IDEA Public Schools

IDEA Headquarters
2115 W. Pike Boulevard
Weslaco, Texas 78596
Phone 956.377.8000
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Request For Proposals Addendum

Addendum Number: 2 CSP Questions & Answers

Date: Friday, November 22, 2024

CSP #22-CRP-1224 Camp Rio Adventure Park

To: All Prospective Vendors

The following questions were sent in response to the referenced Solicitation for further clarification. Questions and Answers are listed below.

Question 1: Does a Geo-technical report exist for the site?

Answer: Please find the attached Geotechnical Report.

Question 2: Will the Contractor be in charge of clearing the brush/debris from area of the zipline location?

Answer: Yes, the Contractor will be responsible for clearing the areas designated for the Adventure Park construction. However, since Camp Rio is a nature preserve, the construction area cannot be fully stripped to the dirt.

Question 3: If a possible contractor wants to bid on a CSP and his daughter works for IDEA is that a Conflict of Interest?

Answer: Yes, certain positions at IDEA are considered non-starters, and a Conflict of Interest Form must be completed. Following this, the Legal Department will review the form and provide further guidance.

Question 4: What is the estimated cost range?

Answer: The estimated cost range is $ 525,000.00.

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Question 5: I am associated with a vendor working on a proposal for (CSP 22-CRP-1224) Camp Rio Adventure Park. When looking at the documents required for the proposal submission, it mentions "Document 006100 - Bid Bond". I can find in the "Sealed Construction Specifications" document where it details out the requirements for the bid bond, but as far as details required for submission I am a little confused. Is Document 006100 available to be filled out and attached with our proposal submission that could be sent to myself or added to the public purchase bid site? If that form is not required, what exactly is needed? Just proof that a bid bond meeting the requirements can be acquired upon award of the bid? Let me know.

Answer: Bid security, in the form of either a Bid Bond or cashier's check (5% of the proposed construction cost), is required. This security acts as an insurance policy to cover any costs incurred by IDEA if the selected offeror withdraws their proposal, necessitating a rebid of the project. The Bid Bond or cashier's check will generally be held until the contract is awarded, at which point the forms will be returned to the respective companies.

Please note, this is separate from the Performance and Payment Bond, which will be required once the contract is awarded and signed by both parties.

Question 6: I wanted to reach out about the RFP for the IDEA Public Schools. I wanted to know if you can possibly waive the 10M insurance umbrella as well as the bid bond due with the proposal for the project?

In the past, we have had to obtain a 1M umbrella and it cost us over $25,000.00. When I looked into getting a 2M umbrella, the insurance companies just said no. I

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cannot imagine any company in our industry being able to get a 10M umbrella and if they could, it would cost more than $250,000.00. Since the standard policy in our industry is 1M, it does not seem like a reasonable ask or even obtainable if you were willing to pay for it.

The other part of the RFP that I would ask that you waive is the Bid Bond due with the proposal. A Bid Bond in our industry is not common at all, we can get them, but it is very costly and ABEE would never secure a Bid Bond without first being awarded the contract.

Please let me know if this can be waived.

Answer: The required insurance coverages are outlined in the Supplemental Conditions, Section 11.1.1.2.1 (page 31). IDEA requires General Liability, Professional Liability, and Auto Liability, with IDEA Public Schools listed as Additional Insured at the following address:

IDEA Public Schools
2115 W. Pike Blvd.
Weslaco, TX 78596

Please find attached the IDEA Public Schools Vendor/Professional Services Insurance Requirements for additional details.

Attachments:

- **Terracon Geotechnical Report (dated 9/27/2017) – 54 pages**
- **IDEA Public Schools Vendor/Professional Services Insurance Requirements**

End of Addendum

Geotechnical Engineering Report

IDEA Camp Rio Campus

280 Fish Hatchery Road

Brownsville, Texas

September 27, 2017

Terracon Project No. 88175148

Prepared for:

IDEA Public Schools
c/o Project Management Services, Inc.
Austin, Texas

Prepared by:

Terracon Consultants, Inc.
Pharr, Texas

Offices Nationwide Employee-Owned Established in 1965 terracon.com

Terracon

Geotechnical ■ Environmental ■ Construction Materials ■ Facilities

September 27, 2017

Terracon

IDEA Public Schools
c/o PMSI
1822 W. Braker Lane, #81734
Austin, Texas 78708-1734

Attn: Mr. Peter M. Hayes, LEED
P: [512] 989 7045
M: [512] 587 8787
E: phayes@pmsitx.com

Re: Geotechnical Engineering Report
IDEA Camp Rio Campus
280 Fish Hatchery Road
Brownsville, Texas
Terracon Project No. 88175148

Dear Mr. Hayes,

Terracon Consultants, Inc. (Terracon) is pleased to submit our Geotechnical Engineering Report for the project referenced above in Brownsville, Texas. We trust that this report is responsive to your project needs. Please contact us if you have any questions or if we can be of further assistance.

We appreciate the opportunity to work with you on this project and look forward to providing additional Geotechnical Engineering and Construction Materials Testing services in the future.

Sincerely,
Terracon Consultants, Inc.
(Texas Firm Registration No.: F-3272)

STATE OF TEXAS
ALFONSO A. SOTO
94153
LICENSED
PROFESSIONAL ENGINEER
9/27/17

Stephany Chacon, E.I.T.
Staff Engineer

Alfonso A. Soto, P.E., D.GE
Principal

Enclosures

Copies Submitted: Addressee: (1) Electronic

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

EXECUTIVE SUMMARY

A geotechnical exploration has been performed for the IDEA Camp Rio Campus Renovations located at 280 Fish Hatchery Road in Brownsville, Texas (see Exhibit A-1). Six (6) borings, designated B-1 through B-6, were drilled to depths of about 25 feet below existing grade, at the time of our field program, within the area of the proposed buildings (boring B-7 was not drilled due to site access issues). Four (4) borings, designated P-1 through P-4, were drilled to depths of about 5 feet below existing grade within the proposed pavement areas. Based on the information obtained from our subsurface exploration, the site can be developed for the proposed project. A summary of our findings and recommendations are provided below:

