks Ranch <input type="checkbox"/> Helotes <input type="checkbox"/> Hill Country Village <input type="checkbox"/> Hollywood Park <input type="checkbox"/> San Antonio (SAWS) <input type="checkbox"/> Shavano Park | <input type="checkbox"/> Bulverde <input type="checkbox"/> Fair Oaks Ranch <input type="checkbox"/> Garden Ridge <input checked="" type="checkbox"/> New Braunfels <input checked="" type="checkbox"/> Schertz <input checked="" type="checkbox"/> San Antonio | NA | <input type="checkbox"/> San Antonio ETJ (SAWS) | NA |

| | |
|---|------------|
| I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. | |
| Curt G. Campbell, P.E. | |
| TX License No. 106851 TX Firm No. 4524 | |
| Print Name of Customer/Authorized Agent | |
|  | 11/15/2023 |
| Signature of Customer/Authorized Agent | Date |

| | | | |
|---|--|---------------------------------|------------------------------|
| **FOR TCEQ INTERNAL USE ONLY** | | | |
| Date(s) Reviewed: | | Date Administratively Complete: | |
| Received From: | | Correct Number of Copies: | |
| Received By: | | Distribution Date: | |
| EAPP File Number: | | Complex: | |
| Admin. Review(s) (No.): | | No. AR Rounds: | |
| Delinquent Fees (Y/N): | | Review Time Spent: | |
| Lat./Long. Verified: | | SOS Customer Verification: | |
| Agent Authorization Complete/Notarized (Y/N): | | Fee Check: | Payable to TCEQ (Y/N): |
| Core Data Form Complete (Y/N): | | | Signed (Y/N): |
| Core Data Form Incomplete Nos.: | | | Less than 90 days old (Y/N): |

Article I. General Information Form

Texas Commission on Environmental Quality

For Regulated Activities on the Edwards Aquifer Recharge and Transition Zones and Relating to 30 TAC §213.4(b) & §213.5(b)(2)(A), (B) Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Section 1.01 Signature

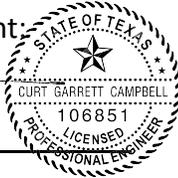
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **General Information Form** is hereby submitted for TCEQ review. The application was prepared by:

Print Name of Customer/Agent: Curt G. Campbell, P.E.

TX License No. 106851 | TX Firm No. 4525

Date: 11/15/2023

Signature of Customer/Agent:

Section 1.02 Project Information

1. Regulated Entity Name: SERVTEX Quarry Plant
2. County: Comal
3. Stream Basin: Guadalupe
4. Groundwater Conservation District (If applicable): Comal Trinity GCD, EAA
5. Edwards Aquifer Zone:
 - Recharge Zone
 - Transition Zone
6. Plan Type:
 - WPAP
 - SCS
 - Modification
 - AST
 - UST
 - Exception Request

7. Customer (Applicant):

Contact Person: Lalit Bhatnagar

Entity: Heidelberg Materials Southwest Agg LLC

Mailing Address: 350 N Saint Paul St.

City, State: Dallas, TX

Zip: 75201

Telephone: (972) 814-4122

FAX:

Email Address: lalit.bhatnagar@heidelbergmatierals.com

8. Agent/Representative (If any):

Contact Person: Curt Campbell

Entity: Westward Environmental, Inc.

Mailing Address: 4 Shooting Club Rd.

City, State: Boerne, TX

Zip: 78006

Telephone: 830-249-8284

FAX: _____

Email Address: ccampbell@westwardenv.com

9. Project Location:

The project site is located inside the city limits of _____.

The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of San Antonio, Schertz & New Braunfels.

The project site is not located within any city's limits or ETJ.

10. The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

Site is accessible through the Servtex quarry to the south. Servtex entrance is on the west side of FM 1337, approx. 0.1 miles north of Old Nacogdoches Rd.

11. **Attachment A – Road Map.** A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.

12. **Attachment B - USGS / Edwards Recharge Zone Map.** A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:

Project site boundaries.

USGS Quadrangle Name(s).

Boundaries of the Recharge Zone (and Transition Zone, if applicable).

Drainage path from the project site to the boundary of the Recharge Zone.

13. **The TCEQ must be able to inspect the project site or the application will be returned.** Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate

the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

Survey staking will be completed by this date: 11/30/23

14. **Attachment C – Project Description.** Attached at the end of this form is a detailed narrative description of the proposed project. The project description is consistent throughout the application and contains, at a minimum, the following details:

- Area of the site
- Offsite areas
- Impervious cover
- Permanent BMP(s)
- Proposed site use
- Site history
- Previous development
- Area(s) to be demolished

15. Existing project site conditions are noted below:

- Existing commercial site
- Existing industrial site
- Existing residential site
- Existing paved and/or unpaved roads
- Undeveloped (Cleared)
- Undeveloped (Undisturbed/Uncleared)
- Other: _____

Section 1.03 Prohibited Activities

16. I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:

- (1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
- (2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
- (3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;
- (4) The use of sewage holding tanks as parts of organized collection systems; and
- (5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).
- (6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

17. I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:

- (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);
- (2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and
- (3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

Section 1.04 Administrative Information

18. The fee for the plan(s) is based on:

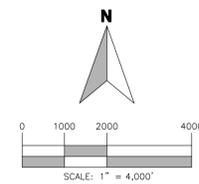
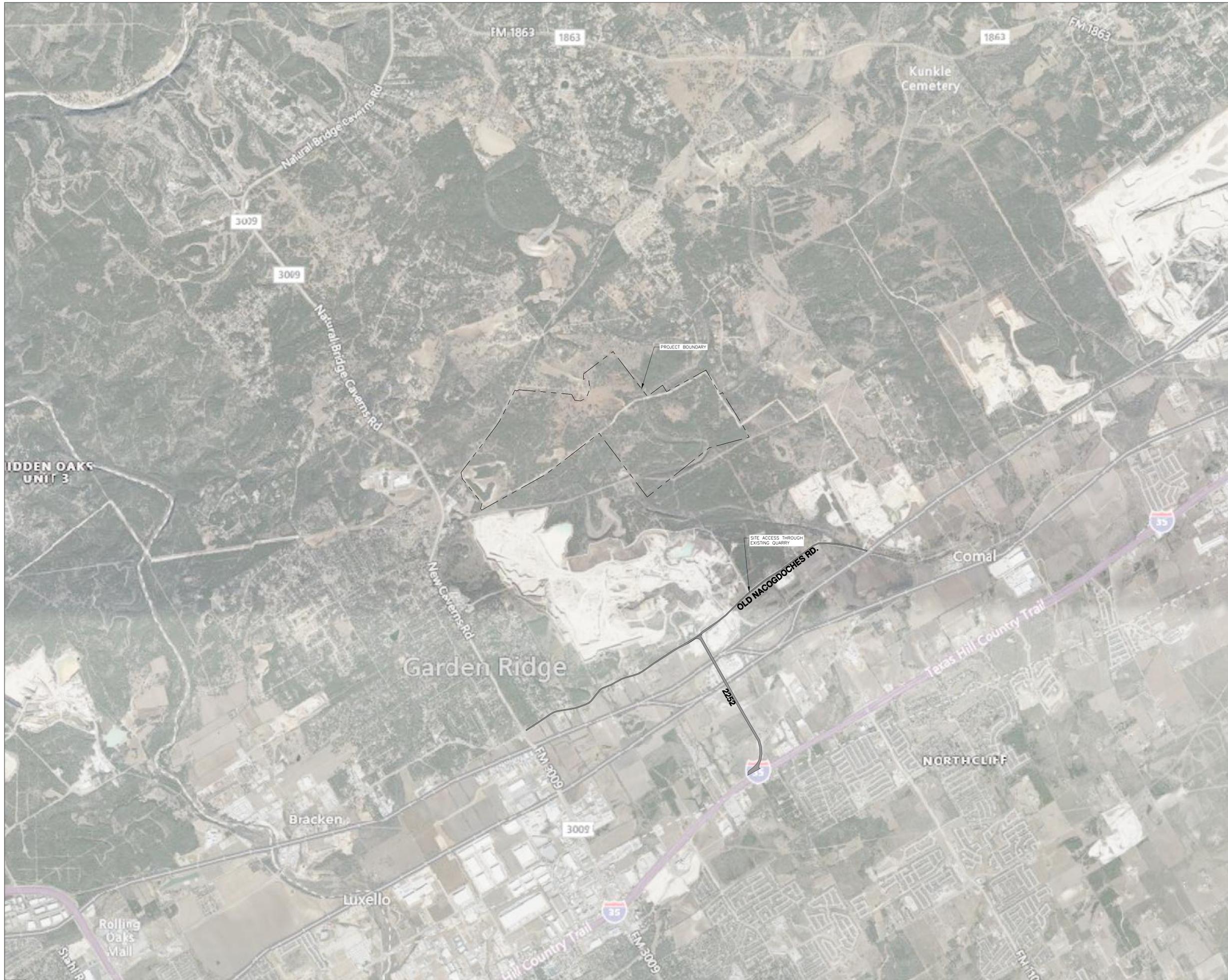
- For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
- For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
- For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
- A request for an exception to any substantive portion of the regulations related to the protection of water quality.
- A request for an extension to a previously approved plan.

19. Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

- TCEQ cashier
- Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
- San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

20. Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

21. No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.



LEGEND
- - - - - PROPERTY LINE

| | |
|-------------|------------|
| IMAGE: | N/A |
| ISSUE DATE: | 10/27/2023 |
| DRAWN BY: | NMS |
| CHECKED BY: | CGC |
| SCALE: | 1" = 2000' |
| JOB NO.: | 11442-014 |

SHEET NO.:
1
OF 4

WESTWARD
Environmental, Engineering, Natural Resources,
P.O. Box 2205 Boerne, Texas 78006
(830) 249-8284 Fax: (830) 249-0221
TBPB REG. NO.: F-4524
TBPB REG. NO.: 50112

| REV. | DESCRIPTION | BY | DATE |
|------|-------------|----|------|
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STATE OF TEXAS
CURT GARRETT CAMPBELL
106851
LICENSED PROFESSIONAL ENGINEER
Curt G. Campbell, P.E.
License No. 106851
11/15/2023

ROAD MAP
WPAP
HEIDELBERG MATERIALS SOUTHWEST AGG.
COMAL COUNTY, TX

**Heidelberg Materials Southwest Agg LLC
SERVTEX Quarry Plant**

General Information Form Attachment A

Road Map

Please see attached the Road Map

General Information Form Attachment B

USGS / Edwards Recharge Zone Map

Please see attached USGS / Edwards Recharge Zone Map.

General Information Form Attachment C

Project Description

Heidelberg Materials Southwest Agg LLC (Heidelberg) proposes to establish a limestone quarry on their approximately 1,088-acre property located near Coyote Run in Comal County, Texas. The proposed development will function as an expansion of the adjacent, existing SERVTEX quarry, which currently operates under a separate WPAP (EAPP ID 13000968). The subject site is largely undeveloped and has previously been used for agricultural purposes. During its agricultural use, some clearing was conducted and unpaved ranch roads were established; these ranch roads may continue to be used by Heidelberg. Agricultural activities will continue on-site and may include selective land clearing.

Quarry activities will begin in the western portion of the site, clearing and removing overburden in an areas of 100 or more acres at a time. The overburden will be used to establish temporary earthen berms around the initial pit area (see Interim Conditions plan sheet). Until the pit is of sufficient size, runoff from cleared areas will be directed to a combination of temporary BMPs, including temporary sediment basins and/or silt fence, as discussed in the Temporary Stormwater Section.

The site will be accessible from the south via Heidelberg's adjacent operation. This access may initially be established on-grade, with a downgradient vegetative filter strip, but ultimately, a tunnel may be constructed underneath the existing SAWS easement along the southwest property boundary (see Interim and Final Conditions plan sheets). A truck scale, modular scale house, and/or modular office may be placed adjacent to the entrance drive. The limited impervious cover from these relatively small structures will be treated by downgradient natural vegetative filter strips until such time as these structures can be moved into the quarry pit. The temporary earthen berms, filter strips, and silt fencing will be inspected and maintained in accordance with the Temporary Stormwater Section of this plan. As quarry operations expand, areas of more than 10-acres of common drainage may be disturbed at a time, however these areas will be contained within temporary earthen berms, which will expand with the operation up to the Final Earthen Berm (as shown on the Final Conditions Map). All run-off from these areas will be treated by temporary sediment basins and/or silt fence in accordance with the site's Stormwater Pollution Prevention Plan until such time as it can be contained on-site, ultimately draining to the pit. The quarry pit(s) proposed under this WPAP are an extension of the previously-approved quarry operation on the adjacent property to the south, therefore all significant construction for this operation is already complete, and all imperatives under 30 TAC 213.4(h) & 30 TAC 213.4(h)(3) have been met.

When the pit is of sufficient size, stockpiles may be stored in the pit. Excavated material will be transported to the adjacent quarry for processing, however, processing equipment may be moved

Heidelberg Materials Southwest Agg LLC SERVTEX Quarry Plant

to any location within the pit depending on the current operational needs. Additional structures such as a vehicle maintenance shop, fueling areas, office or other buildings may be constructed and/or relocated within the pit in the future to meet operational needs. All runoff from these structures will be fully contained within the pit and therefore they are not calculated as regulated impervious cover requiring stormwater treatment. There is an existing pipeline which runs roughly west-to-east across the property, as well as an electrical easement across one southern corner (see Interim Conditions plan sheet). Heidelberg will maintain any setbacks as required by the existing easements until such time as the associated utilities may be shut down or removed and the easements are vacated.

Two USGS blue lines, Dry Comal Creek and Bear Creek, are mapped at the eastern and western ends of the site, respectively. The FEMA-mapped 100-year floodplain for each is shown on the attached plan sheets. Heidelberg proposes to establish on-grade crossings through both creeks, after obtaining necessary permits from Comal County and the US Army Corps of Engineers (USACE). With the exception of these crossing areas, a 25-ft naturally vegetated buffer will be maintained along the boundaries of the FEMA-mapped floodplain, until such time as appropriate permits may be obtained to mine within these areas.

The quarry pit may be backfilled with clean fill materials and non-sellable overburden. The Final Conditions Map depicts the area of the site that will be quarried; the final quarry area is expected to encompass about 871-acres. Permanent BMPs at the site will include the vertical pit-aquifer separation, Final Earthen Berm and 50-foot vegetated buffers.

Trash generated on-site will be disposed of in a dumpster and handled by a licensed waste service. A water truck will be used as necessary to control dust. Portable toilets will be used on-site. An OSSF is not proposed at this time, however one or more systems may be installed in the future after obtaining appropriate permitting through Comal County.

Routine maintenance will take place at the shop building or at appropriate facilities on the adjacent site. Fueling of large slow-moving equipment will take place on compacted base pads within the quarry pit and/or with drip pans as appropriate. Permanent fuel storage tanks are not proposed at this time, however, should an appropriate AST Plan be approved in the future, fueling areas (tank containment(s), fueling pad(s), etc.) may be established in the pit.

It is not expected that any significant amount of groundwater will be encountered in the quarry excavation. In order to maintain appropriate separation from the groundwater, the quarry floor will not be lower than 580 ft. amsl, as previously approved for the adjacent quarry (EAPP ID No. 13000968 – see attached approval letter).

A geologic assessment has been completed for the proposed 1,088-acre site and is included with this application. Seven karst features were identified as sensitive (S-5, S-9, S-12, S-23, S-28, S-37, and S-39). Of these, four features (S-12, S-23, S-28, and S-37) are proposed to be temporarily sealed and eventually removed through mining. Feature S-11 is an abandoned water well, and though not rated as sensitive in its current condition, this well will be properly plugged per 16 TAC 76 prior to being removed through mining. Features S-5, S-9 & S-39 will be left in place, with appropriate vegetative buffers.

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 29, 2019

Mr. Lalit Bhatnager, P.E.
Hanson Aggregates LLC
8505 Freeport Parkway, Suite 500
Irving, Texas 75063

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Servtex Quarry Fordyce Tract; Located approximately 1 mile east of the intersection of FM 2252 and FM 1337; Garden Ridge, Texas

TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Regulated Entity No. RN102541612; Additional ID No. 13000968

Dear Mr. Bhatnager:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP application for the above-referenced project submitted to the San Antonio Regional Office by Forster Engineering on behalf of Hanson Aggregates LLC on August 1, 2019. Final review of the WPAP was completed after additional material was received on September 30, 2019 and October 24, 2019. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed limestone quarry will have an area of approximately 695.66 acres. Approximately 563 acres will be disturbed. Approximately 0.09 acres (0.01 percent) of impervious cover is proposed by this project consisting of haul roads extending outside the quarry pit limits. Quarrying activities shall occur to an elevation no deeper than 580 feet mean sea level. Blasting agents will be used in the mining process. The site shall not include process water. Trash generated on-site will be disposed of in a dumpster and handled by a licensed waste service. Wastewater collected from the portable toilets shall be disposed of by a TCEQ registered waste disposal service. The site is adjacent to the existing limestone quarry (Servtex

<Applicant's Name>

Page 2

<Date>

Quarry Plant) located south at 21303 FM 2252, Garden Ridge, Comal County. Stockpiles of materials will be kept at the Servtex Quarry Plant.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site, the various controls described below will be utilized.

A 50-foot natural buffer will be maintained along the perimeter of the site, as shown in the application, to reduce soil erosion. The 50-foot natural buffer will also serve as a natural vegetative filter strip to provide treatment for the 0.09 acres of impervious cover associated with the haul roads extending outside the quarry pit limits. The required total suspended solids (TSS) treatment for this project is 81 pounds of TSS generated from the 0.09 acres of impervious cover.

Expansion of the quarry will occur in phases. Expansion in phases allows vegetation to remain in place and limits the amount of soil that is disturbed at once.

Earthen berms (safety berms) composed of compacted soil and/or overburdens will be constructed. At the full extent of the quarry pits, the earthen berms will encircle the quarry pit. Upgradient storm water will be diverted around the site, and onsite flows will be prevented from leaving the site.

Rock berms will be installed on the downgradient side of the earthen berm in areas of concentrated flow.

Refueling and maintenance activities for vehicles and equipment will be performed outside of the quarry pits except under extenuating circumstances. If emergency maintenance occurs or if refueling within the pits, appropriate protection measures will be implemented. Portable secondary containment will be utilized and will be disposed of according to the applicable regulations.

GEOLOGY

According to the geologic assessment included with the application, the site lies on Pecan Gap Chalk, Buda Limestone, Del Rio Clay, and the Person Formation. Fifty (50) features, two (2) manmade and forty-eight (48) geologic, were identified by the project geologist. Twenty-eight (28) of the geologic features were identified as sensitive. The site assessment conducted on September 25, 2019 revealed the site was generally as described in geologic assessment.

Sensitive features S-1 (solution cavity), S-9 (sinkhole), S-10 (solution cavity), S-11 (sinkhole), S-13 (sinkhole), and S-44 (sinkhole) are located outside the proposed quarry limits and will be protected with natural vegetation buffers. No regulated activities (such as construction or soil disturbing activities) will take place within the natural buffers.

The remaining 22 sensitive features are located within the proposed quarry limits and will be excavated and mined. Prior to quarry excavation of the features, the sensitive features shall be protected by natural vegetation buffers until such time as the area of the quarry containing the sensitive features will be mined.

The size of the buffers is generally based on the drainage area for each sensitive feature, which is a minimum of 50 feet. The buffers of the identified sensitive features are illustrated on the plan sheets included in the application.

SPECIAL CONDITIONS

- I. The permanent pollution abatement measures and other BMPs and measures proposed in the application or described in this letter must be operational prior to soil disturbing activities within their respective drainage areas.
- II. In addition to the requirements for discovered features, the on-site quarry manager will receive annual training from a licensed Professional Geoscientist on feature identification

and protection. Each occurrence of this training must be documented, and documentation must be presented when requested by TCEQ representatives.

- III. The on-site Quarry Manager experienced in feature identification will conduct visual surveys of the pit to ensure adequate identification and reporting of encountered sensitive features. Visual surveys will be conducted monthly. Results of each visual survey conducted by the on-site Quarry Manager must be documented and the documentation must be presented when requested by TCEQ representatives.
- IV. This approval does not authorize the construction or installation of aboveground storage tanks at the site.
- V. Intentional discharges of sediment laden water from regulated activities are not allowed. If dewatering becomes necessary, appropriate measures must be taken.
- VI. If a new Edwards Aquifer protection plan is submitted to the TCEQ under 30 TAC §213.4(h)(3), the approved plan will continue in effect until the executive director makes a determination on the new plan.
- VII. This letter addresses regulated activities (as defined in Chapter 213) and for best management practices presented in the application. Failure to obtain all necessary authorizations may result in enforcement actions.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone

number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.

8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. Two wells exist on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

<Applicant's Name>

Page 5

<Date>

After Completion of Construction:

18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.
19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
21. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Mr. Joshua Vacek of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4028.

Sincerely,



Robert Sadler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

RCS/jv

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625

cc: Mr. Ralph Voss Jr., P.E., Forester Engineering
Mr. Thomas H. Hornseth, P.E., Comal County Engineer
Mr. Roland Ruiz, Edwards Aquifer Authority
Mr. H. L. Saur, Comal Trinity Groundwater Conservation District
The Honorable Larry Thompson, Mayor of Garden Ridge

**Deed Recordation Affidavit
Edwards Aquifer Protection Plan**

THE STATE OF TEXAS §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ who, being duly sworn by me, deposes and says:

- (1) That my name is _____ and that I own the real property described below.
- (2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.
- (3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on _____.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

- (4) The said real property is located in _____ County, Texas, and the legal description of the property is as follows:

LANDOWNER-AFFIANT

SWORN AND SUBSCRIBED TO before me, on this __ day of _____, _____.

NOTARY PUBLIC

THE STATE OF _____ §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this __ day of _____, _____.

NOTARY PUBLIC

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____

HEIDELBERG MATERIALS SOUTHWEST AGG LLC

GEOLOGIC ASSESSMENT
(GA)

SERVTEX Quarry Plant
21303 FM 2252
Garden Ridge, TX 78132
COMAL COUNTY

Submitted to: TCEQ Region 13, San Antonio

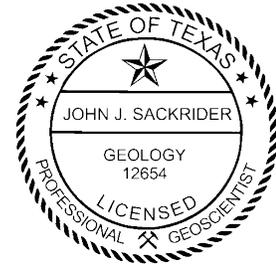
Prepared By:



Boerne, Texas
830-249-8284

Date: November 2023
Project No. 11442-014

-JG-



Signature: 
John J. Sackrider, P.G. - License No. 12654
TX PG Firm No. 50112
Date: 11/14/2023

Article I. Geologic Assessment

Texas Commission on Environmental Quality

For Regulated Activities on The Edwards Aquifer Recharge/transition Zones and Relating to 30 TAC §213.5(b)(3), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Section 1.01 Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist:

Telephone: 830-249-8284

John J. Sackrider, P.G. #12654

Fax: 830-249-0221

Date: 11/14/2023

Representing: Westward Environmental, Inc., TBPG Registered Geoscience Firm 50012
(Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: SERVTEX Quarry Plant

Section 1.02 Project Information

1. Date(s) Geologic Assessment was performed: Sept. 6-8, 11-12, 18-20, 25-27 & Oct. 2-4, 9, & 19, 2023

2. Type of Project:

WPAP
 SCS

AST
 UST

3. Location of Project:

Recharge Zone
 Transition Zone
 Contributing Zone within the Transition Zone

4. **Attachment A - Geologic Assessment Table.** Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.
5. Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

Article II. Table 1 - Soil Units, Infiltration Characteristics and Thickness

| Soil Name | Group* | Thickness(in.) |
|-----------|--------|----------------|
| CrD | D | < 20 |
| ErG | D | < 20 |
| KrB | C | > 80 |
| KrC | C | > 80 |
| MEC | D | < 60 |
| Or | A | > 80 |
| RUD | D | < 20 |

** Soil Group Definitions (Abbreviated)*

- A. *Soils having a high infiltration rate when thoroughly wetted.*
- B. *Soils having a moderate infiltration rate when thoroughly wetted.*
- C. *Soils having a slow infiltration rate when thoroughly wetted.*
- D. *Soils having a very slow infiltration rate when thoroughly wetted.*

6. **Attachment B – Stratigraphic Column.** A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.
7. **Attachment C – Site Geology.** A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.
8. **Attachment D – Site Geologic Map(s).** The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'
 Applicant's Site Plan Scale: 1" = 400'
 Site Geologic Map Scale: 1" = 400'
 Site Soils Map Scale (if more than 1 soil type): 1" = 400'
9. Method of collecting positional data:
 - Global Positioning System (GPS) technology.
 - Other method(s). Please describe method of data collection: _____
10. The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. Surface geologic units are shown and labeled on the Site Geologic Map.
12. Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.
- Geologic or manmade features were not discovered on the project site during the field investigation.
13. The Recharge Zone boundary is shown and labeled, if appropriate.
14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.
- There are 1 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
- The wells are not in use and have been properly abandoned.
- The wells are not in use and will be properly abandoned.
- The wells are in use and comply with 16 TAC Chapter 76.
- There are no wells or test holes of any kind known to exist on the project site.

Section 2.01 Administrative Information

15. Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

Attachment A

Geologic Assessment Table (Form TCEQ-0585)

| GEOLOGIC ASSESSMENT TABLE | | | PROJECT NAME: SERVTEX Quarry Plant | | | | | | | | | | | | | | | | | |
|---------------------------|---------------------------|------------|------------------------------------|--------|----------|-------------------|------|---------|-----------------|-----|-----------------|-----------------|------------|----------------------------|-------|------------------|-----|------------------------|------|------------|
| LOCATION | | | FEATURE CHARACTERISTICS | | | | | | | | | | EVALUATION | | | PHYSICAL SETTING | | | | |
| 1A | 1B * | 1C* | 2A | 2B | 3 | 4 | | | 5 | 5A | 6 | 7 | 8A | 8B | 9 | 10 | | 11 | | 12 |
| FEATURE ID | LATITUDE | LONGITUDE | FEATURE TYPE | POINTS | GEO UNIT | DIMENSIONS (FEET) | | | TREND (DEGREES) | DOM | DENSITY (NO/FT) | APERTURE (FEET) | INFILL | RELATIVE INFILTRATION RATE | TOTAL | SENSITIVITY | | CATCHMENT AREA (ACRES) | | TOPOGRAPHY |
| | | | | | | X | Y | Z | | | | | | | | <40 | ≥40 | <1.6 | ≥1.6 | |
| S-1 | 29.657722 | -98.293713 | CD | 5 | Kdr | 275 | 105 | 5 | | | | | F | 5 | 10 | X | | | X | Hillside |
| S-2 | 29.656291 | -98.292935 | CD | 5 | Kbu | 293 | 88 | 6 | | | | | F | 5 | 10 | X | | | X | Hillside |
| S-3 | 29.662618 | -98.294537 | CD | 5 | Kpcm | 24 | 12 | 0.5 | | | | | O | 5 | 10 | X | | | X | Drainage |
| S-4 | 29.656883 | -98.293267 | MB | 30 | Kpcm | 4 | | 8+ | | | | | O | 5 | 35 | X | | X | | Hilltop |
| S-5 | 29.660230 | -98.287896 | Z-SC/CD | 30 | Kpcm | 1150 | 80 | 6 | 30 | | | | O | 20 | 50 | | X | | X | Floodplain |
| S-6 | Combined with Feature S-5 | | | | | | | | | | | | | | | | | | | |
| S-7 | 29.659464 | -98.290290 | CD | 5 | Kpcm | 6 | 4 | 0.5 | | | | | O | 5 | 10 | X | | X | | Hillside |
| S-8 | 29.664335 | -98.287848 | SC | 20 | Kpcm | 3 | 2 | Unknown | 65 | | | | C | 5 | 25 | X | | X | | Hillside |
| S-9 | 29.666974 | -98.288622 | C | 30 | Kpcm | 7 | 6.5 | 10+ | 40 | 10 | | | N | 35 | 75 | | X | X | | Hillside |
| S-10 | 29.657043 | -98.291702 | CD | 5 | Kbu | 92 | 30 | 3 | | | | | F | 5 | 10 | X | | | X | Hillside |
| S-11 | 29.659704 | -98.286183 | MB | 30 | Kpcm | 0.67 | | Unknown | N/A | | | | X | 5 | 35 | X | | X | | Hilltop |
| S-12 | 29.659943 | -98.284920 | C | 30 | Kpcm | 6 | 3 | 11 | 40 | 10 | | | N | 35 | 75 | | X | | X | Hillside |
| S-13 | 29.659879 | -98.284726 | CD | 5 | Kpcm | 10 | 5 | 0.5 | | | | | O | 5 | 10 | X | | X | | Hillside |
| S-14 | 29.660495 | -98.282059 | CD | 5 | Kbu | 20 | 10 | 0.5 | | | | | O | 5 | 10 | X | | X | | Hillside |
| S-15 | 29.660513 | -98.281938 | CD | 5 | Kbu | 25 | 10 | 0.5 | | | | | O | 5 | 10 | X | | X | | Hillside |
| S-16 | 29.660800 | -98.282000 | CD | 5 | Kpcm | 35 | 18 | 0.75 | | | | | O | 5 | 10 | X | | X | | Hillside |
| S-17 | 29.661350 | -98.281473 | CD | 5 | Kpcm | 30 | 20 | 3 | | | | | O | 5 | 10 | X | | | X | Hillside |
| S-18 | 29.661928 | -98.280039 | CD | 5 | Kpcm | 275 | 180 | 4 | | | | | F | 5 | 10 | X | | | X | Hillside |
| S-19 | 29.663445 | -98.281867 | CD | 5 | Kpcm | 750 | 450 | 3 | | | | | V | 5 | 10 | X | | | X | Hillside |
| S-20 | Removed: See Narrative | | | | | | | | | | | | | | | | | | | |
| S-21 | Removed: See Narrative | | | | | | | | | | | | | | | | | | | |
| S-22 | 29.660002 | -98.271161 | SC | 20 | Kdr | 1 | 0.58 | 1.5 | 95 | | | | N | 5 | 25 | X | | X | | Hilltop |

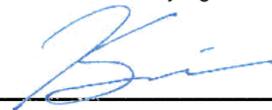
* DATUM: NAD 83

| 2A TYPE | TYPE | 2B POINTS |
|---------|-------------------------------------|-----------|
| C | Cave | 30 |
| SC | Solution cavity | 20 |
| SF | Solution-enlarged fracture(s) | 20 |
| F | Fault | 20 |
| O | Other natural bedrock features | 5 |
| MB | Manmade feature in bedrock | 30 |
| SW | Swallow hole | 30 |
| SH | Sinkhole | 20 |
| CD | Non-karst closed depression | 5 |
| Z | Zone, clustered or aligned features | 30 |

| 8A INFILLING | |
|--------------|---|
| N | None, exposed bedrock |
| C | Coarse - cobbles, breakdown, sand, gravel |
| O | Loose or soft mud or soil, organics, leaves, sticks, dark colors |
| F | Fines, compacted clay-rich sediment, soil profile, gray or red colors |
| V | Vegetation. Give details in narrative description |
| FS | Flowstone, cements, cave deposits |
| X | Other materials |

| 12 TOPOGRAPHY |
|---|
| Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed |

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.





Date 11/14/2023

| GEOLOGIC ASSESSMENT TABLE | | | PROJECT NAME: SERVTEX Quarry Plant | | | | | | | | | | | | | | | | | |
|---------------------------|----------------------------|------------|------------------------------------|--------|------------------|-------------------|-----|---------|-----------------|-----|-----------------|-----------------|------------|----------------------------|-------|------------------|-----|------------------------|------|--------------------|
| LOCATION | | | FEATURE CHARACTERISTICS | | | | | | | | | | EVALUATION | | | PHYSICAL SETTING | | | | |
| 1A | 1B* | 1C* | 2A | 2B | 3 | 4 | | | 5 | 5A | 6 | 7 | 8A | 8B | 9 | 10 | | 11 | | 12 |
| FEATURE ID | LATITUDE | LONGITUDE | FEATURE TYPE | POINTS | FORMATION/MEMBER | DIMENSIONS (FEET) | | | TREND (DEGREES) | DOW | DENSITY (NO/FT) | APERTURE (FEET) | INFILL | RELATIVE INFILTRATION RATE | TOTAL | SENSITIVITY | | CATCHMENT AREA (ACRES) | | TOPOGRAPHY |
| | | | | | | X | Y | Z | | 10 | | | | | | <40 | ≥40 | <1.6 | ≥1.6 | |
| S-23 | 29.660247 | -98.273290 | C | 30 | Kbu | 3 | 1.5 | 14+ | 160 | | | | N | 20 | 50 | | X | X | | Hillside |
| S-24 | 29.660843 | -98.276264 | SC | 20 | Kpcm | 2 | 1.5 | 2 | 40 | 10 | | | O | 5 | 35 | X | | X | | Hillside |
| S-25 | 29.663935 | -98.280427 | CD | 5 | Kpcm | 325 | 230 | 2 | | | | | O | 5 | 10 | X | | | X | Hillside |
| S-26 | 29.663486 | -98.279394 | CD | 5 | Kpcm | 205 | 130 | 1 | | | | | O | 5 | 10 | X | | | X | Hillside |
| S-27 | 29.665357 | -98.275126 | CD | 5 | Kpcm | 8 | 3 | 1 | | | | | O/C | 5 | 10 | X | | | X | Drainage |
| S-28 | 29.661595 | -98.278442 | Z-SC | 20 | Kbu | 25 | 15 | 1.5 | 90 | | | | C | 30 | 50 | | X | X | | Hillside |
| S-29 | 29.657510 | -98.274253 | SC | 20 | Kbu | 2 | 0.5 | 1.5 | 25 | | | | O | 5 | 25 | X | | | X | Floodplain |
| S-30 | 29.664497 | -98.266507 | MB | 30 | Kpcm | 10 | 10 | 13 | N/A | | | | X/O | 5 | 35 | X | | X | | Hillside |
| S-31 | 29.664696 | -98.266442 | CD | 5 | Kpcm | 6 | 5.5 | 0.75 | | | | | O | 5 | 10 | X | | X | | Hillside |
| S-32 | 29.667465 | -98.263602 | CD | 5 | Kpcm | 30 | 20 | 1 | | | | | O | 5 | 10 | X | | X | | Hillside |
| S-33 | 29.665142 | -98.264863 | CD | 5 | Kpcm | 165 | 120 | 4 | | | | | O | 5 | 10 | X | | | X | Hillside |
| S-34 | Combined with Feature S-19 | | | | | | | | | | | | | | | | | | | |
| S-35 | 29.662345 | -98.258187 | MB | 30 | Kpcm | 0.38 | | Unknown | N/A | | | | X | 5 | 35 | X | | X | | Hillside |
| S-36 | 29.661619 | -98.262609 | SC | 20 | Kpcm | 2 | 1.5 | 3 | 50 | 10 | | | O | 5 | 35 | X | | X | | Hillside |
| S-37 | 29.661101 | -98.260977 | C | 30 | Kpcm | 2.5 | 2 | 4 | 150 | | | | C | 30 | 60 | | X | X | | Hillside |
| S-38 | 29.660761 | -98.258223 | SC | 20 | Kpcm | 5 | 2 | 1 | 60 | 10 | | | O | 5 | 35 | X | | X | | Hillside |
| S-39 | 29.661504 | -98.257327 | SC | 20 | Kpcm | 2 | 1.5 | 2.5 | 160 | | | | O | 20 | 40 | | X | X | | Hillside |
| S-40 | 29.663959 | -98.272087 | CD | 5 | Kpcm | 40 | 20 | 1 | | | | | O | 5 | 10 | X | | | X | Floodplain |
| S-41 | 29.661626 | -98.271081 | CD | 5 | Kpcm | 830 | 90 | 6 | | | | | V | 5 | 10 | X | | | X | Streambed |
| S-42 | 29.660510 | -98.267579 | CD | 5 | Kpcm | 290 | 40 | 3 | | | | | V | 5 | 10 | X | | | X | Drainage/Streambed |
| S-43 | 29.670023 | -98.277085 | SC | 20 | Kpcm | 1.5 | 1 | 1 | | | | | O | 5 | 25 | X | | X | | Hillside |
| S-44 | 29.668448 | -98.279665 | SC | 20 | Kpcm | 3 | 2 | 1.5 | | | | | C/O | 5 | 25 | X | | X | | Hillside |

* DATUM: NAD 83

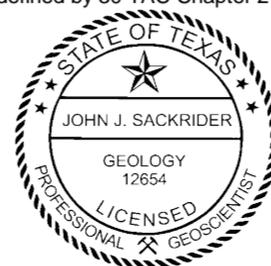
| 2A TYPE | TYPE | 2B POINTS |
|---------|-------------------------------------|-----------|
| C | Cave | 30 |
| SC | Solution cavity | 20 |
| SF | Solution-enlarged fracture(s) | 20 |
| F | Fault | 20 |
| O | Other natural bedrock features | 5 |
| MB | Manmade feature in bedrock | 30 |
| SW | Swallow hole | 30 |
| SH | Sinkhole | 20 |
| CD | Non-karst closed depression | 5 |
| Z | Zone, clustered or aligned features | 30 |

| 8A INFILLING | |
|--------------|---|
| N | None, exposed bedrock |
| C | Coarse - cobbles, breakdown, sand, gravel |
| O | Loose or soft mud or soil, organics, leaves, sticks, dark colors |
| F | Fines, compacted clay-rich sediment, soil profile, gray or red colors |
| V | Vegetation. Give details in narrative description |
| FS | Flowstone, cements, cave deposits |
| X | Other materials |

| 12 TOPOGRAPHY |
|---|
| Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed |

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.