- Groundwater was observed in the borings between 9 and 13½ feet during drilling and between 7 and 10 feet after drilling.
- Stripping should include surface vegetation, loose topsoil, or other unsuitable materials within the buildings and pavement areas.
- Proof-rolling should be performed to detect weak areas.
- The surface soils are moisture sensitive.
- A shallow foundation system consisting of a slab-on-grade or a deep foundation system consisting of drilled piers would be appropriate to support the structural loads of the proposed buildings provided the subgrade is prepared as discussed in this report.
- Grade beams for a slab-on-grade foundation system should be sized for a net total load allowable bearing pressure of 2,500 psf.
- Drilled piers should bear not shallower than El. 13.0 feet (about 12 to 15 feet below existing grade) and not deeper than El. 10.0 feet (about 15 to 18 feet below existing grade).
- Helical piles should be embedded no shallower than El. 13.0 feet (about 12 to 15 feet below existing grade).
- A select fill building pads of over a minimum of 6 inches of moisture-conditioned and compacted on-site soils should be constructed directly below the floor slabs. The select fill building pads should also extend a minimum 3 feet beyond the edge of the proposed buildings.
- Flexible pavement sections vary from 2.0 to 2.5 inches of asphaltic concrete over 6.0 to 8.0 inches of base material with treated subgrade. The rigid pavement system varies from 5.0 to 7.0 inches of reinforced concrete with treated subgrade.

This summary should be used in conjunction with the entire report for design purposes. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. The section titled **GENERAL COMMENTS** should be read for an understanding of the report limitations.

GEOTECHNICAL ENGINEERING REPORT
IDEA Camp Rio Campus - Phase I
280 Fish Hatchery Road
Brownsville, Texas
Project No. 88175148
September 27, 2017

1.0 INTRODUCTION

Terracon is pleased to submit our Geotechnical Engineering Report for the IDEA Camp Rio Campus located at 280 Fish Hatchery Road in Brownsville, Texas. This project was authorized by Mr. Wyatt Truscheit, CFO of IDEA Public Schools, on August 9, 2017. The project scope was performed in general accordance with Terracon Proposal No. P88175148, dated August 7, 2017.

The purpose of this report is to describe the subsurface conditions observed at the borings drilled for this study, analyze and evaluate the test data, and provide recommendations with respect to:

- Site and subgrade preparation;
- Foundation design and construction; and
- Pavements.

2.0 PROJECT INFORMATION

2.1 Project Description

Item	Description
Site layout	See Appendix A, Exhibit A-2, Boring Location Map
Buildings and Pavements	The project will include the construction of new buildings and pavements. Associated pavements consisting of parking areas and driveways are also planned at the site.
Building construction	Block with brick veneer; shallow or deep foundation; asphalt and concrete pavements.
Finished floor elevation (FFE)	Based on information provided by the client, existing grade within the buildings is between El. 25 and El. 28 feet. FFE is set at El. 27 feet.

Item	Description
Maximum loads (assumed)	Columns: 35 kips Walls: 3 to 5 klf Slab: 250 psf

2.2 Site Location and Description

Item	Description
Location	This project will be located within the grounds of IDEA Camp Rio at 280 Fish Hatchery Road in Brownsville, Texas. Latitude: 25.989692°, Longitude: -97.529977°
Existing improvements	Existing caliche roads.
Current ground cover	The site of the proposed development is covered with native vegetation and soils. Based on aerial photos, some areas are heavily wooded.
Existing topography	The site appears flat and level with several wetlands.

3.0 SUBSURFACE CONDITIONS

3.1 Geology

3.1.1 Site Geology

Based on the Geologic Atlas of Texas, McAllen – Brownsville prepared by The University of Texas, the site is located on the Alluvium Formation of the Holocene (Recent) Period of the Quaternary Age. Floodplain deposits, lower course of Rio Grande, are divided into areas dominantly mud and areas dominantly silt and sand. All other areas are alluvium undivided, except for some areas where tidal flat areas are mapped. The soils are mostly composed of clay, silt, sand, gravel and organic matter. The silt and sand are described as calcareous and dark gray to dark brown in color. The sand is mostly quartz and the gravel along Rio Grande include sedimentary rocks from the Cretaceous and Tertiary and a wide variety of igneous and sedimentary rocks from Trans-Pecos Texas, Mexico, and New Mexico including agate. The gravel in side streams of the Rio Grande is mostly Tertiary rocks and chert derived from Uvalde Gravel which caps divide.

3.2 Typical Profile

Based on the results of the borings, subsurface conditions on the project site can be generalized as follows:

Description	Depth (ft)	Plasticity Index (%)	In-situ Moisture Content (%)	Moisture content vs. Plastic limit[1] (%)		SPT N-Value[2] (bpf)	Fines[3] (%)
				Dry	Wet		
Lean Clay (CL)	0 - 10	21 - 28	13 - 25	2	2	8 - 11	98
Fat Clay (CH)[4]	0 - 25	13 – 52	9 - 31	0 - 11	0 - 9	4 - 20	73 - 100
Sandy Silt (ML)	10 - 20	NP[5]	25	-	-	4 - 9	63
Silty Sand (SM)	11 - 25	-	23 - 30	-	-	7 - 20	8 - 27

1. The difference between a soil sample's in-situ moisture content and its corresponding plastic limit.
2. bpf = blows per foot.
3. Percent passing the No. 200 sieve.
4. With Lean Clay (CL) seams
5. Non-plastic; encountered only in boring B-4

Conditions encountered at each boring location are indicated on the individual boring logs. Stratification boundaries on the boring logs represent the approximate location of changes in soil types; in-situ, the transition between materials may be gradual. Details for each of the borings can be found on the boring logs in Appendix A of this report.

3.3 Groundwater

The boreholes were observed during and after completion of drilling for the presence and level of groundwater. The water levels observed are noted on the attached boring logs, and are summarized below.

Location	Depth to groundwater (feet)		
	During drilling	15 minutes after initial groundwater reading	After boring termination
B-1	12½	-	-
B-2	13½	9½	-
B-3	9½	7½	9
B-4	9	7	8½
B-5	10	8½	10
B-6	11	10	10

* Groundwater was not observed in the rest of the borings.

Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff, and other factors not evident at the time the borings were performed.

Therefore, groundwater levels during construction or at other times in the life of the structures may be higher or lower than the levels indicated on the boring logs. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for this project. Groundwater information is presented on the boring logs in Appendix A.