Date 11/14/2023

| GEOLOGIC ASSESSMENT TABLE | | | PROJECT NAME: SERVTEX Quarry Plant | | | | | | | | | | | | | | | | | |
|---------------------------|-----------|------------|------------------------------------|--------|--------------|-------------------|------|------|-----------------|-----|-----------------|-----------------|------------|----------------------------|------------------|-------------|-----|------------------------|------|------------|
| LOCATION | | | FEATURE CHARACTERISTICS | | | | | | | | | | EVALUATION | | PHYSICAL SETTING | | | | | |
| 1A | 1B* | 1C* | 2A | 2B | 3 | 4 | | | 5 | 5A | 6 | 7 | 8A | 8B | 9 | 10 | | 11 | | 12 |
| FEATURE ID | LATITUDE | LONGITUDE | FEATURE TYPE | POINTS | FORMATION | DIMENSIONS (FEET) | | | TREND (DEGREES) | DIP | DENSITY (NO/FT) | APERTURE (FEET) | INFILL | RELATIVE INFILTRATION RATE | TOTAL | SENSITIVITY | | CATCHMENT AREA (ACRES) | | TOPOGRAPHY |
| | | | | | | X | Y | Z | | | | | | | | <40 | ≥40 | <1.6 | ≥1.6 | |
| S-45 | 29.660626 | -98.264097 | CD | 5 | Kpcm | 18 | 12 | 2 | | | | | O/N | 5 | 10 | X | | | X | Streambed |
| S-46 | 29.662900 | -98.264011 | SC | 20 | Kpcm | 0.33 | 0.25 | 2.5 | 95 | | | | O/N | 5 | 25 | X | | X | | Hillside |
| S-47 | 29.663118 | -98.263680 | SC | 20 | Kpcm | 0.67 | 0.25 | 0.67 | 95 | | | | O/C | 5 | 25 | X | | X | | Hillside |
| S-48 | 29.663351 | -98.262705 | SC | 20 | Kpcm | 0.5 | 0.33 | 0.83 | 10 | | | | O/C | 5 | 25 | X | | X | | Hillside |
| S-49 | 29.655579 | -98.290145 | CD | 5 | Kpcm | 430 | 60 | 2 | | | | | O/C | 5 | 10 | X | | | X | Floodplain |
| S-50 | 29.657461 | -98.289985 | CD | 5 | Kpcm | 280 | 15 | 2 | | | | | O/C | 5 | 10 | X | | | X | Floodplain |
| S-51 | 29.656333 | -98.271341 | CD | 5 | Kpcm | 370 | 60 | 4 | | | | | O/C | 5 | 10 | X | | | X | Floodplain |
| S-52 | 29.656828 | -98.267665 | CD | 5 | Kpcm | 470 | 36 | 2 | | | | | O/C | 5 | 10 | X | | | X | Floodplain |
| S-53 | 29.660563 | -98.265201 | CD | 5 | Kpcm | 455 | 65 | 2 | | | | | O/C | 5 | 10 | X | | | X | Floodplain |
| S-54 | 29.657806 | -98.264704 | CD | 5 | Kpcm | 1730 | 85 | 10 | | | | | O/C | 5 | 10 | X | | | X | Floodplain |
| S-55 | 29.655997 | -98.291339 | F | 20 | Kbu/Kdr/Kpcm | 2930 | | | 34 | 10 | | | V | 5 | 35 | X | | | X | Hillside |
| S-56 | 29.664027 | -98.277213 | F | 20 | Kbu/Kdr/Kpcm | 4790 | | | 53 | 10 | | | V | 5 | 35 | X | | | X | Hillside |
| S-57 | 29.664229 | -98.269506 | F | 20 | Kpcm | 4530 | | | 37 | 10 | | | V | 5 | 35 | X | | | X | Hillside |
| S-58 | 29.662080 | -98.265786 | F | 20 | Kpcm | 4900 | | | 53 | 10 | | | V | 5 | 35 | X | | | X | Hillside |
| S-59 | 29.659516 | -98.268164 | F | 20 | Kpcm | 5780 | | | 63 | 10 | | | V | 5 | 35 | X | | | X | Hillside |
| S-60 | 29.667071 | -98.268445 | MB | 30 | Kbu/Kdr/Kpcm | 15300 | | | | | | | V/O | 5 | 35 | X | | X | | Hillside |
| | | | | | | | | | | | | | | | 0 | | | | | |
| | | | | | | | | | | | | | | | 0 | | | | | |
| | | | | | | | | | | | | | | | 0 | | | | | |
| | | | | | | | | | | | | | | | 0 | | | | | |
| | | | | | | | | | | | | | | | 0 | | | | | |
| | | | | | | | | | | | | | | | 0 | | | | | |

* DATUM: NAD 83

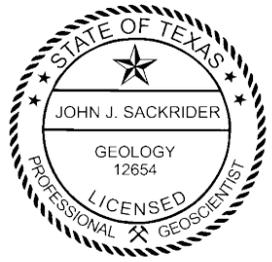
| 2A TYPE | TYPE | 2B POINTS |
|---------|-------------------------------------|-----------|
| C | Cave | 30 |
| SC | Solution cavity | 20 |
| SF | Solution-enlarged fracture(s) | 20 |
| F | Fault | 20 |
| O | Other natural bedrock features | 5 |
| MB | Manmade feature in bedrock | 30 |
| SW | Swallow hole | 30 |
| SH | Sinkhole | 20 |
| CD | Non-karst closed depression | 5 |
| Z | Zone, clustered or aligned features | 30 |

| 8A INFILLING | |
|--------------|---|
| N | None, exposed bedrock |
| C | Coarse - cobbles, breakdown, sand, gravel |
| O | Loose or soft mud or soil, organics, leaves, sticks, dark colors |
| F | Fines, compacted clay-rich sediment, soil profile, gray or red colors |
| V | Vegetation. Give details in narrative description |
| FS | Flowstone, cements, cave deposits |
| X | Other materials |

| 12 TOPOGRAPHY |
|---|
| Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed |

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.





Date 11/14/2023

Attachment B
Stratigraphic Column

Generalized Stratigraphic Column – Comal County, Texas

| Hydrogeologic subdivision | | Group formation or member | Hydrologic Function | Thickness (feet) | Lithology | Cavern development | Porosity / permeability type | | | | | |
|---------------------------|-----------------------|--------------------------------------|---------------------|------------------|--|---|---|------------------------|--|---|---|--|
| Quaternary | | Alluvium | AQ | 0-30 | Siltstone to sandstone | None | High porosity/high permeability | | | | | |
| | | Fluviatile terrace deposits | AQ where saturated | 0-45 | Coarse gravel, sand, and silt | None | High porosity/high permeability | | | | | |
| Upper Cretaceous | Upper confining units | Navarro and Taylor Groups, undivided | CU | 600 | Clay, chalky limestone | None | Low porosity / low permeability | | | | | |
| | | Austin Group | CU; rarely AQ | 130-150 | White to gray limestone | None | Low porosity; rare water production from fractures / low permeability | | | | | |
| | | Eagle Ford Group | CU | 30-50 | Brown, flaggy shale and argillaceous limestone | None | Primary porosity lost / low permeability | | | | | |
| | | Buda Limestone | CU | 40-50 | Buff, light gray, dense mudstone | Minor surface karst | Low porosity / low permeability | | | | | |
| | | Del Rio Clay | CU | 40-50 | Blue-green to yellow-brown clay | None | Low porosity / low permeability | | | | | |
| Lower Cretaceous | Edwards Aquifer | Edwards Group | Person | I | Georgetown Formation | Karst AQ; not karst CU | Reddish-brown, gray to light tan marly limestone | None | Low porosity / low permeability | | | |
| | | | | | II | Cyclic & marine members undivided | AQ | 89-90 | Mudstone to packstone; miliolid grainstone; chert | Many sub-surface | Laterally extensive; water yielding | |
| | | | | | III | Leached & collapsed members | AQ | 70-90 | Crystalline limestone; mudstone to grainstone; chert collapsed breccia | Extensive lateral development; large rooms | Majority not fabric / one of the most permeable | |
| | | | | | IV | Regional dense members | CU | 20-24 | Dense, argillaceous mudstone | Very few; only vertical fracture enlargement | Not fabric / low permeability; vertical barrier | |
| | | | | | V | F.M. | Grainstone member | AQ | 50-60 | Miliolid grainstone; mudstone to wackestone; chert | Few | Not fabric / recrystallization reduces permeability |
| | | | | | | | Kirschberg evaporite member | AQ | 50-60 | Highly altered crystalline limestone; chalky mudstone; chert | Probably extensive cave development | Majority fabric / one of the most permeable |
| | | | | | VII | Kainer | Dolomitic member | AQ | 110-130 | Mudstone to grainstone; crystalline limestone; chert | Caves related to structure or bedding planes | Mostly not fabric; some bedding plane fabric / water yielding |
| | | | | | | | Basal nodular member | Karst AQ; not karst CU | 50-60 | Shaly, nodular limestone; mudstone and miliolid grainstone | Large lateral caves at surface | Fabric; stratigraphically controlled/ large conduit flow at surface; no permeability in subsurface |
| | | | | | Lower confining unit | Upper member of the Glen Rose Limestone | | CU; evaporite beds AQ | 350-1150 | Yellowish tan, thinly bedded limestone and marl. Thick massive limestone bed at base. | Some surface cave development. | Some water production at evaporite beds / relatively impermeable |
| | | | | | | Lower Member of the Glen Rose Limestone | | | | | | |



Indicates surface unit mapped onsite.

Note: CU = confining unit; AQ = Aquifer

Adapted from *Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Bexar County, Texas, USGS Water-Resources Investigations Report 95-4030 (USGS, 1995)*

Attachment C

Site Geology (Geologic Narrative)

Geologic Narrative

1.0 PURPOSE

Westward Environmental, Inc. (WESTWARD) was retained by Heidelberg Materials Southwest Agg LLC (Client) to prepare a Geologic Assessment (GA) on a ~1,088-acre tract (Site) referred to as a portion of the SERVTEX Quarry Plant. This GA was prepared as a required attachment to a Water Pollution Abatement Plan (WPAP) modification for the Site as required by the Texas Commission on Environmental Quality (TCEQ).

2.0 REGULATORY GUIDANCE

Title 30, Chapter 213 of the Texas Administrative Code

This report was prepared in accordance with *Instructions for Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones (TCEQ-0585 (Rev. 10-01-04))* and will be reviewed pursuant to Title 30, Chapter 213 of the Texas Administrative Code.

3.0 PROJECT LOCATION

The Site is located approximately 0.3 miles east of the FM 3009/Shoenthal Rd. intersection near Garden Ridge, Comal County, Texas. The Site is primarily located over the Edwards Aquifer Recharge Zone (EARZ) with a small portion residing over the Contributing Zone within the Transition Zone (EACZ).

4.0 METHODOLOGY

As part of the GA, WESTWARD performed a desktop review of selected published information. WESTWARD also conducted a field investigation in accordance with *TCEQ-0585 (Rev. 10-01-04)*.

4.1 Desktop Review

WESTWARD conducted a review of aerial imagery, the University of Texas Bureau of Economic Geology (BEG) Geologic Atlas of Texas (GAT) San Antonio Sheet, applicable U.S. Geological Survey (USGS) Topographic quadrangle(s) and geospatial dataset(s), the Texas Natural Resources Information System (TNRIS), the Texas Water Development Board's Water Data Interactive Groundwater Data Viewer (TWDB Viewer), the Railroad Commission of Texas (RRC), and the U.S. Department of Agriculture (USDA) National Resource Conservation Service (NRCS) Web Soil Survey prior to the field investigation.

4.2 Field Investigation

A field investigation was performed at the Site by WESTWARD staff under the direction of John J. Sackrider, P.G. (TBPG Lic. No. 12654) from September 6-8, 11-12, 18-20, and 25-27, then from October 2-4, and 9, 2023. Field transects of the Site were walked in accordance with *TCEQ-0585 (rev. 10-01-04)*.

5.0 DESKTOP REVIEW

The desktop review was utilized for preliminary planning of the field investigation. The accuracy of the desktop review was limited by the accessibility, scale, and age of the data available.

5.1 Published Surface Geology

A review of published geologic maps revealed the following Cretaceous-aged formations and hydrostratigraphic subdivisions.

- Del Rio Clay (Kdr),
- Georgetown Formation (Kg),
- Person Formation, Cyclic and marine members, undivided (Kpcm) of the Edwards Group.

5.2 Published Structure

The Site is located within the Balcones Fault Zone (BFZ). The desktop review revealed five (5) mapped faults that trend southwest to northeast at the Site. The faults are shown on the Site Geologic Map (Attachment D).

The published faults trend from southwest to northeast with an average approximate bearing of 48°. This average was used to set the dominant fault trend range of the Site for the purposes of this GA and is approximated to be between 33° and 63°.

5.3 Karst Features

The desktop review did not reveal karst features at the Site.

5.4 Non-karst & Manmade Features

The desktop review revealed several stock ponds across the Site. A review of the TWDB WDIGDV did not reveal groundwater wells at the Site. A San Antonio Water System (SAWS) pipeline traverses the site from the southwest to the northeast before turning south and running along the eastern property boundary.

5.5 Soils

Seven (7) soil units were identified on the Site through the NRCS Web Soil Survey. They are detailed below as well as included on the Geologic Assessment Form TCEQ-0585 (Rev. 02-11-15). A Site Soils Map is included in Attachment D.

| Published Soil Unit Descriptions | | | |
|--|--------------|---------------------------|--|
| <i>Soil Name</i> | <i>Group</i> | <i>Thickness (Inches)</i> | <i>Description</i> |
| Comfort-Rock outcrop complex (CrD), 1 to 8 percent slopes | D | < 20 | 10 to 20 inches to lithic bedrock, well drained, moderately low to moderately high (0.06 to 0.20 in/hr) Ksat capacity |
| Eckrant-Rock outcrop association (ErG), 8 to 30 percent slopes | D | < 20 | 4 to 20 inches to lithic bedrock, well drained, moderately low to moderately high (0.06 to 0.57 in/hr) Ksat capacity |
| Krum Clay (KrB), 1 to 3 percent slopes | C | > 80 | More than 80 inches to restrictive feature, well drained, moderately low to moderately high (0.06 to 0.20 in/hr) Ksat capacity |
| Krum Clay (KrC), 3 to 5 percent slopes | C | > 80 | More than 80 inches to restrictive feature, well drained, moderately low to moderately high (0.06 to 0.20 in/hr) Ksat capacity |
| Medlin, warm-Eckrant association (MEC), 1 to 8 percent slopes | D | < 60 | 35 to 60 inches to densic material, well drained, very low to moderately low (0.00 to 0.06 in/hr) Ksat capacity |
| Orif soils, moist, (Or), 0 to 3 percent slopes, frequently flooded | A | > 80 | More than 80 inches to restrictive feature, well drained, high to very high (5.95 to 19.98 in/hr) Ksat capacity |
| Rumple-Comfort, rubbly association, (RUD), 1 to 8 percent slopes | D | < 20 | 20 to 40 inches to lithic bedrock, well drained, moderately low to moderately high (0.06 to 0.20 in/hr) Ksat capacity |

6.0 FIELD INVESTIGATION

The field investigation was performed on September 6-8, 11-12, 18-20, 25-27 and October 2-4, & 9, 2023 by WESTWARD staff under the direction of John J. Sackrider, P.G. to verify the presence or absence of recharge features identified in the desktop review and to identify recharge features not found during the desktop review. Field reconnaissance was performed in accordance with the *TCEQ-0585-Instructions (Rev. 10-1-04)*.

6.1 Surface Geology

The Buda Limestone (Kbu), Kdr and Kpcm units were all observed at the Site in places where bedrock was exposed and by the presence of scattered rock at the surface. The Georgetown formation was not observed at the Site and is believed to be absent in this area. Observations at the Site indicate that the GAT published geology is more representative of the site conditions than the map of hydrostratigraphic subdivisions. An updated Site Geology Map is included in Appendix D.

6.2 Structure

The presence of faults S-55 through S-59 are supported by evidence in the field, either from an abrupt transition of geologic units or by a series of aligned features or lineations in vegetation.

6.3 Karst Features

Twelve (12) solution cavities, four (4) caves, and two (2) feature zones were identified and recorded during the field investigation. Seven (7) of these features (S-5, S-9, S-12, S-23, S-28, S-37, and S-39) are rated sensitive.

6.4 Non-karst & Manmade Features

Twenty-eight (28) non-karst closed depressions and five (5) manmade features in bedrock were identified and recorded during the field investigation. One of the manmade features is a water well (S-11).

6.5 Feature Descriptions

S-1 (CD)

Not Sensitive

Feature S-1 is a large, dry stock pond that is classified as a non-karst closed depression. It is located on the west part of the Site and measures approximately 275 ft. x 110 ft. x 5 ft. The feature has a clay floor that was displaying mud cracks at the time of field investigation. The catchment area is greater than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-2 (CD)

Not Sensitive

Feature S-2 is a large, dry stock pond that is classified as a non-karst closed depression. It is located approximately 500 ft. to the southeast of S-1 and measures approximately 293 ft. x 88 ft. x 6 ft. The feature's clay floor was displaying mud cracks at the time of field investigation. The catchment area is greater than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-3 (CD)

Not Sensitive

Feature S-3 is a non-karst closed depression that is located on the western property boundary. It measures approximately 24 ft. x 12 ft. x 0.5 ft. The bottom of the feature consisted of soil that was littered with leaves and scattered broken rock at the time of field investigation. The catchment area is greater than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-4 (MB)

Not Sensitive

Feature S-4 is believed to be a cistern classified as a manmade feature in bedrock. The feature is located next to an abandoned house on the western part of the Site. It measures approximately 4 ft. in diameter and extended at least 8 feet into the ground. The interior sides were mortared, and an approximately 2 ft. collar extends above the ground. Construction of the base is unknown, however the feature was holding water at the time of observation. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-5 (Z-CD/SC)

Sensitive

Feature S-5 is a zone comprised of one large non-karst closed depression and a pair of small solution cavities. The zone is suspected to contain a collapsed sinkhole; however, this was not confirmed. The closed depression measures approximately 1,150 ft. x 80 ft. x 6 ft. A solution cavity with approximate dimensions of 1 ft. x 1 ft. x 1 ft. has formed in the lowest point of the closed depression. The observable portion of the solution cavity was in soil and therefore does not technically meet the definition, however the opening at the surface is suspected to drain to a recharge feature. Daddy long leg spiders were observed in the opening at the time of field investigation. The catchment area is greater than 1.6 acres and it is in the regulatory floodway of Bear Creek. The interpreted probability of rapid infiltration is intermediate. This feature is rated sensitive.

S-6

(Removed)

Feature S-6 has been incorporated into Zone S-5. This feature was a non-karst closed depression observed in the field. Upon further review it was determined that this feature was part of the larger closed depression described in Zone S-5 above.

S-7 (CD)

Not Sensitive

Feature S-7 is a non-karst closed depression located just west of Bear Creek on the western part of the Site. The feature measures approximately 6 ft. x 4 ft. x 0.5 ft. The soil floor was covered with organics and scattered rocks. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-8 (SC)

Not Sensitive

Feature S-8 is suspected to be a solution cavity beneath a pile of large cobbles and boulders. The estimated dimensions of the feature are approximately 3 ft. x 2 ft., and the depth could not be determined. It is suspected that a larger opening exists beneath the boulders. Currently, water can infiltrate between the gaps in the boulders and cobbles. The catchment area is less than 1.6 acres. Absent evidence of flow and the small catchment area interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-9 (C)

Sensitive

Feature S-9 is a cave within a suspected collapsed sinkhole located along the northwestern property boundary of the Site. The feature measures approximately 7 ft. x 6.5 ft. x 10+ ft. A solution-enlarged fracture that extended more than 7 ft. in length was observed at the base of the cave. A trend of 40° was observed which is within the dominant trend range. Large cobbles and exposed bedrock were observed in the feature at the time of the field investigation. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is high. This feature is rated sensitive.