4.0 RECOMMENDATIONS FOR DESIGN AND CONSTRUCTION

The following recommendations are based upon the data obtained in our field and laboratory programs, project information provided to us, and on our experience with similar subsurface and site conditions.

4.1 Geotechnical Considerations

We understand that existing grade within the proposed buildings is between El. 25 and 28 feet. Finish Floor Elevation (FFE) is set at El. 27 feet.

Expansive soils and loose compressible soils are present at the site. This report provides recommendations to help mitigate the effects of soil settlement, shrinkage and expansion. However, even if these procedures are followed, some movement and at least minor cracking in the structures should be anticipated. The severity of cracking and other cosmetic damage such as uneven floor slabs will probably increase if any modification of the site results in excessive wetting or drying of the native soils. Eliminating the risk of movement and cosmetic distress may not be feasible, but it may be possible to further reduce the risk of movement if significantly more expensive measures are used during construction. We would be pleased to discuss other construction alternatives that could further reduce the potential for movement with you upon request. Recommendations to minimize excessive movements are discussed in the **"4.2 Earthwork"** and **"4.5.1 Design Recommendations"** sections of this report.

4.1.1 Field Percolation Test Results

Percolation tests were performed at locations selected by the client (see exhibit A-2). The tests were performed in order to determine the infiltration rate of the in-situ soils. The test results indicates the upper 10 feet of on-site soils have a percolation rate as follows:

Location	Percolation Rate (cm/sec)
PERC-1	2.82×10^{-3}
PERC-2	3.70×10^{-3}
PERC-3	1.41×10^{-3}
PERC-4	7.06×10^{-4}

The estimated order of magnitude of soil permeability (hydraulic conductivity) values based on published data and our experience for on-site soils such as Lean Clay (CL) and Fat Clay (CH) range between 10^{-6} to 10^{-8} cm/sec.

4.1.2 Swell Test Results

Several swell tests were performed on soil samples from the borings drilled at the site. After surcharge pressures were applied the samples were inundated with water for about 72 to 96 hours while measurements of vertical displacement were taken. The magnitude of swell is recorded as a function of the change in thickness during the test in relation to the initial thickness of the sample.

Based on our laboratory results, the samples tested generally exhibit a moderate to very high free swell potential as indicated by percent free swells of 1.5 percent to 10.5 percent within the upper 8 feet. When equivalent overburden pressure was applied, the results ranged between 0.5 percent and 5.8 percent swell. The summary of test results is presented in Appendix B, Exhibits B-2 and B-3.

4.2 Earthwork

We recognize the uncertainty of knowing what will be encountered during site excavation as a result of the previous structures or underground construction. All existing above and below grade structures including footings, slabs and grade beams, and utilities should be removed during the demolition of the existing structure. Any debris or utilities that are present within recommended cut or fill zones must be removed. If these elements are below any cut/fill, they may remain in place provided they do not interfere with the pipelines. However, if the utility is a sewer line, we recommend that it be filled with a cementitious grout material as part of the abandonment.

Construction areas should be stripped of vegetation, topsoil, and other unsuitable material. Additional excavation as recommended in the **"4.4.1 Design Recommendations"** section of this report should be performed within the building areas. Once final subgrade elevations have been achieved, the exposed subgrade should be carefully proofrolled with a 15-ton pneumatic roller or a fully loaded dump truck to detect weak zones in the subgrade. Special care should be exercised when proofrolling the fill soils to detect soft/weak areas. Weak areas detected during proofrolling, as well as zones of fill containing organic matter and/or debris should be removed and replaced with select fill in the proposed building areas. Weak areas observed in proposed pavement areas may be replaced with clean on-site soils or select fill. Proper site drainage should be maintained during construction so that ponding of surface runoff does not occur and causes construction delays and/or inhibit site access.

Subsequent to proofrolling, and just prior to placement of fill, the exposed subgrade within the construction area should be evaluated for moisture and density. If the moisture, density, and/or the requirements do not meet the criteria described in the table below, the subgrade should be scarified to a minimum depth of 8 inches; moisture adjusted and compacted to at least 95 percent of the Standard Effort (ASTM D 698) maximum dry density. Select fill and on-site soils should meet the following criteria.

Fill Type [1]	USCS Classification	Acceptable Location for Placement
Select Fill	CL and/or SC (7≤PI≤20)	Must be used to construct the building pads under the floor slab and for all grade adjustments within the building areas
Aggregate base course[2]	SC, GC, Caliche, Crushed Limestone Base	Top 6 inches of building pads (above the existing grade)
On-Site Soils	CL/CH	The onsite soils are not suitable for use as fill within the building areas but may be used within the pavement areas.

1. Prior to any filling operations, samples of the proposed borrow and on-site materials should be obtained for laboratory moisture-density testing. The tests will provide a basis for evaluation of fill compaction by in-place density testing. A qualified soil technician should perform sufficient in-place density tests during the filling operations to evaluate that proper levels of compaction, including dry unit weight and moisture content, are being attained.
2. The clayey gravel and caliche materials should meet the gradation requirements of Item 247, Type B, Grades 1 through 3 as specified in the 2014 TxDOT Standard Specifications Manual and a plasticity index between 7 and 20. Crushed limestone or crushed concrete material should meet the requirements of 2014 TxDOT Item 247, Type A or D, Grade 1. The select fill materials should be free of organic material and debris, and should not contain stones larger than 2 inches in the maximum dimension.

If imported, blended or mixed soils are intended for use to construct the building pads, Terracon should be contacted to provide additional recommendations. Blended or mixed soils do not occur naturally. These soils are a blend of sand and clay and will require mechanical mixing at the site. If these soils are not mixed thoroughly to break down the clay clods and blend-in the sand to produce a uniform soil matrix, the fill material may be detrimental to the slab performance. If blended soils are used, we recommend that additional samples of the blended soils, as well as the clay clods, be obtained prior to and during earthwork operations to evaluate if the blended soils can be used in lieu of select fill. The actual type and amount of mechanical mixing at the site will depend on the amount of clay and sand, and properties of the clay.

4.2.1 Existing Trees

Some trees are located at the site. These trees may be within the construction limits of the planned structures. There are concerns regarding the location of existing trees or any recently cleared trees in the immediate vicinity of planned improvements. Based on the present layout of the planned structures and the location of the existing trees in the area, it is our opinion there is a moderate potential for distress to the planned structures in the future, if the trees and root systems are not completely removed or corrective measures are not taken.