S-10 (CD)

Not Sensitive

Feature S-10 is a dry stock pond classified as a non-karst closed depression located on the western part of the Site. It measures approximately 92 ft. x 30 ft. x 3 ft. The feature is floored with fine soil that was displaying mud cracks at the time of the field investigation. The catchment area for this feature is greater than 1.6 acres and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-11 (MB-W)

Not Sensitive

Feature S-11 is a windmill well classified as a manmade feature in bedrock located on the west side of the Site. The steel casing measures approximately 8 in. (0.67 ft.) in diameter and extends approximately 1.5 ft. above a concrete pad on the ground. The concrete pad appears to be flush with the ground and is covered with tree litter and a few wooden boards. A shallow crack was observed at the base of the concrete pad at the time of field investigation. The well has a steel cap that appears to be welded shut. The well does not appear on the TWDB Viewer and thus well construction and completion details are unknown. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-12 (C)

Sensitive

Feature S-12 is a cave with an oval-shaped opening located on the west-central part of the Site. It sits in a depressed area that measures approximately 12 ft. x 7 ft. The cave opening measures approximately 6 ft. x 3 ft. with an approximate trend of 40° which is within the dominant trend range. A vertical shaft extends down that measures approximately 4 ft. x 5 ft. x 11 ft. It then opens into a room measuring approximately 12 ft. x 7 ft. The catchment area is greater than 1.6 acres, and the interpreted probability of rapid infiltration is high. This feature is rated sensitive.

S-13 (CD)

Not Sensitive

Feature S-13 is a non-karst closed depression located approximately 65 ft. southeast of S-12. It measures approximately 10 ft. x 5 ft. x 0.5 ft. The feature is floored with fines, soil, leaves, vegetation, and large broken limestone boulders. The catchment area is less than 1.6 acres. The interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-14 (CD)

Not Sensitive

Feature S-14 is a non-karst closed depression located less than 50 ft. from a published fault line on the center of the Site. It measures approximately 20 ft. x 10 ft. x 0.5 ft. The feature is floored with dark black soil and organics. Mud cracks were observed at the time of field investigation. The catchment area is less than 1.6 acres. The interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-15 (CD)

Not Sensitive

Feature S-15 is a non-karst closed depression located less than 30 ft. from a published fault line on the center of the Site and less than 40 ft. east of S-14. It measures approximately 25 ft. x 10 ft. x 0.5 ft. The feature is floored with dark black soil. The catchment area is less than 1.6 acres. The interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-16 (CD)

Not Sensitive

Feature S-16 is a non-karst closed depression located approximately 100 ft. north of S-14 and S-15. It measures approximately 35 ft. x 18 ft. x 0.75 ft. The feature is floored with dark black soil and vegetation, and mud cracks were observed at the time of field investigation. The catchment area is less than 1.6 acres. The interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-17 (CD)

Not Sensitive

Feature S-17 is a non-karst closed depression located less than 150 ft. from a published fault line on the center of the Site and approximately 260 ft. northeast of S-16. The feature measures approximately 30 ft. x 20 ft. x 3 ft. The feature is floored with soil, sticks, and organics. The catchment area is greater than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-18 (CD)

Not Sensitive

Feature S-18 is a manmade stock pond classified as a non-karst closed depression located approximately 30 ft. from a published fault line on the center of the Site. The feature measures approximately 275 ft. x 180 ft. x 4 ft. It is floored with dark clayey soil. Mud cracks were observed at the time of field investigation. The catchment area is greater than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-19 (CD)

Not Sensitive

Feature S-19 is a non-karst closed depression located in the central part of the Site. It measures approximately 750 ft. x 450 ft. x 3 ft. The feature is floored with vegetated soil. The catchment area is greater than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-20

(Removed)

Feature S-20 was recorded in the field, however upon further review it did not meet the definition of a feature.

S-21

(Removed)

Feature S-21 was recorded in the field, however upon further review it did not meet the definition of a feature.

S-22 (SC)

Not Sensitive

Feature S-22 is an oval-shaped solution cavity located in the central part of the Site. It measures approximately 1 ft. x 0.58 ft. x 1.5 ft. and extends horizontally with an approximate trend of 95°. Exposed bedrock, dark soil, and broken rock were observed in the feature. The catchment area is less than 1.6 acres. The interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-23 (C)

Sensitive

Feature S-23 is a cave with a vertical opening that measures approximately 3 ft. x 1.5 ft. and opens beneath into a larger room measuring approximately 8 ft. x 10 ft. x 3 ft. and continues extending approximately 14 ft. with an approximate trend of 160°. There were daddy long leg spiders emerging from the feature at the time of the field investigation. The catchment area is less than 1.6 acres. The interpreted probability of rapid infiltration is intermediate. This feature is rated sensitive.

S-24 (SC)

Not Sensitive

Feature S-24 is a solution cavity located in the central part of the Site. The feature measures approximately 2 ft. x 1.5 ft. x 2 ft. and has an approximate trend of 40° which is within the dominant trend range. The feature was infilled with dark soil and leaves at the time of the field investigation. The catchment area is less than 1.6 acres. The interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-25 (CD)

Not Sensitive

Feature S-25 is a stock pond classified as a non-karst closed depression located on the central part of the Site. It measures approximately 325 ft. x 230 ft. x 2 ft. The feature is floored with dark soil that exhibited mud cracks at the time of field investigation. The catchment area is greater than 1.6 acres. The interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-26 (CD)

Not Sensitive

Feature S-26 is non-karst closed depression located on the central part of the Site. The feature measures approximately 205 ft. x 130 ft. x 1 ft. The feature is infilled with dark soil and vegetation. The catchment area is greater than 1.6 acres. The interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-27 (CD)

Not Sensitive

Feature S-27 is a non-karst closed depression located approximately 25 ft. from a published fault line on the center of the Site. The area appeared to be a drainage and formation of the feature is believed to be from repeated washout. The feature measures approximately 8 ft. x 3 ft. x 1 ft. The floor of the feature consists of soil and gravel. The catchment area is greater than 1.6 acres. The interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-28 (Z-SC)

Sensitive

Feature S-28 is a zone of four (4) solution cavities located in the central part of the Site within an area measuring approximately 25 ft. x 15 ft. The largest of the solution cavities in the zone has a circular-shaped opening at the surface that measures approximately 3 ft. in diameter and funnels down to 0.75 ft. x 0.5 ft. then continues in depth at least 1.5 ft. with an approximate trend of 90°. Two (2) of the solution cavities were infilled with broken cobbles and two (2) were infilled with soil and leaves. The catchment area for this feature is less than 1.6 acres. The interpreted probability of rapid infiltration is intermediate to high. This feature is rated sensitive.

S-29 (SC)

Not Sensitive

Feature S-29 is a solution cavity located under a large boulder within the floodplain on the southeastern part of the Site. The feature measures approximately 2 ft. x 0.5 ft. x 1.5 ft. and trends downward at approximately 25°. The feature was infilled with dark soil and leaves and appeared plugged at the time of the field investigation. The catchment area is greater than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-30 (MB)

Not Sensitive

Feature S-30 is a hand-dug well located next to an old stone structure on the eastern side of the Site. For safety reasons and to be conservative, this feature is assumed to be a manmade feature in bedrock. It measures approximately 10 ft. x 10 ft. x 13 ft. The collar extends above the natural ground surface and the interior walls were mortared. The base of the feature appeared to be organic rich soil. The catchment area is less than 1.6 acres. Due primarily to its shallow depth, absence of observed water, soil floor, and small drainage area, the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

Based on its construction, this feature is more like a small “borrow pit” than a well as understood in 16 TAC, Chapter 76. It is therefore not included in the accounting of water wells in item 14 of the geologic assessment form, TCEQ-0585 and does not require proper abandonment.

S-31 (CD)

Not Sensitive

Feature S-31 is a non-karst closed depression located on the eastern part of the Site. The feature measures approximately 6 ft. x 5.5 ft. x 0.75 ft. with a trend of approximately 40° which is within the dominant trend range. The feature appeared to be an old hog wallow. The feature floor was comprised of dark soils and scattered organic debris. The catchment area is less than 1.6 acres. The interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-32 (CD)

Not Sensitive

Feature S-32 is a non-karst closed depression located in the eastern part of the Site. The feature measures approximately 30 ft. x 20 ft. x 1 ft. The feature floor consisted of dark organic rich soils. The catchment area is less than 1.6 acres. The interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-33 (CD)

Not Sensitive

Feature S-33 is a stock pond classified as a non-karst closed depression located on the eastern part of the Site. It measures approximately 165 ft. x 120 ft. x 4 ft. The feature is floored with dark soil that exhibited mud cracks at the time of field investigation. The catchment area is greater than 1.6 acres. The interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-34 (CD)

(Removed)

Feature S-34 is a non-karst closed depression. Upon further review it was determined that this feature was included within the larger feature S-19 described above.

S-35 (MB)

Not Sensitive

Feature S-35 is what appears to be stuck 4.5-inch drill stem, which qualifies as a man-made feature in bedrock. The feature was plugged as indicated by standing water inside the pipe approximately 5 feet below the surface. The catchment area is less than 1.6 acres. The interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-36 (SC)

Not Sensitive

Feature S-36 is a solution cavity located on the southeastern part of the Site. The feature measures approximately 1 ft. x 1.5 ft. x 3 ft. with an approximate trend of 50° which is within the dominant trend range. The feature was infilled with dark soil and leaves and appeared plugged at the time of the field investigation. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-37 (C)

Sensitive

Feature S-37 is a cave with a vertical opening that measures approximately 2.5 ft. x 2 ft. and opens beneath into a larger circular room. The floor of the room is approximately 4 ft. below ground with a mixture of dark soils, organic debris and cobbles. The opening exhibited a trend of approximately 150°. The catchment area is less than 1.6 acres. The interpreted probability of rapid infiltration is intermediate to high. This feature is rated sensitive.

S-38 (SC)

Not Sensitive

Feature S-38 is a solution cavity on the southeastern part of the Site. The feature measures approximately 5 ft. x 2 ft. x 1 ft. with an approximate trend of 25°. The feature was infilled with dark soil and organic debris and appeared plugged at the time of the field investigation. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-39 (SC)

Sensitive

Feature S-39 is a non-karst closed depression located in the southeast corner of the Site. The feature measures approximately 2 ft. x 1.5 ft. x 4 ft with an approximate trend of 160°. The feature appeared to widen below the surface. The catchment area for this feature is less than 1.6 acres and the interpreted probability of rapid infiltration is intermediate. This feature is rated sensitive.

S-40 (CD)

Not Sensitive

Feature S-40 is a non-karst closed depression located within the floodplain of Dry Comal Creek. The feature measures approximately 40 ft. x 20 ft. x 1 ft. The catchment area for this feature is greater than 1.6 acres and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-41 (CD)

Not Sensitive

Feature S-41 is a non-karst closed depression located in Dry Comal Creek. The feature measures approximately 830 ft. x 90 ft. x 6 ft. The floor of the feature was vegetated. The catchment area for this feature is greater than 1.6 acres and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-42 (CD)

Not Sensitive

Feature S-42 is a large non-karst closed depression located in Dry Comal Creek. The feature measures approximately 290 ft. x 40 ft. x 3 ft. The floor of the feature was sparsely vegetated with dark soil. The catchment area for this feature is greater than 1.6 acres and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-43 (SC)

Not Sensitive

Feature S-43 is a solution cavity on the northern part of the Site. The feature measures approximately 1.5 ft. x 1 ft. x 1 ft. with an approximate trend of 120°. The feature was infilled with dark soil and organic debris and appeared plugged at the time of the field investigation. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-44 (SC)

Not Sensitive

Feature S-44 is a solution cavity on the northern part of the Site. The feature measures approximately 3 ft. x 2 ft. x 1.5 ft. with an approximate trend of 180°. The feature was infilled with cobbles, dark soil and organic debris and appeared plugged at the time of the field investigation. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-45 (CD)

Not Sensitive

Feature S-45 is a non-karst closed depression located in Dry Comal Creek. The feature measures approximately 18 ft. x 12 ft. x 2 ft. The floor of the feature included a combination of dark soil and exposed bedrock. The catchment area for this feature is greater than 1.6 acres and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-46 (SC)

Not Sensitive

Feature S-46 is a solution cavity on the eastern part of the Site. The feature measures approximately 0.33 ft. x 0.25 ft. x 2.5 ft. with an approximate trend of 95°. The feature was infilled with a combination of dark soil and exposed bedrock. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-47 (SC)

Not Sensitive

Feature S-47 is a solution cavity on the eastern part of the Site. The feature measures approximately 0.67 ft. x 0.25 ft. x 0.67 ft. with an approximate trend of 95°. The feature was infilled with a combination of dark soil and cobbles. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-48 (SC)

Not Sensitive

Feature S-48 is a solution cavity on the eastern part of the Site. The feature measures approximately 0.5 ft. x 0.33 ft. x 0.83 ft. with an approximate trend of 10°. The feature was infilled with a combination of dark soil and cobbles. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-49 (CD)

Not Sensitive

Feature S-49 is a non-karst closed depression located in Bear Creek. The feature measures approximately 430 ft. x 60 ft. x 2 ft. The floor of the feature included a combination of dark soil and cobbles. The catchment area for this feature is greater than 1.6 acres and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-50 (CD)

Not Sensitive

Feature S-50 is a non-karst closed depression located in Bear Creek. The feature measures approximately 280 ft. x 15 ft. x 2 ft. The floor of the feature included a combination of dark soil and cobbles. The catchment area for this feature is greater than 1.6 acres and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-51 (CD)

Not Sensitive

Feature S-45 is a non-karst closed depression located in Dry Comal Creek. The feature measures approximately 370 ft. x 60 ft. x 4 ft. The floor of the feature included a combination of dark soil and cobbles. The catchment area for this feature is greater than 1.6 acres and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-52 (CD)

Not Sensitive

Feature S-52 is a non-karst closed depression located in Dry Comal Creek. The feature measures approximately 470 ft. x 36 ft. x 2 ft. The floor of the feature included a combination of dark soil and cobbles. The catchment area for this feature is greater than 1.6 acres and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-53 (CD)

Not Sensitive

Feature S-53 is a non-karst closed depression located in Dry Comal Creek. The feature measures approximately 455 ft. x 65 ft. x 2 ft. The floor of the feature included a combination of dark soil and cobbles. The catchment area for this feature is greater than 1.6 acres and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

S-54 (CD)

Not Sensitive

Feature S-54 is a non-karst closed depression located in Dry Comal Creek. The feature measures approximately 1730 ft. x 85 ft. x 10 ft. The floor of the feature included a combination of dark soil and cobbles. The catchment area for this feature is greater than 1.6 acres and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive. Note that the coordinates and a majority of this feature are located offsite. Only the eastern and western extents of the feature are onsite.

S-55 (F)

Not Sensitive

Feature S-55 is a published fault in the southwest portion of the Site. It has an approximate trend of 80° and juxtaposes the Kbu and Kdr. The presence of this fault was inferred from evidence observed onsite during the field investigation. Observation of bedrock outcrop and scattered surface rock were primary indicators. The fault area is vegetated with an established soil profile. The interpreted probability of rapid infiltration is low. The catchment area for this feature is greater than 1.6 acres. This feature is rated not sensitive.

S-56 (F)

Not Sensitive

Feature S-56 is a published fault that roughly bisects the Site. It has an approximate trend of 53° and juxtaposes the Kbu, Kdr, and Kpcm. The presence of this fault was inferred from evidence observed onsite during the field investigation. Observation of bedrock outcrop and scattered surface rock were primary indicators. The fault area is vegetated with an established soil profile. The interpreted probability of rapid infiltration is low. The catchment area for this feature is greater than 1.6 acres. This feature is rated not sensitive.

S-57 (F)

Not Sensitive

Feature S-57 is a published fault in the southeastern portion of the Site. It has an approximate trend of 37° and juxtaposes the Kbu, Kdr, and Kpcm. The presence of this fault was inferred from evidence observed onsite during the field investigation. Observation of bedrock outcrop and scattered surface rock were primary indicators. The fault area is vegetated with an established soil profile. The interpreted probability of rapid infiltration is low. The catchment area for this feature is greater than 1.6 acres. This feature is rated not sensitive.

S-58 (F)

Not Sensitive

Feature S-58 is a published fault in the southeastern portion of the Site. It has an approximate trend of 53° and juxtaposes the Kdr, and Kpcm. The presence of this fault was inferred from evidence observed onsite during the field investigation. Observation of bedrock outcrop and scattered surface rock were primary indicators. The fault area is vegetated with an established soil profile. The interpreted probability of rapid infiltration is low. The catchment area for this feature is greater than 1.6 acres. This feature is rated not sensitive.

S-59 (F)

Not Sensitive

Feature S-59 is a published fault in the southeastern portion of the Site. It has an approximate trend of 63° and juxtaposes the Kbu and Kdr. The presence of this fault was inferred from evidence observed onsite during the field investigation. Observation of bedrock outcrop and scattered surface rock were primary indicators. The fault area is vegetated with an established soil profile. The interpreted probability of rapid infiltration is low. The catchment area for this feature is greater than 1.6 acres. This feature is rated not sensitive.

S-60 (MB)

Not Sensitive

Feature S-60 is a SAWS water transmission pipeline that traverses the site from the southwest to the northeast and along the eastern and western property boundaries. No additional information is known about the pipeline's construction or features encountered during construction. No evidence of infiltration was observed during the field investigation. The pipeline was either vegetated or consisted of compacted soil and rock. Due to its length, the pipeline has a large catchment area (> 1.6 acres), and the probability of rapid infiltration is low. The feature is rated not sensitive.