Distress to the structures can be caused by existing trees and vegetation if the root systems extend under the planned foundation system. The potential distress to the structures can be caused in several ways which may include one or more of the following:

- Settlement beneath the foundation due to decay of the tree roots should the trees die or be cut down.
- Uplift forces on the foundations due to growth of the tree roots pushing up on the foundation system. Concrete sidewalks are very susceptible to this type of distress.
- Volume reduction or shrinkage of the subsurface soils due to loss of moisture content from the tree root systems adjacent to and beneath the foundations, which may cause settlement.

Solutions to this situation may include the following:

- Remove (cut down) the trees, grub the roots as completely as possible and replace the area of soil and roots with select fill;
- Cutting the roots extending under the pavements to prevent moisture loss and installing a root barrier to retard future growth of roots under the foundations. Grub the cut roots as completely as possible. Depending on the size and density of the existing root system left in place, this may cause future settlement due to the eventual decay of the roots. However, this may take 5 to 10 years; or
- Leave the trees in place but construct a “cut-off wall” or “root barrier” between the pavements and trees. The cut off wall should be at least 12 inches in width and a minimum of 5 feet deep. However, the actual depth should be based on the type of root system the tree has, i.e., shallow or deep root, etc. A landscape consultant should be retained to assess this situation. If the tree has a shallow root system, the 5-foot cut-off wall depth should be adequate. The cut off wall may need to extend deeper than 5 feet if the roots are deep. In addition, a controlled watering program will need to be developed so the tree root systems maintain a good water balance, thus the root systems will not want to extract moisture from beneath the foundations.

4.2.2 Compaction Requirements

Item	Description
Fill Lift Thickness	The fill soils should be placed on prepared surfaces in lifts not to exceed 8 inches loose measure, with compacted thickness not to exceed 6 inches.
Compaction Requirements (On-site Soils)	The on-site soils, including subgrade, and select fill should be compacted to at least 95 percent of the Standard Effort (ASTM D 698) maximum dry density within 4 percentage points above of the optimum moisture content
Compaction Requirements (Select Fill)	Select fill should be compacted to at least 95 percent of the Standard Effort (ASTM D 698) maximum dry density within 2 percent of the optimum moisture content

4.2.3 Wet Weather/Soft Subgrade Considerations

Construction operations may encounter difficulties due to the wet or soft surface soils becoming a general hindrance to equipment due to rutting and pumping of the soil surface, especially during and soon after periods of wet weather.

If the subgrade cannot be adequately compacted to minimum densities as described above, one of the following measures will be required: 1) removal and replacement with select fill, 2) chemical treatment of the soil to dry and increase the stability of the subgrade, or 3) drying by natural means if the schedule allows.

In our experience with similar soils in this area, chemical treatment is the most efficient and effective method to increase the supporting value of wet and weak subgrade. Terracon should be contacted for additional recommendations if chemical treatment of the soils is needed.

Prior to placing any fill, all vegetation, topsoil, possible fill material and any otherwise unsuitable materials should be removed from the construction areas. Wet or dry material should either be removed or moisture conditioned and recompacted.
After stripping and grubbing, the subgrade should be proof-rolled where possible to aid in locating loose or soft areas. Proof-rolling can be performed with a 20-ton roller or fully loaded dump truck. Soft, dry and low-density soil should be removed or compacted in place prior to placing fill.

4.2.4 Grading and Drainage

All grades must provide effective drainage away from the building areas during and after construction. Water permitted to pond next to the buildings can result in distress in the buildings.

These greater movements can result in unacceptable differential floor slab movements, cracked slabs and walls, and roof leaks.

Building slab and foundation performances described in this report are based on effective drainage for the life of the structures and cannot be relied upon if effective drainage is not maintained. Exposed ground should be sloped away from the building for at least 10 feet beyond the perimeter of the building.

After building construction and landscaping, we recommend verifying final grades to document that effective drainage has been achieved. Grades around the structures should also be periodically inspected and adjusted as necessary, as part of the structure's maintenance program.

Locate sprinkler mains and spray heads a minimum of 5 feet away from the building lines. Low-volume, drip style landscaped irrigation should not be used near the building. Collect roof runoff in drains or gutters. Discharge roof drains and downspouts onto pavements and/or flatworks which slope away from the building or extend down spouts a minimum of 10 feet away from structures.

Flatworks and pavements will be subject to post construction movement. Maximum grades practical should be used for paving and flatwork to prevent water from ponding. Allowances in final grades should also consider post-construction movement of flatwork, particularly if such movement would be critical. Where paving or flatwork abuts the structures, effectively seal and maintain joints to prevent surface water infiltration.

Utility trenches are a common source of water infiltration and migration. All utility trenches that penetrate beneath the building should be effectively sealed to restrict water intrusion and flow through the trenches that could migrate below the building.

We recommend constructing an effective clay “trench plug” that extends at least 5 feet out from the face of the building exterior. The plug material should consist of clay compacted at a water content at or above the soils optimum water content. The clay fill should be placed to completely surround the utility line and be compacted in accordance with recommendations in this report.

4.3 Foundation Systems

Based upon the subsurface conditions observed during our investigation, a slab-on-grade or a drilled pier or helical pile foundation system would be appropriate to support the structural loads of the proposed buildings provided the subgrade is prepared as discussed in this report. Thickened and widened sections of the slab may be constructed for areas of concentrated loads, if needed. However, the use of independent spread footings is not recommended due to the increased chance of excessive differential movement. Recommendations for these types of foundation systems are provided in the following sections, along with other geotechnical considerations for this project.

4.3.1 Design Recommendations – Slab-on-grade Foundation System

The foundation design parameters presented below are based on our evaluation using published theoretical and empirical design methods.

These were developed based on our understanding of the proposed project, our interpretation of the information and data collected as a part of this study, our area experience and the results of our evaluation. The structural engineer should select the appropriate slab design method and code for the amount of anticipated slab movement indicated.