SELECT PHOTOGRAPHS



S-1: Stock pond



S-2: Stock pond



S-3: Non-Karst Closed Depression



S-4: Cistern Interior



S-5: Zone outline from aerial



S-5: Solution Cavity in Zone



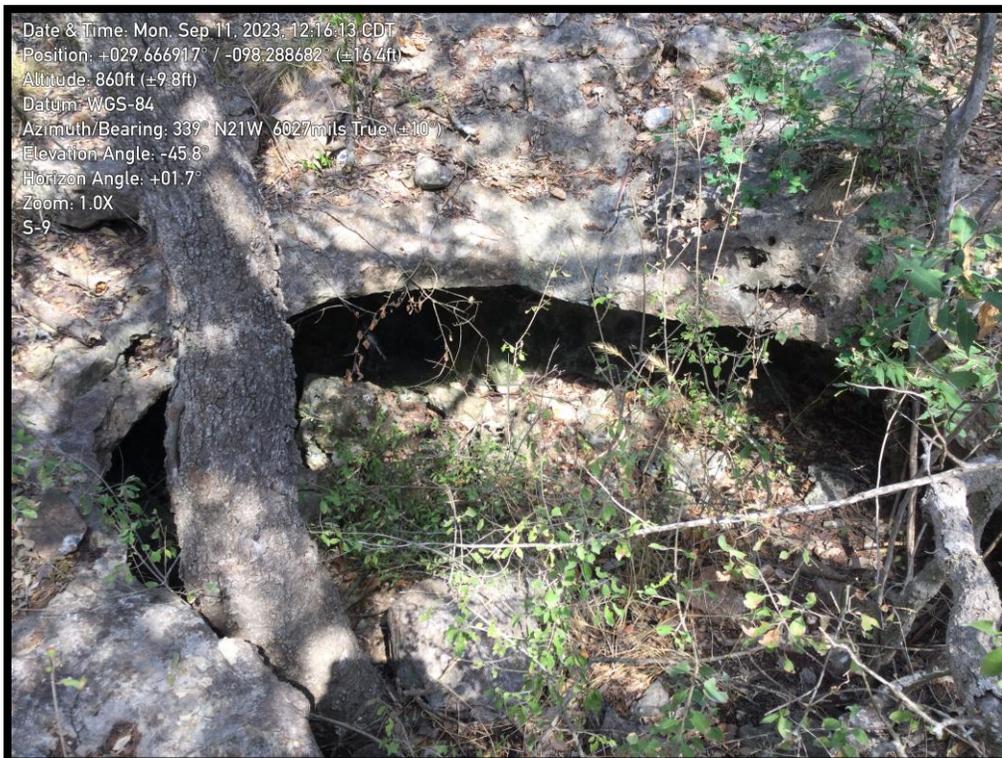
S-6: Non-Karst Closed Depression



S-7: Non-Karst Closed Depression



S-8: Solution Cavity



S-9: Cave Opening



S-9: Solution Enlarged Fracture Inside Cave



S-10: Stock Pond



S-11: Windmill Well



S-12: Cave



S-13: Non-Karst Closed Depression



S-14: Non-Karst closed Depression



S-17: Non-Karst Closed Depression



S-18: Stock Pond



S-19: Non-Karst Closed Depression – Aerial Extent



S-19: Non-Karst Closed Depression



S-22: Solution Cavity



S-23: Cave



S-24: Solution Cavity



S-25: Stock Pond



S-26: Non-Karst Closed Depression



S-27: Non-Karst Closed Depression



S-28: Zone of Solution Cavities



S-29: Solution Cavity



S-30: Hand Dug Well



S-31: Non-Karst Closed Depression



S-32: Non-Karst Closed Depression



S-33: Stock Pond



S-35: Stuck Drill Stem



S-36: Solution Cavity



S-37: Cave



S-38: Solution Cavity



S-40: Non-Karst Closed Depression



S-41: Non-Karst Closed Depression



S-42: Non-Karst Closed Depression



S-43: Solution Cavity

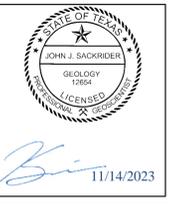


S-44: Solution Cavity

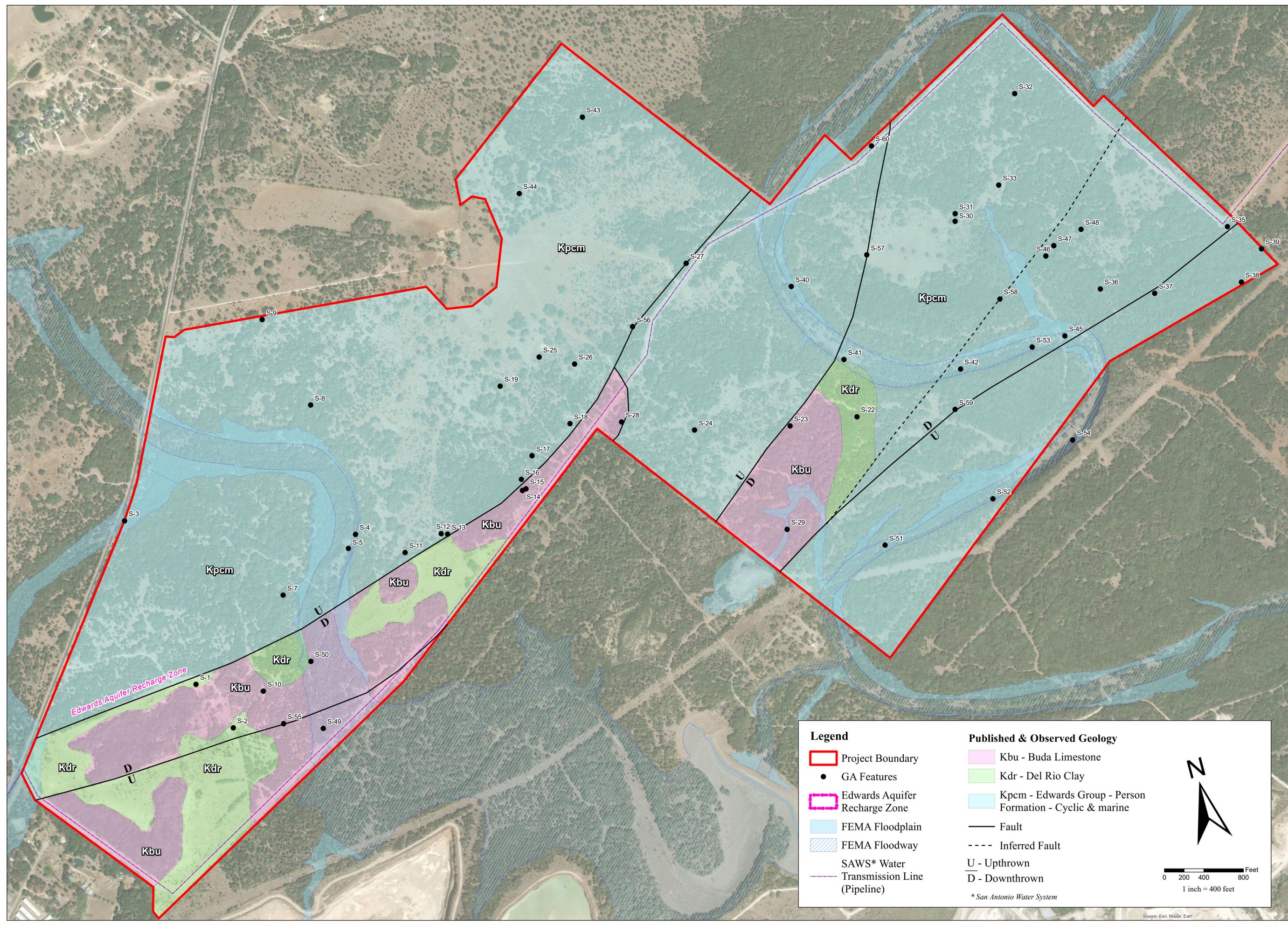
Attachment D

Site Geologic Map Site Soils Map

| REV | DESCRIPTION | BY | DATE |
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SITE GEOLOGIC MAP
 SERVTEX QUARRY PLANT
 HEIDELBERG MATERIALS SOUTHWEST AGG, LLC
 COMAL COUNTY, TEXAS



Legend

- Project Boundary
- GA Features
- Edwards Aquifer Recharge Zone
- FEMA Floodplain
- FEMA Floodway
- SAWS* Water
- Transmission Line (Pipeline)

Published & Observed Geology

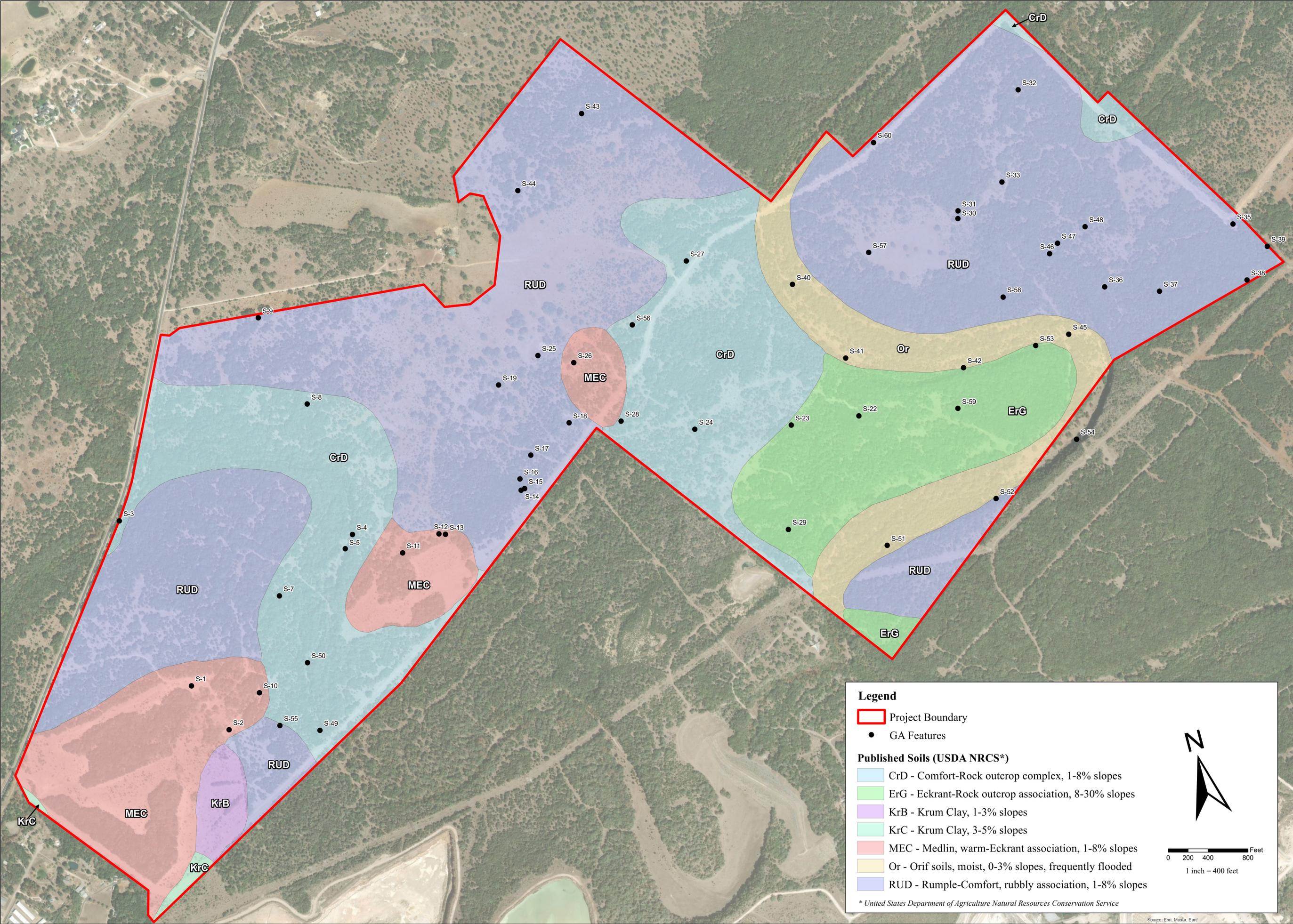
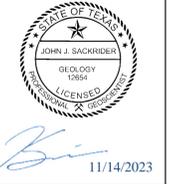
- Kbu - Buda Limestone
- Kdr - Del Rio Clay
- Kpcm - Edwards Group - Person Formation - Cyclic & marine
- Fault
- Inferred Fault
- U - Upthrown
- D - Downthrown

* San Antonio Water System

0 200 400 800 Feet
 1 inch = 400 feet

Source: Esri, Maxar, Earth

| REV | DESCRIPTION | BY | DATE |
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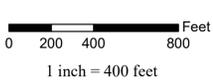
Legend

- Project Boundary
- GA Features

Published Soils (USDA NRCS*)

- CrD - Comfort-Rock outcrop complex, 1-8% slopes
- ErG - Eckrant-Rock outcrop association, 8-30% slopes
- KrB - Krum Clay, 1-3% slopes
- KrC - Krum Clay, 3-5% slopes
- MEC - Medlin, warm-Eckrant association, 1-8% slopes
- Or - Orif soils, moist, 0-3% slopes, frequently flooded
- RUD - Rumble-Comfort, rubbly association, 1-8% slopes

* United States Department of Agriculture Natural Resources Conservation Service

SITE SOILS MAP
 SERVTEX QUARRY PLANT
 HEIDELBERG MATERIALS SOUTHWEST AGG, LLC
 COMAL COUNTY, TEXAS

Source: Esri, Maxar, Earth*

Article I. Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Section 1.01 Signature

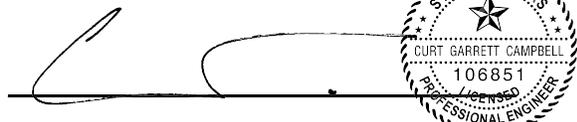
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Water Pollution Abatement Plan Application Form** is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

Print Name of Customer/Agent: Curt G. Campbell, P.E.

TX License No. 106851 | TX Firm No. 4525

Date: 11/15/2023

Signature of Customer/Agent:



Regulated Entity Name: SERVTEX Quarry Plant

Section 1.02 Regulated Entity Information

1. The type of project is:

- Residential: Number of Lots: _____
- Residential: Number of Living Unit Equivalents: _____
- Commercial
- Industrial
- Other: _____

2. Total site acreage (size of property): 1,088

3. Estimated projected population: 20

4. The amount and type of impervious cover expected after construction are shown below:

1 of 5

Article II. Table 1 - Impervious Cover Table

| Impervious Cover of Proposed Project | Sq. Ft. | Sq. Ft./Acre | Acres |
|--------------------------------------|-----------|--------------|-------|
| Structures/Rooftops | | ÷ 43,560 = | |
| Parking | | ÷ 43,560 = | |
| Other paved surfaces | 71,385.09 | ÷ 43,560 = | 1.6 |
| Total Impervious Cover | 71,385.09 | ÷ 43,560 = | 1.6 |

Total Impervious Cover 1.6 ÷ Total Acreage 1,088 X 100 = 0.15% Impervious Cover

5. **Attachment A - Factors Affecting Surface Water Quality.** A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.
6. Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

Section 2.01 For Road Projects Only

(a) Complete questions 7 - 12 if this application is exclusively for a road project.

7. Type of project:
 - TXDOT road project.
 - County road or roads built to county specifications.
 - City thoroughfare or roads to be dedicated to a municipality.
 - Street or road providing access to private driveways.
8. Type of pavement or road surface to be used:
 - Concrete
 - Asphaltic concrete pavement
 - Other: _____
9. Length of Right of Way (R.O.W.): _____ feet.
 Width of R.O.W.: _____ feet.
 L x W = _____ Ft² ÷ 43,560 Ft²/Acre = _____ acres.
10. Length of pavement area: _____ feet.
 Width of pavement area: _____ feet.
 L x W = _____ Ft² ÷ 43,560 Ft²/Acre = _____ acres.
 Pavement area _____ acres ÷ R.O.W. area _____ acres x 100 = _____ % impervious cover.
11. A rest stop will be included in this project.
 A rest stop will not be included in this project.

12. Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

Section 2.02 Stormwater to be generated by the Proposed Project

13. **Attachment B - Volume and Character of Stormwater.** A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on the area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

Section 2.03 Wastewater to be generated by the Proposed Project

14. The character and volume of wastewater is shown below:

| | |
|------------------------------|---------------------------|
| <u>100</u> % Domestic | <u>100</u> Gallons/day |
| <u> </u> % Industrial | <u> </u> Gallons/day |
| <u> </u> % Commingled | <u> </u> Gallons/day |
| TOTAL gallons/day <u>100</u> | |

15. Wastewater will be disposed of by: **N/A – Portable Toilets**

- On-Site Sewage Facility (OSSF/Septic Tank):
- Attachment C - Suitability Letter from Authorized Agent.** An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.
 - Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.
- Sewage Collection System (Sewer Lines):
- Private service laterals from the wastewater generating facilities will be connected to an existing SCS.
 - Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.
 - The SCS was previously submitted on _____.
 - The SCS was submitted with this application.

The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

The sewage collection system will convey the wastewater to the _____ (name) Treatment Plant. The treatment facility is:

Existing.

Proposed.

16. All private service laterals will be inspected as required in 30 TAC §213.5.

Section 2.04 Site Plan Requirements

(a) Items 17 – 28 must be included on the Site Plan.

17. The Site Plan must have a minimum scale of 1" = 400'.

Site Plan Scale: 1" = 400'.

18. 100-year floodplain boundaries:

Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA Panel 48091C0420F

19. The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, open space, etc. are shown on the plan.

The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, open space, etc. are shown on the site plan.

20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):

There are 1 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

The wells are not in use and have been properly abandoned.

The wells are not in use and will be properly abandoned.

The wells are in use and comply with 16 TAC §76.

There are no wells or test holes of any kind known to exist on the project site.

21. Geologic or manmade features which are on the site:

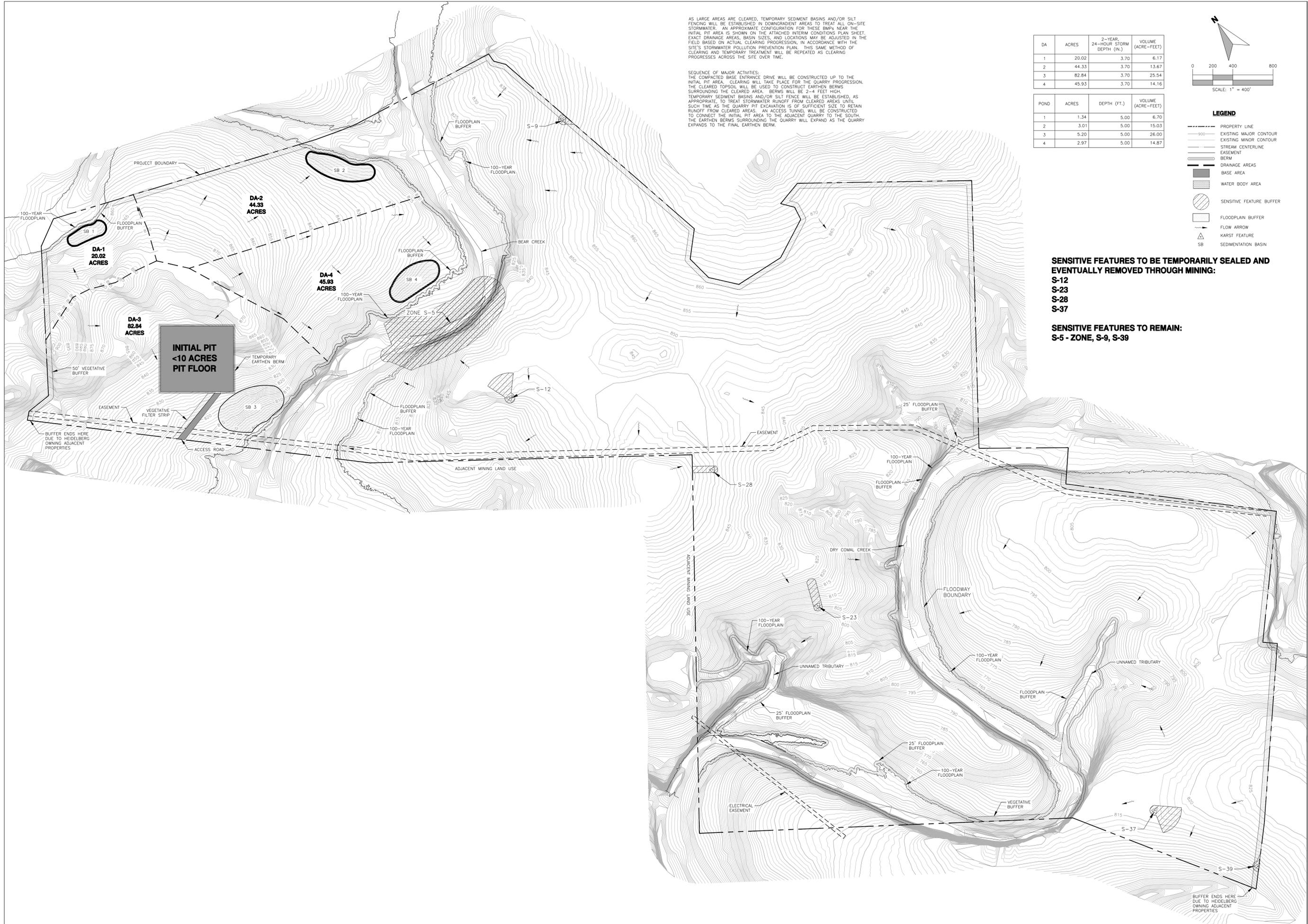
All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.

No sensitive geologic or manmade features were identified in the Geologic Assessment.