The slab-on-grade foundation may be designed using the following parameters provided the subgrade is prepared as outlined in the **"4.3 Earthwork"** and **"4.4.1 Design Recommendations"** sections of this report:

Description	Column
Select Fill Pad ***See Exhibit A-2 for boring locations**	■ Boring B-1: Min. 3½ feet ■ Boring B-2: Min. 1 foot ■ Boring B-3: Min. 1½ feet ■ Boring B-4: Min. 1½ feet ■ Boring B-5: Min. 1½ feet ■ Boring B-6: Min. 1½ feet
Bearing Pressures	Net total load – 2,500 psf
Climatic Rating, C_W	15
Design Plasticity Index	27
Soil Support Index	0.86
Estimated PVR[1]	About 1 inch
Approximate total settlement [2]	1 inch
Estimated differential settlement[2]	Approximately ½ of total settlement
Minimum perimeter grade beam embedment depth[3]	24 inches below final grade

1. The slab-on-grade foundation system should be designed to tolerate the anticipated soil movement and provide satisfactory support to the proposed buildings. The foundation should have adequate exterior and interior grade beams to provide sufficient rigidity to the foundation systems such that the slab deflections that result are considered tolerable to the supported buildings.
2. This estimated post-construction settlement is assuming proper construction practices are followed.
3. To bear within the select fill. The grade beams may be thickened and widened where necessary to support column loads.

4.3.1.1 Slab-on-Grade Foundation Construction Considerations

Excavations for grade beams should be performed with equipment capable of providing a relatively clean bearing area. The bottom 6 inches of the excavations should be completed with a smooth-mouthed bucket or by hand labor. The excavations should be neatly excavated and properly formed. Debris in the bottom of the excavation should be removed prior to steel placement. Water should not be allowed to accumulate at the bottom of the excavation. To reduce the potential for groundwater seepage into the excavations and to minimize disturbance to the bearing area, we recommend that concrete and steel be placed as soon as possible after the excavations are completed. Excavations should not be left open for more than 36 hours. The bearing surface of the grade beams should be evaluated after excavation is completed and immediately prior to placing concrete.

4.3.2 Design Recommendations – Drilled Pier Foundation System

Drilled pier (DP) foundations may be designed using the following parameters for the planned buildings.

Description	Column
Minimum embedment depth[1]	El. 13 feet (about 12 to 15 feet below existing grade)
Maximum embedment depth[1]	El. 10 feet (about 15 to 18 feet below existing grade)
Bearing pressure[1,2,4]	Net total load – 5,000 psf
Allowable side-shear[4]	600 psf
Minimum percentage of steel[3]	As required by structural engineer
Approximate total settlement[4]	1 inch
Estimated differential settlement[5]	Approximately ½ of total settlement
Allowable passive pressure [6]	750 psf

1. For drilled piers to bear into the native soils.
2. Whichever condition yields a larger bearing area.
3. The structural engineer should determine the required reinforcing steel throughout the entire shaft length of DP to resist the axial and lateral forces.
4. A minimum center-to-center spacing between the piers equal to three times the pier diameter should be provided to develop the recommended allowable capacities for a single pier and to control settlement of the pier. If this clearance cannot be maintained for a given pair or within a single line of piers, the above allowable capacities for a single pier pmay need to be reduced. Also, large concentrated of group of piers may have a reduced efficiency (decrease in load carrying capacity) even with the minimum pier spacing recommended previously. It is not recommended to have pier groups with elements closer than 2½ times the pier diameter (center-to-center). The final foundation plan should be reviewed by Terracon to re-evaluate, if applicable, load carrying capacity and settlements, including the efficiency of pier groups.
5. Will result from variances in subsurface conditions, loading conditions and construction procedures, such a

Description	Column
cleanliness of the bearing area or flowing water in the shaft. Settlement provided for single, isolated piers only. 6. For piers placed against an undisturbed vertical face of the in-situ soils. Lateral resistance of the drilled piers is primarily developed by passive resistance of the soils against the side of the pier. Due to surface effects, the lateral resistance of the upper 4 feet of the soils at the surface for exterior piers should be neglected unless area paving is provided around the piers.	

The drilled pier parameters provided above are for calculating single pier capacities only. The structural engineer should determine the required reinforcing steel throughout the entire shaft length of piers to resist the axial and lateral forces.

4.3.2.1 Drilled Pier Foundation Construction Considerations

Drilled excavations to depths of up to El. 10.0 feet (15 to 18 feet below existing grade) may be performed for installation of the drilled piers for the proposed structures at this site. The excavations should be performed with equipment capable of providing a relatively clean bearing area.

Groundwater was observed in the borings between 7 and 13½ feet below existing grade during drilling operations and after drilling activities (refer to the "**3.3 Groundwater**" section). Depending on weather conditions, groundwater levels may vary from the levels observed during our field program. Water must not be allowed to accumulate in the bottom of the pier excavations.

As previously discussed, relatively shallow subsurface water were observed within the explored depths in the borings. Sloughing is likely to occur below the subsurface water table during construction. Therefore, the contractor should be prepared to remove water from the drilled piers if necessary. We recommend that slurry or casing drilling techniques be used to control sloughing of the subsurface soils during pier construction. Casing should only be used in drilled piers terminating in the clay soils. Slurry drilling techniques are appropriate for piers terminating in all soil types encountered in the boring.

> Slurry Method- Water or a weighted drilling fluid may be considered to install the pier foundations. Slurry displacement drilling can only prevent sloughing and water influx but cannot control sloughing once it has occurred. Therefore, slurry displacement drilling techniques must begin at the ground surface, not after sloughing materials are encountered.
>
> Typical drilling fluids include those which contain polymers or bentonite. If a polymer is used with "hard" mixing water, a water softening agent may be required to achieve intimate mixing and the appropriate viscosity. The polymer manufacturer should be consulted concerning proper use of the polymer. If bentonite slurry is used, the bentonite should be mixed with water several hours

before placing in the pier excavation. Prior mixing gives the bentonite sufficient time to hydrate properly. The drilling fluid should only be of sufficient viscosity to control sloughing of the excavation walls and subsurface water flow into the excavation. Care should be exercised while extracting the auger so that suction does not develop and cause disturbance or create "necking" in the excavation walls as described above. Casing should not be employed in conjunction with the slurry drilling technique due to possible trapping of loose soils and slurry between the concrete and natural soil.

The use of weighted drilling fluid when installing drilled pier foundations requires extra effort to ensure an adequate bearing surface is obtained. A clean-out bucket should be used just prior to pier completion in order to remove any cuttings and loose soils which may have accumulated in the bottom of the excavation. Reinforcing steel and concrete should be placed in the excavation immediately after pier completion. A closed-end tremie should be used to place the concrete completely to the bottom of the excavation in a controlled manner to effectively displace the slurry during concrete placement.

When the pier excavation depth is achieved and the bearing area has been cleaned, steel and concrete should then be placed immediately in the excavation. The concrete should be placed completely to the bottom of the excavation with a closed-end tremie in the pier excavation if more than 3 inches of water is ponded on the bearing surface or the slurry drilling technique is used. A short tremie may be used if the excavation has less than 3 inches of ponded water or if the water is pumped out prior to concrete placement. The fluid concrete should not be allowed to strike the pier reinforcement, temporary casing (if required) or excavation sidewalls during concrete placement.

Casing Method - Casing will provide stability of the excavation walls and will reduce water influx; however, casing may not completely eliminate subsurface water influx potential. In order for the casing to be effective, a "water tight" seal must be achieved between the casing and surrounding soils. The drilling subcontractor should determine casing depths and casing procedures. Water that accumulates in excess of 3 inches in the bottom of the pier excavation should be pumped out prior to reinforcing steel and concrete placement. If the water is not pumped out, a closed-end tremie should be used to place the concrete completely to the bottom of the pier excavation in a controlled manner to effectively displace the water during concrete placement. If water is not a factor, concrete should be placed with a short tremie so the concrete is directed to the bottom of the pier excavation. The concrete should not be allowed to ricochet off the walls of the pier excavation nor off the reinforcing steel. If this operation is not successful or to the satisfaction of the foundation contractor, the pier excavation should be flooded with fresh water to offset the differential water pressure caused by the unbalanced water levels inside and outside of the casing. The concrete should be tremied completely to the bottom of the excavation with a closed-end tremie.

Removal of casing should be performed with extreme care and under proper supervision to reduce mixing of the surrounding soil and water with the fresh concrete. Rapid withdrawal of casing or the auger may develop suction that could cause the soil to intrude into the excavation. An insufficient head of concrete in the casing during its withdrawal could also allow the soils to intrude into the wet concrete. Both of these conditions may induce "necking", a section of reduced diameter, in the pier.

All aspects of concrete design and placement should comply with the American Concrete Institute (ACI) 318-08 Code Building Code Requirements for Structural Concrete; ACI 336.1-01 entitled Reference Specification for the Construction of Drilled Piers, and ACI 336.3R-93 (Reapproved 2006) entitled Design and Construction of Drilled Piers. Concrete should be designed to achieve the specified 28-day strength when placed at a 7 inch slump with a ±1 inch tolerance. Adding water to a mix that has been designed for a lower slump does not meet the intent of this recommendation. If a high range water reducer is used to achieve this slump, the span of slump retention for the specific admixture under consideration should be thoroughly investigated. Compatibility with other concrete admixtures should also be considered. A technical representative of the admixture supplier should be consulted on these matters.

Concrete aggregates in the area could have a history of problems associated with Alkali Silica Reactivity (ASR). If aggregates are known to have a history of ASR, then one of the following should be incorporated in the concrete used for the foundations:

Option 1: Replace 20 to 35% of the cement with Class C or Class F fly ash. However, if sulfate resistant concrete is required, do not use a Class C fly ash and do not use Type I Portland cement.

Option 2: Use a lithium nitrate admixture at a minimum dosage of 0.55 gallons of 30% lithium nitrate solution per pound of alkalies present in the portland cement. Coordinate with admixture supplier.

Option 3: When using portland cement only, ensure that the total alkali contribution from the cement in the concrete does not exceed 4.00 lb. per cubic yard of concrete when calculated as follows:

Pounds of alkali per cu yd. = (pounds of cement per cu yd) x (%Na_2O equivalent in cement)/100.

In the above calculation, use the maximum cement alkali content reported on the cement mill certificate.

Option 4: Test both coarse and fine aggregate separately, in accordance with ASTM C 1260, using 440g of the proposed cementitious material in the same proportions of portland cement to supplementary cementing material to be used in the mix. Before use of the mix, provide the certified test report, signed and sealed by a licensed professional engineer, demonstrating that the ASTM C 1260 test result for each aggregate does not exceed 0.10% expansion.

Successful installation of drilled piers is a coordinated effort involving the general contractor, design consultants, subcontractors and suppliers. Each must be properly equipped and prepared to provide their services in a timely fashion. Several key items of major concern are:

- Proper drilling rig with proper equipment (including casing and augers);
- Reinforcing steel cages tied to meet project specifications;
- Proper scheduling and ordering of concrete for the piers; and
- Monitoring of installation by design professionals.

Pier construction should be carefully monitored to assure compliance of construction activities with the appropriate specifications. Particular attention to the referenced publication is warranted for pier installation. A number of items of concern for pier installation include those listed below.

- Pier locations
- Vertical alignment
- Competent bearing
- Casing removal
- Reinforcing steel placement
- Concrete properties and placement
- Slurry viscosity

If the contractor has to deviate from the recommended foundations, Terracon should be notified immediately so additional engineering recommendations can be provided for an appropriate foundation type.

4.3.3 Design Recommendations – Helical Piles

Helical piles may also be used for the proposed buildings. Design guidelines for a helical pile foundation system are presented below. Final recommendations should be provided by the manufacturer or structural engineer.

Description	Value
Minimum pile embedment	El. 13.0 feet (about 12 to 15 feet below existing grade)

We do not recommend using vertically installed helical piles to resist lateral loads without approved lateral load test data, as these types of foundations are typically designed to resist axial loads. Helical piles installed at a batter may be used to resist lateral loads. Typically, helical piles can be installed to a batter of up to 45 degrees from the horizontal. Only the horizontal component of the allowable axial load should be considered to resist the lateral loading and only in the direction of the batter.

The pile capacity should be determined through a combination of typical bearing capacity analysis, and results of the load tests correlated to helical pile installation torque.

We recommend in addition to minimum torque, piles be embedded at least 12 to 15 feet (El. 13.0 feet). For any piles that encounter refusal conditions prior to the recommended minimum length, predrilling may be required to achieve the recommended depth. We recommend a load test be performed to confirm pile capacity.

The actual design of the piles including the pile capacity, helix diameter(s), shaft length, bracket attachment and configuration, and shaft diameter should be performed by an experienced helical pile manufacturer/contractor or structural engineer.