- Attachment D - Exception to the Required Geologic Assessment.** A request and justification for an exception to a portion of the Geologic Assessment is attached.
22. The drainage patterns and approximate slopes anticipated after major grading activities.
23. Areas of soil disturbance and areas which will not be disturbed.
24. Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
25. Locations where soil stabilization practices are expected to occur.
26. Surface waters (including wetlands).
 N/A
27. Locations where stormwater discharges to surface water or sensitive features are to occur.
 There will be no discharges to surface water or sensitive features.
28. Legal boundaries of the site are shown.

Section 2.05 Administrative Information

29. Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
30. Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

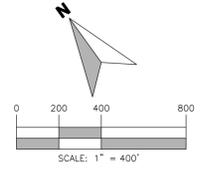


AS LARGE AREAS ARE CLEARED, TEMPORARY SEDIMENT BASINS AND/OR SILT FENCING WILL BE ESTABLISHED IN DOWNGRADIENT AREAS TO TREAT ALL ON-SITE STORMWATER. AN APPROXIMATE CONFIGURATION FOR THESE BMPs NEAR THE INITIAL PIT AREA IS SHOWN ON THE ATTACHED INTERIM CONDITIONS PLAN SHEET. EXACT DRAINAGE AREAS, BASIN SIZES, AND LOCATIONS MAY BE ADJUSTED IN THE FIELD BASED ON ACTUAL CLEARING PROGRESSION, IN ACCORDANCE WITH THE SITE'S STORMWATER POLLUTION PREVENTION PLAN. THIS SAME METHOD OF CLEARING AND TEMPORARY TREATMENT WILL BE REPEATED AS CLEARING PROGRESSES ACROSS THE SITE OVER TIME.

SEQUENCE OF MAJOR ACTIVITIES:
 THE COMPACTED BASE ENTRANCE DRIVE WILL BE CONSTRUCTED UP TO THE INITIAL PIT AREA. CLEARING WILL TAKE PLACE FOR THE QUARRY PROGRESSION. THE CLEARED TOPSOIL WILL BE USED TO CONSTRUCT EARTHEN BERMS SURROUNDING THE CLEARED AREA. BERMS WILL BE 2-4 FEET HIGH. TEMPORARY SEDIMENT BASINS AND/OR SILT FENCE WILL BE ESTABLISHED, AS APPROPRIATE, TO TREAT STORMWATER RUNOFF FROM CLEARED AREAS UNTIL SUCH TIME AS THE QUARRY PIT EXCAVATION IS OF SUFFICIENT SIZE TO RETAIN RUNOFF FROM CLEARED AREAS. AN ACCESS TUNNEL WILL BE CONSTRUCTED TO CONNECT THE INITIAL PIT AREA TO THE ADJACENT QUARRY TO THE SOUTH. THE EARTHEN BERMS SURROUNDING THE QUARRY WILL EXPAND AS THE QUARRY EXPANDS TO THE FINAL EARTHEN BERM.

| DA | ACRES | 2-YEAR, 24-HOUR STORM DEPTH (IN.) | VOLUME (ACRE-FEET) |
|----|-------|-----------------------------------|--------------------|
| 1 | 20.02 | 3.70 | 6.17 |
| 2 | 44.33 | 3.70 | 13.67 |
| 3 | 82.84 | 3.70 | 25.54 |
| 4 | 45.93 | 3.70 | 14.16 |

| POND | ACRES | DEPTH (FT.) | VOLUME (ACRE-FEET) |
|------|-------|-------------|--------------------|
| 1 | 1.34 | 5.00 | 6.70 |
| 2 | 3.01 | 5.00 | 15.03 |
| 3 | 5.20 | 5.00 | 26.00 |
| 4 | 2.97 | 5.00 | 14.87 |



- LEGEND**
- PROPERTY LINE
 - EXISTING MAJOR CONTOUR
 - EXISTING MINOR CONTOUR
 - STREAM CENTERLINE
 - EASEMENT
 - BERM
 - DRAINAGE AREAS
 - BASE AREA
 - WATER BODY AREA
 - SENSITIVE FEATURE BUFFER
 - FLOODPLAIN BUFFER
 - FLOW ARROW
 - KARST FEATURE
 - SB SEDIMENTATION BASIN

SENSITIVE FEATURES TO BE TEMPORARILY SEALED AND EVENTUALLY REMOVED THROUGH MINING:
S-12
S-23
S-28
S-37

SENSITIVE FEATURES TO REMAIN:
S-5 - ZONE, S-9, S-39

| | |
|-------------|------------|
| IMAGE: | N/A |
| ISSUE DATE: | 11/14/2023 |
| DRAWN BY: | NMS |
| CHECKED BY: | CCC |
| SCALE: | 1" = 400' |
| JOB NO.: | 11442-014 |

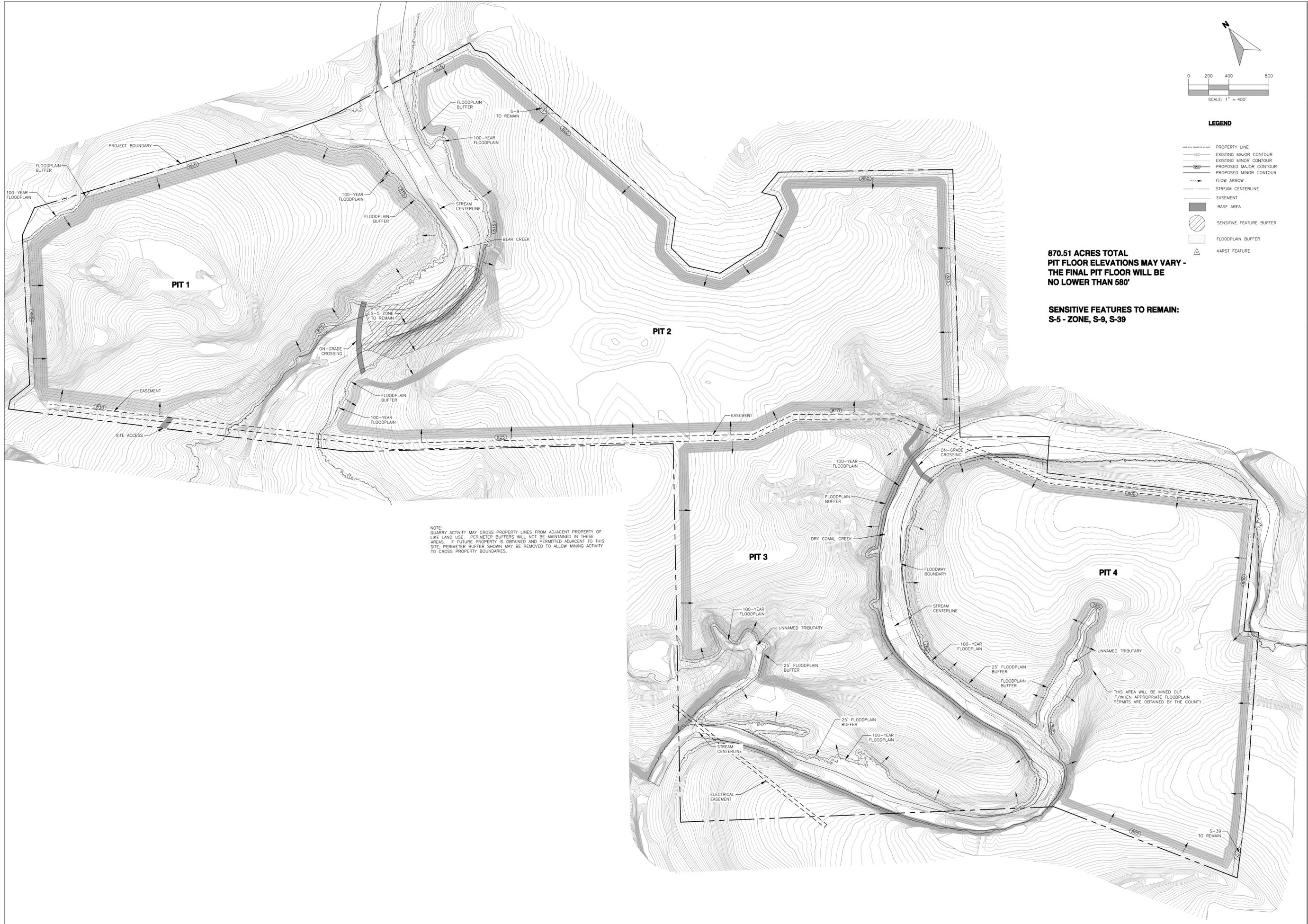
SHEET NO.: **3**
OF 4

WESTWARD
 Environmental, Engineering, Natural Resources,
 P.O. Box 2205 Boerne, Texas 78006
 (830) 249-8284 Fax: (830) 249-0221
 TBPE REG. NO.: F-4524
 TBPE REG. NO.: 50112

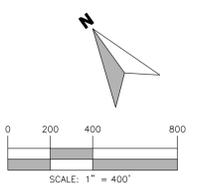
| REV. | DATE | DESCRIPTION |
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STATE OF TEXAS
 CURT GARRETT CAMPBELL
 106851
 LICENSED PROFESSIONAL ENGINEER
 11/15/2023
 Curt G. Campbell, P.E.
 License No. 106851

INTERIM CONDITIONS MAP
 WPAP
 HEIDELBERG MATERIALS SOUTHWEST AGG
 COMAL COUNTY, TX



NOTE: QUARRY ACTIVITY MAY CROSS PROPERTY LINES FROM ADJACENT PROPERTY OF LIKE LAND USE. PERIMETER BUFFERS WILL NOT BE MAINTAINED IN THESE AREAS. IF FUTURE PROPERTY IS OBTAINED AND PERMITTED ADJACENT TO THIS SITE, PERIMETER BUFFER SHOWN MAY BE REMOVED TO ALLOW MINING ACTIVITY TO CROSS PROPERTY BOUNDARIES.



- LEGEND**
- PROPERTY LINE
 - EXISTING MAJOR CONTOUR
 - EXISTING MINOR CONTOUR
 - PROPOSED MAJOR CONTOUR
 - PROPOSED MINOR CONTOUR
 - FLOW ARROW
 - STREAM CENTERLINE
 - EASEMENT
 - BASE AREA
 - SENSITIVE FEATURE BUFFER
 - FLOODPLAIN BUFFER
 - △ KARST FEATURE

**870.51 ACRES TOTAL
PIT FLOOR ELEVATIONS MAY VARY -
THE FINAL PIT FLOOR WILL BE
NO LOWER THAN 580'**

**SENSITIVE FEATURES TO REMAIN:
S-5 - ZONE, S-9, S-39**

| | |
|-------------|------------|
| IMAGE: | N/A |
| ISSUE DATE: | 11/15/2023 |
| DRAWN BY: | NMS |
| CHECKED BY: | CGC |
| SCALE: | 1" = 400' |
| JOB NO.: | 11442-014 |

SHEET NO.: **4**
OF 4

WESTWARD
Environmental Engineering, Natural Resources,
P.O. Box 2205 Boerne, Texas 78006
(830) 249-8284 Fax: (830) 249-0221
TBPE REG. NO.: F-4524
TBPG REG. NO.: 50112

| REV. | DESCRIPTION | BY | DATE |
|------|-------------|----|------|
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FINAL CONDITIONS MAP
WPAP
HEIDELBERG MATERIALS SOUTHWEST AGG
COMAL COUNTY, TX

THIS AREA WILL BE MINED OUT IF/WHEN APPROPRIATE FLOODPLAIN PERMITS ARE OBTAINED BY THE COUNTY

**Heidelberg Materials Southwest Agg LLC
SERVTEX Quarry Plant**

Water Pollution Abatement Plan Attachment A

Factors Affecting Surface Water Quality

The major factor that could potentially affect water quality is sediment in stormwater runoff after the clearing of vegetation. More remote factors include fuels and lubricants from vehicles and equipment and trash/debris items.

Earthen berms or rock berms and vegetated buffers located downgradient of the disturbed area(s) are proposed to capture sediment and control the flow of stormwater over the Recharge Zone. Stormwater from disturbed areas will be retained in the mining pit. Upgradient berms prevent runoff to disturbed areas of the site. Any spills or leaks will be cleaned up immediately and will be disposed of properly. A trash receptacle will be placed on-site for use by employees and visitors.

Water Pollution Abatement Plan Attachment B

Volume and Character of Stormwater

The area of the proposed final quarry pit, as shown on the Final Conditions Map, is an approximately 871-acre portion of the overall 1,088-acre property. The stormwater from this disturbed area will carry an increased level of total suspended solids (TSS); however, stormwater from this area will be retained in the pit.

Temporary BMPs (sediment basins, rock/earthen berms, vegetative filter strips, silt fence, etc.) will be used to control stormwater until the Final Earthen Berm is stabilized.

Due to the use of Temporary BMPs during construction, the character of stormwater runoff which is expected to occur from the proposed project will be essentially the same as prior to the site. As quarrying activities continue, the volume of stormwater runoff from the site will be reduced because the quarry pit will ultimately retain the anticipated on-site and upgradient stormwater runoff. The runoff coefficient for the impervious areas is 0.9 and the runoff coefficient for predevelopment is 0.03 per TCEQ guidance.

Water Pollution Abatement Plan Attachment C

Suitability Letter from Authorized Agent

N/A – an OSSF is not proposed at this time.

Water Pollution Abatement Plan Site Plan

Site Plan

Please see attached Interim Conditions & Final Conditions plan sheets.

Temporary Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Section 1.01 Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Temporary Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Curt G. Campbell, P.E.

TX License No. 106851 | TX Firm No. 4525

Date: _____

Signature of Customer/Agent:

Regulated Entity Name: SERVTEX Quarry Plant

Section 1.02 Project Information

Section 1.03 Potential Sources of Contamination

Examples: Fuel storage and use, chemical storage and use, use of asphaltic products, construction vehicles tracking onto public roads, and existing solid waste.

1. Fuels for construction equipment and hazardous substances which will be used during construction:

The following fuels and/or hazardous substances will be stored on the site: Diesel & gasoline

These fuels and/or hazardous substances will be stored in:

- Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.
 - Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
 - Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
 - Fuels and hazardous substances will not be stored on the site.
2. **Attachment A - Spill Response Actions.** A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.
 3. Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
 4. **Attachment B - Potential Sources of Contamination.** A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Section 1.04 Sequence of Construction

5. **Attachment C - Sequence of Major Activities.** A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.
 - For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.
 - For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.
6. Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Dry Comal Creek, Bear Creek

Section 1.05 Temporary Best Management Practices (TBMPs)

Erosion control examples: tree protection, interceptor swales, level spreaders, outlet stabilization, blankets or matting, mulch, and sod. Sediment control examples: stabilized construction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment basins. Please refer to the Technical Guidance Manual for guidelines and specifications. All structural BMPs must be shown on the site plan.

7. **Attachment D – Temporary Best Management Practices and Measures.** TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The

construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information is attached:

- A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.
 - A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.
 - A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
 - A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.
8. The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.
- Attachment E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.
 - There will be no temporary sealing of naturally-occurring sensitive features on the site.
9. **Attachment F - Structural Practices.** A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.
10. **Attachment G - Drainage Area Map.** A drainage area map supporting the following requirements is attached:
- For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.
 - For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.
 - For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.
 - There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be

used in combination with other erosion and sediment controls within each disturbed drainage area.

- There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.

11. **Attachment H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.

N/A

12. **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
13. All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
14. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
15. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
16. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Section 1.06 Soil Stabilization Practices

Examples: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, or preservation of mature vegetation.

17. **Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices.** A schedule of the interim and permanent soil stabilization practices for the site is attached.

18. Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
19. Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Section 1.07 Administrative Information

20. All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.
21. If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.
22. Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

**Heidelberg Materials Southwest Agg LLC
SERVTEX Quarry Plant**

Temporary Stormwater Section Attachment A

Spill Response Actions

Education

- (1) Be aware that different materials pollute in different amounts. Make sure that each employee knows what a “significant spill” is for each material they use, and what is the appropriate response for “significant” and “insignificant” spills. Employees should also be aware of when spill must be reported to the TCEQ.
- (2) Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- (3) Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- (4) Establish a continuing education program to indoctrinate new employees.
- (5) Have contractor’s superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

- (1) To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up in a timely manner.
- (2) Store hazardous materials and wastes in covered containers and protect from vandalism.
- (3) Place a stockpile of spill clean-up materials where it will be readily accessible.
- (4) Train employees in spill prevention and cleanup.
- (5) Designate responsible individuals to oversee and enforce control measures.
- (6) Spills should be covered and protected from stormwater run-on during rainfall to the extent that it doesn’t compromise cleanup activities.
- (7) Do not bury or wash spills with water.
- (8) Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
- (9) Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.

Heidelberg Materials Southwest Agg LLC
SERVTEX Quarry Plant

(10) Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.

(11) Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.

(12) Keep waste storage areas clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

(1) Clean up leaks and spills in a timely manner.

(2) Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.

(3) Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

(1) Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.

(2) Use absorbent materials on small spills rather than hosing down or burying the spill.

(3) Absorbent materials should be promptly removed and disposed of properly.

(4) Follow the practice below for a minor spill:

(5) Contain the spread of the spill.

(6) Recover spilled materials.

(7) Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

Spills should be cleaned up in a timely manner:

(1) Contain spread of the spill.

(2) Notify the project foreman in a timely manner.

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SERVTEX Quarry Plant**

(3) If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.

(4) If the spill occurs in dirt areas, contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.

(5) If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

(1) Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.

(2) For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.

(3) Notification should first be made by telephone and followed up with a written report.

(4) The services of a spills contractor or a Haz-Mat team should be obtained in a timely manner. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.

(5) Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

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SERVTEX Quarry Plant**

In the event of a reportable spill, the following Emergency Response Agencies can be contacted for assistance. Always inform your supervisor of a reportable spill in a timely manner. Follow company policy when responding to an emergency.

| | |
|---------------------------------------|----------------|
| State Emergency Response Commission | (512) 463-7727 |
| National Response Center | (800) 424-8802 |
| US EPA Region 6, Dallas, 24-hr Number | (866) 372-7745 |
| National Weather Service | (281) 337-5074 |
| TCEQ 24-hr | (800) 832-8224 |
| TCEQ Region 13 | (210) 490-3096 |

Vehicle and Equipment Maintenance

- (1) If maintenance must occur on-site, use a designated area and a secondary containment, located away from drainage courses, to prevent the run-on of stormwater and the runoff of spills.
- (2) Regularly inspect on-site vehicles and equipment for leaks and repair in a timely manner.
- (3) Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment on-site.
- (4) Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- (5) Place drip pans or absorbent materials under paving equipment when not in use.
- (6) Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
- (7) Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
- (8) Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.
- (9) Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Heidelberg Materials Southwest Agg LLC
SERVTEX Quarry Plant

Vehicle and Equipment Fueling

- (1) If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the run-on of stormwater and the runoff of spills.
- (2) Discourage “topping off” of fuel tanks.
- (3) Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.
- (4) Equipment fueling will take place on a flex base pad. A diesel and gasoline tank have been approved with an Aboveground Storage Tank Plan dated May 16, 2016 (EAPP ID 13000110). A nurse tank may fuel on this flex base pad. The flex base pad will be 1 ft. thick with a 1 ft. berm on all sides. Fueling of plant equipment located in the pit will be conducted on a flex base pad.