4.3.3.1 Helical Pile Construction Considerations

An experienced helical pile manufacturer/contractor should review the data from this report to assess the equipment required to achieve the minimum length and capacity. We recommend a minimum of one load test be conducted at the site to confirm anticipated capacities and to finalize design information.

We should be consulted to review load test data, and a representative of the geotechnical engineer should be present to observe test and production helical pile installation to verify that piles have been installed to the recommended torque and/or minimum depth and to confirm pile capacity.

4.3.4 Foundation Construction Monitoring

The performance of the foundation system for the proposed structures will be highly dependent upon the quality of construction. Thus, we recommend that fill pad compaction and foundation installation be monitored full time by an experienced Terracon soil technician under the direction of our Geotechnical Engineer.

During foundation installation, the base should be monitored to evaluate the condition of the subgrade. We would be pleased to develop a plan for compaction and foundation installation monitoring to be incorporated in the overall quality control program.

4.4 Floor Slab

We understand that existing grade within the proposed buildings is between El. 25 and 28 feet. Finish Floor Elevation (FFE) is set at El. 27 feet. If significant cuts are planned, Terracon should be notified to review and/or modify our recommendations given in this subsection.

4.4.1 Design Recommendations

The subsurface soils at this site generally exhibit a moderate to high expansion potential. Based on the information developed from our field and laboratory programs and on method TEX-124-E in the Texas Department of Transportation (TxDOT) Manual of Testing Procedures, we estimate that the subgrade soils at this site exhibit a Potential Vertical Rise (PVR) of about 1 to 2½ inches in present condition. The actual movements could be greater if poor drainage, ponded water, and/or other sources of moisture are allowed to infiltrate beneath the structures after construction.

Select fill building pad over 6 inches of moisture conditioned subgrade should be constructed directly below the floor slab and should also extend a minimum of 3 feet beyond the edge of the proposed buildings. The final exterior grade adjacent to the buildings should be sloped to promote positive drainage away from the structures.

The subgrade and select fill soils should be prepared as outlined in the **"4.2 Earthwork"** section of this report, which contains material and placement requirements for select fill, as well as other subgrade preparation recommendations. The floor slab should be designed using the following recommendations.

Item	Description
Excavation ***See Exhibit A-2 for boring locations**	■ Boring B-1: to El. 23.0 feet (about 2 feet beg) ■ Boring B-2: to El. 25.5 feet (about 1½ feet beg) ■ Boring B-3: to El. 25.0 feet (about 3 feet beg) ■ Boring B-4: to El. 25.0 feet (about 2½ feet beg) ■ Boring B-5: to El. 25.0 feet (about 3 feet beg) ■ Boring B-6: to El. 25.0 feet (about 3 feet beg)
Floor slab support ***See Exhibit A-2 for boring locations**	■ Boring B-1: Min. 3½ feet of select fill ■ Boring B-2: Min. 1 foot of select fill ■ Boring B-3: Min. 1½ feet of select fill ■ Boring B-4: Min. 1½ feet of select fill ■ Boring B-5: Min. 1½ feet of select fill ■ Boring B-6: Min. 1½ feet of select fill Over a minimum of 6 inches of moisture-conditioned subgrade (required to achieve FFE at El. 27 feet).

Item	Description
Modulus of subgrade reaction	125 pounds per cubic inch (pci)
Estimated Potential Vertical Rise (PVR)	About 1 inch

4.5 Pavements

Based on the subsurface conditions, we anticipate that the pavement subgrade will generally consist of the on-site soils. We recommend that the top 6 inches of the finished subgrade soils directly beneath the pavements be chemically treated. Chemical treatment will increase the supporting value of the subgrade and decrease the effect of moisture on subgrade soils. These 6 inches of treatment is a required part of the pavement design and is not a part of site and subgrade preparation for wet/soft subgrade conditions.

We anticipate that the on-site surficial soils should be treated with about 5 percent of hydrated lime or cement. This percentage is given as application by dry weight and is typically equivalent to about 23 pounds of modifier per square yard per 6-inch depth. The recommended percentage of modifier is for estimating and planning. The actual quantity of modifier required should be determined at the time of construction by laboratory tests on bulk samples of the subgrade soils. Specifications for treated subgrade are presented later in this section.

Once the subgrade is properly prepared both flexible pavement systems (consisting of asphalt and base material) and reinforced concrete pavement systems may be considered for this project.

Detailed traffic loads and frequencies were not available. However, we anticipate that traffic will consist primarily of passenger vehicles combined with occasional large multi-axle trucks in the driveways. Tabulated in the following table are the assumed traffic frequencies and loads used to design pavement sections for this project.

Pavement Area	Traffic Design Index	Description
Automobile Parking Areas	DI-1	Light traffic (Few vehicles heavier than passenger cars, no regular use by heavily loaded two axle trucks). (EAL[(1)] < 6)
Driveways/Fire Lane (Light Duty)	DI-2	Medium to light traffic (Similar to DI-1 including not over 50 loaded two axle trucks or lightly loaded larger vehicles per day. No regular use by heavily loaded trucks with three or more axles). (EAL = 6-20)

Pavement Area	Traffic Design Index	Description
Driveways and Truck Traffic Areas (Medium Duty)	DI-3	Medium traffic (Including not over 300 heavily loaded two axle trucks plus lightly loaded trucks with three or more axles and no more than 30 heavily loaded trucks with more than three axles per day). (EAL = 21-75)

1. Equivalent daily 18-kip single-axle load applications.

Listed below are pavement component thicknesses, which may be used as a guide for pavement systems at the site for the traffic classifications stated herein. These systems were derived based on general characterization of the subgrade.

Specific testing (such as CBR's, resilient modulus tests, etc.) was not performed for this project to evaluate the support characteristics of the subgrade.

Flexible Pavement System		
COMPONENT	Material Thickness, Inches	
	DI-1	DI-2
Asphaltic Concrete	2.0	2.5
Base Material	6.0	8.0
Treated Subgrade	6.0	6.0

Rigid Pavement System			
Component	Material Thickness, Inches		
	DI-1	DI-2	DI-3
Reinforced Concrete	5.0	6.0	7.0
Treated Subgrade	6.0	6.0	6.0

We recommend that the waste dumpster areas be constructed of at least 7-inches of reinforced concrete pavement. The concrete pad areas should be designed so that the vehicle wheels of the collection truck are supported on the concrete while the dumpster is being lifted to support the large wheel loading imposed during waste collection.