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SERVTEX Quarry Plant**

DETAILED TELEPHONE SPILL REPORT FORM

Date of Incident: _____

Location of Incident: _____

Description of material spilled: _____

Quantity of material spilled: _____

Cause of spill: _____

Authorities notified: _____

Remediation/clean-up action: _____

Corrective measures taken for prevention of reoccurrence: _____

Signature: _____

Notes: _____



**Heidelberg Materials Southwest Agg LLC
SERVTEX Quarry Plant**

Portable Toilet BMPs:

Portable toilets and/or sewage pump-out tanks will be used on-site and will be handled in accordance with the following guidelines:

- A licensed waste collector should service all the toilets/tanks. **The following tasks will be performed by the portable toilet supplier:**
 - Empty portable toilets/tanks before transporting them.
 - Securely fasten the toilets/tanks to the transport truck.
 - Use hand trucks, dollies, and power tailgates whenever possible.
 - Suppliers should carry bleach for disinfection in the event of a spill or leak.
 - Inspect the toilets frequently for leaks and have the units serviced and sanitized at time intervals that will maintain sanitary conditions of each toilet.
 - Pump-out tanks should be checked periodically for leaks. (Methods may include, but are not limited to: visual inspection, water level monitoring, pump-out volume comparisons, etc.)
- Locate portable toilets at least 20 feet from the nearest storm-drain inlet or sensitive-feature buffer area
- A berm will be constructed around all portable toilet facilities.
- Prepare a level ground surface with clear access to the toilets.
- Secure all portable toilets to prevent tipping by accident, weather, or vandalism.

Sewage pump-out tanks may be associated with modular or trailer-style buildings (i.e. – plant office, scale house, etc.). These tanks operate with the same nature and character as the portable toilets: they temporarily hold sewage from modular building restrooms and will be serviced by the same contractor, in the same way, as portable toilets. These tanks may be partially or fully buried but are still considered temporary/portable as they are intended to be repositioned on site over time to meet operational needs, and therefore do not constitute an OSSF or holding tank as defined by 30 TAC 285, nor any other type of organized sewage collection system.

Temporary Stormwater Section Attachment B

Potential Sources of Contamination

Potential sources of contamination in the project area are the soil, fuels and lubricants from vehicles and equipment, and trash/debris items.

Temporary Stormwater Section Attachment C

Sequence of Major Activities

The compacted base entrance drive will be constructed up to the initial pit area. Clearing will take place for the quarry progression. The cleared topsoil will be used to construct earthen berms surrounding the cleared area. Berms will be 2-4 feet high. Temporary sediment basins and/or silt fence will be established, as appropriate, to treat stormwater runoff from cleared areas until such time as the quarry pit excavation is of sufficient size to retain runoff from cleared areas. An access tunnel may be constructed to connect the initial pit area to the adjacent quarry to the south. The earthen berms surrounding the quarry will expand as the quarry expands to the Final Earthen Berm.

**Heidelberg Materials Southwest Agg LLC
SERVTEX Quarry Plant**

Temporary Stormwater Section Attachment D

Temporary Best Management Practices (TBMPs) and Measures

7a) TBMPs and measures will prevent pollution of surface water, groundwater and stormwater that originates upgradient from the site and flows across the site.

As the incremental quarry area is cleared and topsoil is removed, earthen berms will be constructed. Upgradient berms will direct stormwater runoff around disturbed areas of the site.

As the size of the quarry expands, the earthen berms will expand throughout the life of the project. These berms will divert upgradient stormwater around disturbed areas of the site. Temporary buffer zones will treat upgradient stormwater as mining nears the sensitive features. Temporary natural existing vegetation will be maintained in a 25-foot buffer along the FEMA 100-year floodplain of both Bear Creek and Dry Comal Creek. This buffer will be maintained until and unless appropriate permits can be obtained from FEMA and/or USACE to allow mining in the area. In addition, a natural vegetated buffer with a minimum width of 50 feet will be maintained between the Final Earthen Berm and the property line. This natural vegetated buffer will serve as a final buffer for stormwater runoff leaving the active portion of the site.

7b) TBMPs and measures will prevent pollution of surface water, groundwater and stormwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.

As the size of the quarry expands, the earthen berms will expand throughout the life of the project. As large areas are cleared, temporary sediment basins and/or silt fencing will be established in downgradient areas to treat all on-site stormwater. An approximate configuration for these BMPs near the initial pit area is shown on the attached Interim Conditions plan sheet. Exact drainage areas, basin sizes, and locations may be adjusted in the field based on actual clearing progression, in accordance with the site's Stormwater Pollution Prevention Plan. This same method of clearing and temporary stormwater treatment will be repeated as clearing progresses across the site over time.

Natural existing vegetation will be maintained in a 25-foot buffer along the FEMA 100-year floodplain of both Bear Creek and Dry Comal Creek. This buffer will be maintained until and unless appropriate permits can be obtained from FEMA and/or USACE to allow mining in the area. In addition, a natural vegetated buffer with a minimum width of 50 feet will be maintained between the Final Earthen Berm and the property line. This natural vegetated buffer will serve as a final buffer for stormwater runoff leaving the active portion of the site.

7c) TBMPs and measures will prevent pollution of surface streams, sensitive features and the aquifer.

As the size of the quarry expands, the earthen berms will expand throughout the life of the project. As large areas are cleared, temporary sediment basins and/or silt fencing will be established in downgradient areas to treat all on-site stormwater. An approximate configuration for these BMPs near the initial pit area is shown on the attached Interim Conditions plan sheet. Exact drainage

Heidelberg Materials Southwest Agg LLC
SERVTEX Quarry Plant

areas, basin sizes, and locations may be adjusted in the field based on actual clearing progression, in accordance with the site's Stormwater Pollution Prevention Plan. This same method of clearing and temporary stormwater treatment will be repeated as clearing progresses across the site over time.

Earthen berms and vegetated areas will be constructed/maintained as shown on the attached Interim & Final Conditions Site Plans to prevent pollutants from entering surface streams, sensitive features and the aquifer.

Temporary natural existing vegetation will be maintained in a 25-foot buffer along the FEMA 100-year floodplain of both Bear Creek and Dry Comal Creek. This buffer will be maintained until and unless appropriate permits can be obtained from FEMA and/or USACE to allow mining in the area. In addition, a natural vegetated buffer with a minimum width of 50 feet will be maintained between the Final Earthen Berm and the property line. This natural vegetated buffer will serve as a final buffer for stormwater runoff leaving the active portion of the site. Buffers will be located around sensitive features until they are temporarily sealed.

7d) To the maximum extent practicable TBMPs and measures will maintain flow to naturally-occurring sensitive features identified in the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

A geologic assessment has been completed for the proposed 1,088-acre site and is included with this application. Seven karst features were identified as sensitive (S-5, S-9, S-12, S-23, S-28, S-37, and S-39). Of these, four features (S-12, S-23, S-28, and S-37) are proposed to be temporarily sealed and eventually removed through mining. Feature S-11 is an abandoned water well, and though not rated as sensitive in its current condition, this well will be properly plugged per 16 TAC 76 prior to being removed through mining. Features S-5, S-9 & S-39 will be left in place, with appropriate vegetative buffers.

As clearing progresses to within approximately 500' of a sensitive feature, rock berms and/or silt fences will be established around the feature. These BMPs will slow the flow of water, allowing for sedimentation. Flow will be maintained to each of these features until such time as quarrying or construction of berms progresses into the buffer. Prior to this, each will be sealed with flowable fill/concrete until they are removed through mining. Earthen berms, vegetative buffer, and the quarry, which store flows, will be used as pollution prevention measures to mitigate runoff from larger disturbed areas. These larger disturbed areas (the pit) have a greater potential to contain sediment, therefore these BMPs will be used to provide a higher level of protection to the aquifer.

Heidelberg will provide initial feature recognition training to mining staff within 90 days of approval of this WPAP application. Initial feature recognition training will also be provided to applicable new employees (site supervisors and quarry operators) within 90 days of hire. Refresher training will be provided to quarry operators as needed. All training will be conducted by the Site Supervisor or his designee using a training program prepared by a PG.

The site supervisor or his designee will maintain records of when features are identified by mining staff. These records will include the date the feature was identified, the general location of the feature, a general description of the feature, and what action was taken regarding the potential

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feature. These records will be maintained for five years and will be made available to the TCEQ upon request.

Any possibly sensitive geologic feature discovered by mining staff will be handled in the following manner: Sediment that can be easily removed from the area adjacent to the feature without disturbing the feature will be removed. Then a rock berm will be placed around the feature to control and filter any potential flows into the feature. After placement of the rock berm, the active work area of the quarry will be moved to another portion of the pit where the feature cannot be impacted by the continuing quarry operations. A Professional Geologist will be called to the site to assess and rate the feature. If the feature is determined to be sensitive in accordance with TAC 213 rules, the TCEQ will be notified and an appropriate method for addressing the feature will be formulated and submitted for TCEQ approval. Work will not resume in the area of the feature until the TCEQ approved method for addressing the feature has been carried out.

Temporary Stormwater Section Attachment E

Request to Temporarily Seal a Feature

Heidelberg requests to temporarily seal the following features before they are ultimately removed through mining: S-12, S-23, S-28 & S-37.

In order to protect the aquifer from possible contamination from sediment in stormwater as quarrying nears the features, Heidelberg will temporarily seal the naturally occurring sensitive features listed above using flowable fill/concrete. Each of the features listed above that are located within the proposed quarrying footprint will eventually be removed through mining, as allowed in RG-500.

The alternative to sealing these features would be to not seal them, which would pose a greater threat to the aquifer, due to the potential for sediment to enter in runoff from adjacent disturbed areas. It is not reasonable or practical to avoid mining near or upgradient of sensitive features due to their spacing on-site. Mining around the sensitive features would create a safety hazard within the quarry because the features would be left atop pinnacles that would be very tall and slender. These pinnacles would be prone to collapse and would create unsafe working conditions within much of the quarry area.

Temporary Stormwater Section Attachment F

Structural Practices

Temporary best management practices proposed for the limestone quarry may include earthen berms, silt fencing, sediment basins, rock berms and natural vegetated buffers. The silt fencing, sediment basins, rock berms and vegetated buffers are used to limit runoff discharge of sediment. The earthen berms are used to store flows and limit runoff discharge of pollutants from exposed areas of the site as well as to divert flows away from exposed (disturbed) soils.

As large areas are cleared, temporary sediment basins and/or silt fencing will be established in downgradient areas to treat all on-site stormwater. An approximate configuration for these BMPs near the initial pit area is shown on the attached Interim Conditions plan sheet. Exact drainage

**Heidelberg Materials Southwest Agg LLC
SERVTEX Quarry Plant**

areas, basin sizes, and locations may be adjusted in the field based on actual clearing progression, in accordance with the site's Stormwater Pollution Prevention Plan. This same method of clearing and temporary stormwater treatment will be repeated as clearing progresses across the site over time.

Temporary Stormwater Section Attachment H

Please see attached Interim Conditions plan sheet.

Temporary Stormwater Section Attachment I

Inspection and Maintenance for BMPs

The earthen berms and vegetated buffers should be inspected quarterly; sediment basins, silt fencing, and rock berms should be inspected weekly and after each rainfall. Written documentation of these inspections should be kept at the project site (see following example Inspection Form.) Any erosion of berms should be backfilled and compacted as soon as possible. If a berm is no longer able to properly filter the sediment from the stormwater due to contamination from silt, it should be replaced. Trash should be removed and any eroded areas of buffers should be reseeded. If any sediment basin's impoundment capacity is reduced to 75% of its original storage capacity, accumulated silt should be removed and the basin re-graded to its original dimensions.

Heidelberg will be authorized to discharge stormwater under the TPDES General Permit No. TXR050000 for industrial activities. Requirements of the general permit include maintaining a SWP3 which includes inspections of stormwater best management practices and sampling of stormwater that is discharged from the site.

It is not anticipated that dewatering of the pit will be required. However, if necessary, mine dewatering will be accomplished according to the TCEQ stormwater regulations noted in the TPDES General Permit No. TXR050000 under Sector J for Mineral Mining and Processing Facilities.

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SERVTEX Quarry Plant**

Temporary Stormwater Section Attachment J

Schedule of Soil Stabilization Practices

Areas Outside The Pit:

Cleared areas and interim earthen berms may be disturbed for more than 14 days without stabilization because it is not practical to be continually stabilizing small areas prior to their excavation and stabilizing the earthen berms that are frequently relocated. The purpose of soil stabilization is to control erosion and prevent pollutants from entering surface waters, streams, and the aquifer through sensitive recharge features. Areas outside of the pit that are disturbed for quarrying are often drilled and blasted within 90 days. It is not feasible or appropriate to try to stabilize these areas with vegetation because 1) the topsoil has been removed and vegetation will not readily grow; 2) these areas will soon be excavated and; 3) other structural BMPs will be used to protect stormwater runoff quality from these areas in a manner consistent with customary and acceptable mining practices.

Because the soils and overburden in these cleared areas have been removed and placed in an earthen berm adjacent to the cleared areas, erosion of these areas is mitigated. The earthen berms upgradient of the cleared areas divert upgradient stormwater away from cleared areas and earthen berms and/or sediment basins downgradient of cleared areas will treat and/or retain stormwater runoff from the cleared area. The proposed BMPs provide adequate protection for the area outside of the pit.

Material stockpiles will be located within the quarry pit and earthen berms.

For the case when the quarry operations have been completed (permanently ceased) all stormwater will be retained in the pit. The Final Earthen Berm outside the pit will be stabilized with native grasses. The undisturbed vegetated buffers shown on the Final Conditions plan sheet will remain undisturbed so no additional stabilization practices will be needed.

Areas Inside The Pit:

Areas inside the pit do not need to be stabilized; the requirement for soil stabilization exists in order to control erosion and prevent pollutants from entering surface waters, streams and the aquifer through sensitive recharge features. The disturbed soils in or upgradient of the quarry pit will be retained in the pit thereby eliminating the need for soil stabilization in the pit to prevent pollutants from entering surface waters or streams. The BMP discussed in the WPAP Temporary Stormwater Section Attachment D (7.d.) will mitigate infiltration of stormwater into the quarry floor. In addition it is not practical to stabilize areas of the pit with vegetation because often times areas of the pit will not be active for some period of time, then be reactivated. Therefore, since the disturbed areas will be located in the pit no soil stabilization is expected to be necessary at the completion of the project.

Permanent Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(C), (D)(li), (E), and (5), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Permanent Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Curt G. Campbell, P.E.

TX License No. 106851 | TX Firm No. 4525

Date: 11/15/2023

Signature of Customer/Agent




Regulated Entity Name: SERVTEX Quarry Plant

Permanent Best Management Practices (BMPs)

Permanent best management practices and measures that will be used during and after construction is completed.

- Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.
 N/A
- These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

- The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.
- A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is: _____
- N/A
3. Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.
- N/A
4. Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.
- The site will be used for low density single-family residential development and has 20% or less impervious cover.
- The site will be used for low density single-family residential development but has more than 20% impervious cover.
- The site will not be used for low density single-family residential development.
5. The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.
- Attachment A - 20% or Less Impervious Cover Waiver.** The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.
- The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
- The site will not be used for multi-family residential developments, schools, or small business sites.
6. **Attachment B - BMPs for Upgradient Stormwater.**

- A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.
 - No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.
 - Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.
7. **Attachment C - BMPs for On-site Stormwater.**
- A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.
 - Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.
8. **Attachment D - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.
- N/A
9. The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.
- The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.
 - Attachment E - Request to Seal Features.** A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.
10. **Attachment F - Construction Plans.** All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:
- Design calculations (TSS removal calculations)
 - TCEQ construction notes
 - All geologic features
 - All proposed structural BMP(s) plans and specifications
- N/A

11. **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan.** A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:
- Prepared and certified by the engineer designing the permanent BMPs and measures
 - Signed by the owner or responsible party
 - Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
 - A discussion of record keeping procedures
- N/A
12. **Attachment H - Pilot-Scale Field Testing Plan.** Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.
- N/A
13. **Attachment I -Measures for Minimizing Surface Stream Contamination.** A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.
- N/A

Responsibility for Maintenance of Permanent BMP(s)

Responsibility for maintenance of best management practices and measures after construction is complete.

14. The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.
- N/A
15. A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.
- N/A

**Heidelberg Materials Southwest Agg LLC
SERVTEX Quarry Plant**

Permanent Stormwater Section Attachment B

BMPs for Upgradient Stormwater

A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site:

The temporary earthen berms that are constructed as clearing occurs will expand as the size of the quarry expands. The earthen berms will expand throughout the life of the project to the Final Earthen Berm shown on the Proposed Conditions Map. The Final Earthen Berm will be vegetated with native grasses to stabilize soils.

Permanent stormwater controls are those that are to remain in place after construction has been completed. At the time construction is completed at the subject site, the vegetated Final Earth Berm and the 50 foot vegetated buffer that surround most of the site, along portions the property boundary adjacent to non-mining uses.

Permanent Stormwater Section Attachment C

BMPs for On-site Stormwater

A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site:

Pollution of surface water, groundwater or stormwater that originates on-site or flows off-site during the life of the quarry will be mitigated by the use of temporary earthen berms vegetated areas, and the pit which will be constructed as shown on the Proposed Conditions Map.

Permanent stormwater controls are those that are to remain in place after construction has been completed. At the time construction is completed at the subject site, the vegetated Final Earth Berm and the 50 foot vegetated buffer that surround most of the site, along portions the property boundary adjacent to non-mining uses.

**Heidelberg Materials Southwest Agg LLC
SERVTEX Quarry Plant**

Permanent Stormwater Section Attachment D

BMPs for Surface Streams

A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features or the aquifer:

During the life of the quarry, temporary earthen berms will be constructed to prevent pollutants from entering surface streams and the aquifer (four of the seven sensitive features on-site will be sealed & removed through mining). The earthen berms that surround future disturbed areas will expand to protect Dry Comal Creek and Bear Creek as mining activities approach them (both streams are proposed to be mined).

Permanent stormwater controls are those that are to remain in place after construction has been completed. At the time construction is completed at the subject site, the vegetated Final Earthen Berm and the 50-foot vegetated buffer that surround most of the site will be located along the property boundary.

Any possibly sensitive geologic feature discovered by mining staff will be evaluated by a Professional Geoscientist and if determined to be sensitive, will be reported to TCEQ. An appropriate method for addressing the feature will be formulated by a Professional Geoscientist or a Professional Engineer and upon approval by TCEQ, the method to protect the feature will be implemented. Work will not resume in the area of the feature until the TCEQ approved method for addressing the feature has been carried out.

Permanent Stormwater Section Attachment E

Request to Seal Features

No features are proposed to be permanently sealed.

Permanent Stormwater Section Attachment F

Construction Plans

Please see attached Final Conditions plan sheet.

Permanent Stormwater Section Attachment G

Inspection, Maintenance, Repair and Retrofit Plan

Final earthen berms should be inspected quarterly until stabilized with vegetation. Written documentation of these inspections should be kept during the course of construction at the project site. Any erosion of berms should be backfilled and compacted as soon as possible.

Vegetated buffers should be inspected at least twice annually, until the Final Earthen Berm has been vegetated, for erosion or damage to vegetation. Written documentation of these inspections should be kept during the course of construction at the project site. Bare spots and areas of erosion identified during inspections must be replanted. Trash and debris items should be removed.

Heidelberg Materials Southwest Agg, LLC

Inspection, Maintenance, Repair and Retrofit Plan

I, Lalit Bhatnagar, have read and understand the Inspection, Maintenance, Repair and Retrofit (IMRR) Plan contained in this Water Pollution Abatement Plan (WPAP) Modification plan.

I understand the specific Permanent Best Management Practices (PBMPs) and associated inspection and maintenance schedule which are outlined in this IMRR Plan. Heidelberg Materials Southwest Agg, LLC will implement these inspections and perform maintenance as required to meet the intent of the IMRR Plan.

Name and signature of responsible party for maintenance of permanent BMPs

Print Name: Lalit Bhatnagar
Heidelberg Materials Southwest Agg LLC

Signature  Date: 11/14/2023

Name and signature of Engineer

Print Name: Curt G. Campbell, P.E.
Westward Environmental, Inc.

Signature  Date: 11/15/2023



**Heidelberg Materials Southwest Agg LLC
SERVTEX Quarry Plant**

Permanent Stormwater Section Attachment I

Measures for Minimizing Surface Stream Contamination

To avoid surface stream contamination, natural existing vegetation will be maintained in a 25-foot buffer along the 100-year floodplain of Dry Comal Creek and Bear Creek (except where the haul road passes through, as shown on the attached Interim & Final Conditions plan sheets). 25-foot vegetated buffers will be left in place to filter sediment in stormwater runoff until quarrying of these areas begins. This natural vegetated buffer will serve as a final buffer for stormwater runoff leaving the active portion of the site. Parts of this buffer are part of utility easements and may be disturbed for maintenance purposes. Any disturbance will be reestablished to its vegetated state within 14 days of completed construction.

Agent Authorization Form
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I Lalit Bhatnagar,
Print Name

Assistant Secretary,
Title - Owner/President/Other

of Heidelberg Materials Southwest Agg LLC,
Corporation/Partnership/Entity Name

have authorized Curt G. Campbell, P.E., Gary D. Nicholls, P.E., Andrea Kidd, P.E.,
Vance Houy, P.E., Nicolas E. Mercado, P.E. & Chelsy L. Houy, PE
Print Name of Agent/Engineer

of Westward Environmental, Inc.
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to \$10,000 per day per violation.
2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.
3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.
4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.
5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

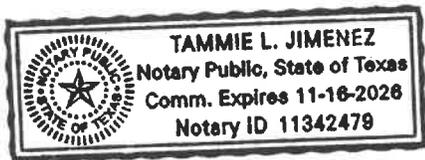
[Handwritten Signature]
Applicant's Signature

11/14/2023
Date

THE STATE OF Texas §
County of Dallas §

BEFORE ME, the undersigned authority, on this day personally appeared Latit Bhadrappa known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 14th day of November, 2023.



[Handwritten Signature]
NOTARY PUBLIC
Tammie L. Jimenez
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 11-16-2026



TCEQ Use Only

TCEQ Core Data Form

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.) | | |
| <input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.) | | |
| <input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form) | <input type="checkbox"/> Other | |
| 2. Customer Reference Number (if issued) | Follow this link to search for CN or RN numbers in Central Registry** | 3. Regulated Entity Reference Number (if issued) |
| CN 605858687 | | RN NEW |

SECTION II: Customer Information

| | | | |
|---|---|--|--|
| 4. General Customer Information | | 5. Effective Date for Customer Information Updates (mm/dd/yyyy) | |
| <input type="checkbox"/> New Customer | | <input type="checkbox"/> Update to Customer Information | |
| <input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts) | | <input type="checkbox"/> Change in Regulated Entity Ownership | |
| 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: eg: Doe, John) | | If new Customer, enter previous Customer below: | |
| Heidelberg Materials Southwest Agg, LLC | | | |
| 7. TX SOS/CPA Filing Number | 8. TX State Tax ID (11 digits) | 9. Federal Tax ID (9 digits) | 10. DUNS Number (if applicable) |
| 0801009053 | 32037605113 | | |
| 11. Type of Customer: | <input checked="" type="checkbox"/> Corporation | <input type="checkbox"/> Individual | Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited |
| Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Other | <input type="checkbox"/> Sole Proprietorship | <input type="checkbox"/> Other: | |
| 12. Number of Employees | | 13. Independently Owned and Operated? | |
| <input type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input checked="" type="checkbox"/> 501 and higher | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following | | | |
| <input type="checkbox"/> Owner <input checked="" type="checkbox"/> Operator <input type="checkbox"/> Owner & Operator | | | |
| <input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> Voluntary Cleanup Applicant <input type="checkbox"/> Other: | | | |
| 15. Mailing Address: | 300 E. John Carpenter Fwy, Suite 1645 | | |
| | City | Irving | State TX ZIP 75062 ZIP + 4 |
| 16. Country Mailing Information (if outside USA) | | 17. E-Mail Address (if applicable) | |
| | | Lalit.bhatnagar@heidelbergmaterials.com | |
| 18. Telephone Number | 19. Extension or Code | 20. Fax Number (if applicable) | |
| 972-814-4122 | | | |

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) |
| <input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> 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.) |
| Servtex Quarry Plant |

| | | | | | | | |
|---|-------|--|-------|--|-----|--|---------|
| 23. Street Address of the Regulated Entity: <i>(No PO Boxes)</i> | | | | | | | |
| | City | | State | | ZIP | | ZIP + 4 |
| 24. County | Comal | | | | | | |

Enter Physical Location Description if no street address is provided.

| | | | | | | | | | |
|---|--|---------|-----------------------------------|-------------------------------|-------------|--|------------------|--|--|
| 25. Description to Physical Location: | West side of Coyote Run approx. 1.4 miles north of Old Nacogdoches Rd. | | | | | | | | |
| 26. Nearest City | Schertz | | | | State | TX | Nearest ZIP Code | 78132 | |
| 27. Latitude (N) In Decimal: | 29.662555° | | | 28. Longitude (W) In Decimal: | -98.258258° | | | | |
| Degrees | Minutes | Seconds | Degrees | Minutes | Seconds | | | | |
| 29. Primary SIC Code (4 digits) | 1422 | | 30. Secondary SIC Code (4 digits) | | | 31. Primary NAICS Code (5 or 6 digits) | 212312 | 32. Secondary NAICS Code (5 or 6 digits) | |
| 33. What is the Primary Business of this entity? <i>(Do not repeat the SIC or NAICS description.)</i> | | | | | | | | | |
| Construction Material Manufacturing | | | | | | | | | |
| 34. Mailing Address: | 300 E. John Carpenter Fwy, Suite 1645 | | | | | | | | |
| | City | Irving | State | TX | ZIP | 75062 | ZIP + 4 | | |
| 35. E-Mail Address: | Lalit.bhatnagar@heidelbergmaterials.com | | | | | | | | |
| 36. Telephone Number | 972-814-4122 | | 37. Extension or Code | | | 38. Fax Number <i>(if applicable)</i> | | | |

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.

| | | | | |
|--|--|---|--|---|
| <input type="checkbox"/> Dam Safety | <input type="checkbox"/> Districts | <input checked="" type="checkbox"/> Edwards Aquifer | <input type="checkbox"/> Emissions Inventory Air | <input type="checkbox"/> Industrial Hazardous Waste |
| <input type="checkbox"/> Municipal Solid Waste | <input type="checkbox"/> New Source Review Air | <input type="checkbox"/> OSSF | <input type="checkbox"/> Petroleum Storage Tank | <input type="checkbox"/> PWS |
| <input type="checkbox"/> Sludge | <input type="checkbox"/> Storm Water | <input type="checkbox"/> Title V Air | <input type="checkbox"/> Tires | <input type="checkbox"/> Used Oil |
| <input type="checkbox"/> Voluntary Cleanup | <input type="checkbox"/> Waste Water | <input type="checkbox"/> Wastewater Agriculture | <input type="checkbox"/> Water Rights | <input type="checkbox"/> Other: |

SECTION IV: Preparer Information

| | | | | | |
|----------------------|---------------------|------------------|---------------------------|----------------------------|--|
| 40. Name: | Chelsey J. Franklin | | 41. Title: | ENR Operations Coordinator | |
| 42. Telephone Number | 43. Ext./Code | 44. Fax Number | 45. E-Mail Address | | |
| (830) 249-8284 | | (830) 249-0221 | cfranklin@westwardenv.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: | Heidelberg Materials Southwest Agg LLC | | Job Title: | Assistant Secretary | |
| Name <i>(In Print)</i> : | Lalit Bhatnagar | | | Phone: | 972-814-4122 |
| Signature: |  | | | Date: | 11/14/2023 |

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Servtex Quarry Plant

Regulated Entity Location: West side of Coyote Run, approx. 1.4 miles north of Old Nachogdoches Rd

Name of Customer: Heidelberg Materials Southwest Agg LLC

Contact Person: Lalit Bhatnagar Phone: 972-814-4122

Customer Reference Number (if issued): CN 605858687

Regulated Entity Reference Number (if issued): RN NEW

Austin Regional Office (3373)

Hays

Travis

Williamson

San Antonio Regional Office (3362)

Bexar

Medina

Uvalde

Comal

Kinney

Application fees must be paid by check, certified check, or money order, payable to the **Texas Commission on Environmental Quality**. Your canceled check will serve as your receipt. **This form must be submitted with your fee payment.** This payment is being submitted to:

Austin Regional Office

San Antonio Regional Office

Mailed to: TCEQ - Cashier

Overnight Delivery to: TCEQ - Cashier

Revenues Section

12100 Park 35 Circle

Mail Code 214

Building A, 3rd Floor

P.O. Box 13088

Austin, TX 78753

Austin, TX 78711-3088

(512)239-0357

Site Location (Check All That Apply):

Recharge Zone

Contributing Zone

Transition Zone

| <i>Type of Plan</i> | <i>Size</i> | <i>Fee Due</i> |
|---|-------------|----------------|
| Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling | Acres | \$ |
| Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks | Acres | \$ |
| Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential | ~1088 Acres | \$ 10,000 |
| Sewage Collection System | L.F. | \$ |
| Lift Stations without sewer lines | Acres | \$ |
| Underground or Aboveground Storage Tank Facility | Tanks | \$ |
| Piping System(s)(only) | Each | \$ |
| Exception | Each | \$ |
| Extension of Time | Each | \$ |

Signature: _____



Date: 11/14/2023

Application Fee Schedule

Texas Commission on Environmental Quality

Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

| Project | Project Area in Acres | Fee |
|---|------------------------------|------------|
| One Single Family Residential Dwelling | < 5 | \$650 |
| Multiple Single Family Residential and Parks | < 5 | \$1,500 |
| | 5 < 10 | \$3,000 |
| | 10 < 40 | \$4,000 |
| | 40 < 100 | \$6,500 |
| | 100 < 500 | \$8,000 |
| | ≥ 500 | \$10,000 |
| Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur) | < 1 | \$3,000 |
| | 1 < 5 | \$4,000 |
| | 5 < 10 | \$5,000 |
| | 10 < 40 | \$6,500 |
| | 40 < 100 | \$8,000 |
| | ≥ 100 | \$10,000 |

Organized Sewage Collection Systems and Modifications

| Project | Cost per Linear Foot | Minimum Fee- Maximum Fee |
|---------------------------|-----------------------------|-------------------------------------|
| Sewage Collection Systems | \$0.50 | \$650 - \$6,500 |

Underground and Aboveground Storage Tank System Facility Plans and Modifications

| Project | Cost per Tank or Piping System | Minimum Fee- Maximum Fee |
|---|---------------------------------------|-------------------------------------|
| Underground and Aboveground Storage Tank Facility | \$650 | \$650 - \$6,500 |

Exception Requests

| Project | Fee |
|-------------------|------------|
| Exception Request | \$500 |

Extension of Time Requests

| Project | Fee |
|---------------------------|------------|
| Extension of Time Request | \$150 |

Owner Authorization Form

Texas Commission on Environmental Quality
for Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

Land Owner Authorization

I, Audra Dierks of

Lynda D. Hoover, et al

Land Owner Signatory Name

Land Owner Name (Legal Entity or Individual)

am the owner of the property located at

CCAD Parcel # 79810 and CCAD Parcel # 73237 less 96.79 acres

Legal description of the property referenced in the application

and am duly authorized in accordance with §213.4(c)(2) and §213.4(d)(1) or §213.23(c)(2) and §213.23(d) relating to the right to submit an application, signatory authority, and proof of authorized signatory.

I do hereby authorize

Heidelberg Materials Southwest Agg LLC

Applicant Name (Legal Entity or Individual) to conduct

construction, excavation and BMPs associated with quarrying & hydrocarbon storage

Description of the proposed regulated activities

at

CCAD Parcel # 79810 and CCAD Parcel # 73237 less 96.79 acres

Precise location of the authorized regulated activities

Land Owner Acknowledgement

I understand that

Heidelberg Materials Southwest Agg LLC

Land Owner Name (Legal Entity or Individual)

Is ultimately responsible for compliance with the approved or conditionally approved Edwards Aquifer protection plan and any special conditions of the approved plan through all phases of plan implementation even if the responsibility for compliance and the right to possess and control the property referenced in the application has been contractually assumed by another legal entity. I further understand that any failure to comply with any condition of the executive director's approval is a violation is subject to administrative rule or orders and penalties as provided under §213.10 (relating to Enforcement). Such violation may also be subject to civil penalties and injunction.

Land Owner Signature

Audra K Bee
Land Owner Signature

11/15/23
Date

THE STATE OF § Texas
County of § Guadalupe

BEFORE ME, the undersigned authority, on this day personally appeared Audra Dierks known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 15 day of November

Kaitlin Burns
NOTARY PUBLIC
Typed or Printed Name of Notary



MY COMMISSION EXPIRES: 8-31-2027

Attached: (Mark all that apply)

- Lease Agreement
- Signed Contract
- Deed Recorded Easement
- Other legally binding document

Owner Authorization Form

Texas Commission on Environmental Quality
for Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

Land Owner Authorization

I, Renay Homebor of

Lynda D. Hoover, et al

Land Owner Signatory Name

Land Owner Name (Legal Entity or Individual)

am the owner of the property located at

CCAD Parcel # 79810 and CCAD Parcel # 73237 less 96.79 acres

Legal description of the property referenced in the application

and am duly authorized in accordance with §213.4(c)(2) and §213.4(d)(1) or §213.23(c)(2) and §213.23(d) relating to the right to submit an application, signatory authority, and proof of authorized signatory.

I do hereby authorize

Heidelberg Materials Southwest Agg LLC

Applicant Name (Legal Entity or Individual) to conduct

construction, excavation and BMPs associated with quarrying & hydrocarbon storage

Description of the proposed regulated activities

at

CCAD Parcel # 79810 and CCAD Parcel # 73237 less 96.79 acres

Precise location of the authorized regulated activities

Land Owner Acknowledgement

I understand that

Heidelberg Materials Southwest Agg LLC

Land Owner Name (Legal Entity or Individual)

is ultimately responsible for compliance with the approved or conditionally approved Edwards Aquifer protection plan and any special conditions of the approved plan through all phases of plan implementation even if the responsibility for compliance and the right to possess and control the property referenced in the application has been contractually assumed by another legal entity. I further understand that any failure to comply with any condition of the executive director's approval is a violation is subject to administrative rule or orders and penalties as provided under §213.10 (relating to Enforcement). Such violation may also be subject to civil penalties and injunction.

Land Owner Signature

Renay Homewood
Land Owner Signature

11/15/23
Date

THE STATE OF § Texas
County of § Guadalupe

BEFORE ME, the undersigned authority, on this day personally appeared Renay Homewood known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

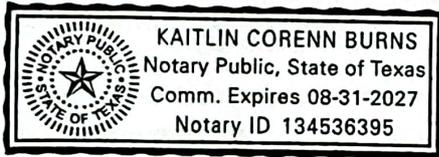
GIVEN under my hand and seal of office on this 15 day of November

[Signature]

Kaitlin Burns NOTARY PUBLIC

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 8-31-2027



Attached: (Mark all that apply)

- Lease Agreement
- Signed Contract
- Deed Recorded Easement
- Other legally binding document

Owner Authorization Form

Texas Commission on Environmental Quality
for Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

Land Owner Authorization

I, Lynda Hoover of

Lynda D. Hoover, et al

Land Owner Signatory Name

Land Owner Name (Legal Entity or Individual)

am the owner of the property located at

CCAD Parcel # 79810 and CCAD Parcel # 73237 less 96.79 acres

Legal description of the property referenced in the application

and am duly authorized in accordance with §213.4(c)(2) and §213.4(d)(1) or §213.23(c)(2) and §213.23(d) relating to the right to submit an application, signatory authority, and proof of authorized signatory.

I do hereby authorize

Heidelberg Materials Southwest Agg LLC

Applicant Name (Legal Entity or Individual) to conduct

construction, excavation and BMPs associated with quarrying & hydrocarbon storage

Description of the proposed regulated activities

at

CCAD Parcel # 79810 and CCAD Parcel # 73237 less 96.79 acres

Precise location of the authorized regulated activities

Land Owner Acknowledgement

I understand that

Heidelberg Materials Southwest Agg LLC

Land Owner Name (Legal Entity or Individual)

Is ultimately responsible for compliance with the approved or conditionally approved Edwards Aquifer protection plan and any special conditions of the approved plan through all phases of plan implementation even if the responsibility for compliance and the right to possess and control the property referenced in the application has been contractually assumed by another legal entity. I further understand that any failure to comply with any condition of the executive director's approval is a violation is subject to administrative rule or orders and penalties as provided under §213.10 (relating to Enforcement). Such violation may also be subject to civil penalties and injunction.

Land Owner Signature

Lynda Hoover
Land Owner Signature

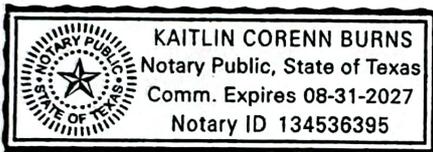
11/15/23
Date

THE STATE OF § Texas
County of § Guadalupe

BEFORE ME, the undersigned authority, on this day personally appeared Lynda Dierks Hoover known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 15 day of November

[Signature]
NOTARY PUBLIC
Kaitlin Burns
Typed or Printed Name of Notary



MY COMMISSION EXPIRES: 8-31-2027

Attached: (Mark all that apply)

- Lease Agreement
- Signed Contract
- Deed Recorded Easement
- Other legally binding document

Applicant Acknowledgement

I, Lalit Bhatnagar of Heidelberg Materials Southwest Agg LLC

Applicant Signatory Name Applicant Name (Legal Entity or Individual) acknowledge that
Lynda D. Hoover, et al
Land Owner Name (Legal Entity or Individual)

has provided Heidelberg Materials Southwest Agg LLC
Applicant Name (Legal Entity or Individual)

with the right to possess and control the property referenced in the Edwards Aquifer protection plan.

I understand that Heidelberg Materials Southwest Agg LLC
Applicant Name (Legal Entity or Individual)

is contractually responsible for compliance with the approved or conditionally approved Edwards Aquifer protection plan and any special conditions of the approved plan through all phases of plan implementation. I further understand that failure to comply with any condition of the executive director's approval is a violation is subject to administrative rule or orders and penalties as provided under §213.10 (relating to Enforcement). Such violation may also be subject to civil penalties and injunction.

Applicant Signature

[Handwritten Signature]
Applicant Signature

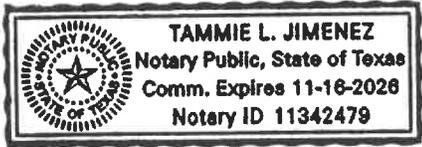
11/14/2023
Date

THE STATE OF § TEXAS

County of § DALLAS

BEFORE ME, the undersigned authority, on this day personally appeared Lalit Bhatnagar known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 14th day of November, 2023



[Handwritten Signature]
NOTARY PUBLIC
Tammie L. Jimenez
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 11.16.2026