Presented below are our recommended material requirements for the various pavement sections.

Reinforced Concrete Pavement – The materials and properties of reinforced concrete pavement shall meet applicable requirements in the ACI Manual of Concrete Practice. The Portland cement concrete mix should have a minimum 28-day compressive strength of 3,500 psi.

Reinforcing Steel - Reinforcing steel should consist of the following:
DI-1: #3 bars spaced at 18 inches or #4 bars spaced at 24 inches on centers in both directions.
DI-2: #3 bars spaced at 12 inches or #4 bars spaced at 18 inches on centers in both directions.
DI-3: #4 bars spaced at 18 inches on centers in both directions.

Control Joint Spacing – ACI recommendations indicate that control joints should be spaced at about 30 times the thickness of the pavement. Furthermore, ACI recommends a maximum control joint spacing of 12.5 feet for 5-inch pavements and a maximum control joint spacing of 15 feet for 6-inch or thicker pavements. Saw cut control joints should be cut within 6 to 12 hours of concrete placement.

Expansion Joint Spacing – ACI recommendations indicate that regularly spaced expansion joints may be deleted from concrete pavements. Therefore, the installation of expansion joints is optional and should be evaluated by the design team.
Dowels at Expansion Joints – The dowels at expansion joints should be spaced at 12-inch centers and consist of the following:
DI-1: 5/8-inch diameter, 12-inches long with 5-inch embedment
DI-2: 3/4-inch diameter, 14-inches long with 6-inch embedment
DI-3: 7/8-inch diameter, 14-inches long with 6-inch embedment

Hot Mix Asphaltic Concrete Surface Course – The asphaltic concrete surface course should be plant mixed, hot laid Type D (Fine Graded Surface Course) meeting the specifications requirements in TxDOT 2014 Standard Specifications Item 340. Specific criteria for the job specifications should include compaction to within an air void range of 5 to 9 percent calculated using the maximum theoretical gravity mix measured by TxDOT Tex-227-F. The asphalt cement content by percent of total mixture weight should be within ± 0.5 percent asphalt cement from the job mix design.

Base Material – Base material should be composed of crushed limestone or crushed concrete meeting the requirements of TxDOT 2014 Standard Specifications Item 247, Type A or D, Grade 1. The base material should be compacted to at least 95 percent of the Modified Effort (ASTM D 1557) maximum dry density at moisture content within 2 percent of the optimum moisture content.

As an alternate to the Type A base, a gravel base material composed of crushed or uncrushed gravel, including caliche, meeting all of the requirements of 2014 TxDOT Item 247, Type B or C, Grade 1 or 2 including triaxial strength may be used. Caliche material meeting the requirements presented herein may be considered for use as Granular Base Course. The gravel base material should be compacted to at least 95 percent of the maximum dry density as determined by the modified moisture-density relationship (ASTM D 1557) at moisture contents within 2 percent of optimum moisture optimum moisture content.

If it is necessary to use additives to the material to meet these criteria, the amount of additive should be limited so as not to create a rigid base layer that has a tendency to dry, shrink, and crack.

Treated Subgrade - The subgrade soils should be treated with lime in accordance with TxDOT 2014 Standard Specifications Item 260. The appropriate amount of modifier should be determined for subgrade soils by conducting laboratory tests just prior to construction. Based on the classification test results, we recommend that about 5 percent of lime or cement can be used for estimating and planning. The subgrade should be compacted to a minimum of 95 percent of the Standard Effort (ASTM D 698) maximum dry density at a moisture content within 2 percent of optimum moisture content.

Preferably, traffic, should be kept off the treated subgrade for about 3 to 5 days to facilitate curing of the soil – chemical mixture; in addition, the subgrade is not suitable for heavy construction traffic prior to paving.

It is important that proper perimeter drainage be provided so that infiltration of surface water from unpaved areas surrounding the pavement is reduced, or if this is not possible, curbs should extend through the base and into the subgrade for a depth of at least 4 inches. A sealant compatible to both asphalt and concrete should be provided at concrete-asphalt interfaces. We should note that post-construction subgrade movements and some cracking of the asphaltic pavements is not uncommon for subgrade conditions such as those observed at this site. Although chemical treatment will help to reduce such movement/cracking, it cannot be economically eliminated.

Related civil design factors such as subgrade drainage, shoulder support, cross-sectional configurations, surface elevations and environmental factors which will significantly affect the service life must be included in the preparation of the construction drawings and specifications. Normal periodic maintenance will be required.

Long-term pavement performance will be dependent upon several factors, including maintaining subgrade moisture levels and providing for preventative maintenance. The following recommendations should be implemented to help promote long-term pavement performance:

- The subgrade and the pavement surface should be designed to promote proper surface drainage, preferably at a minimum grade of 2 percent;
- Site grading should be designed to drain away from the pavements, preferably at a minimum grade of 2 percent;
- Install joint sealant and seal cracks immediately;
- Extend curbs into the treated subgrade for a depth of at least 4 inches to help prevent moisture migration into the subgrade soils beneath the pavement section; and
- Place compacted, low permeability clayey backfill against the exterior side of the curb

and gutter.

Preventative maintenance should be planned and provided for the pavements at this site. Preventative maintenance activities are intended to slow the rate of pavement deterioration, and consist of both localized maintenance (e.g. crack and joint sealing and patching) and global maintenance (e.g. surface sealing). Prior to implementing any maintenance, additional engineering observations are recommended to determine the type and extent of preventative maintenance.

5.0 GENERAL COMMENTS

Terracon should be retained to review the final design plans and specifications so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications.

Terracon also should be retained to provide observation and testing services during grading, excavation, foundation construction and other earth-related construction phases of the project. The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between borings, across the site, or due to the modifying effects of weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

The scope of services for this project does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either expressed or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.

APPENDIX A

FIELD EXPLORATION

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager: SC	Project No. 88175148	Terracon Consulting Engineers & Scientists	Vicinity Map	Exhibit
Drawn by: SC	Scale: N.T.S		IDEA Camp Rio 280 Fish Hatchery Rd Brownsville, TX	A-1
Checked by: AAS	File Name: 88175148	1506 Mid Cities Drive Pharr, Texas 78577		
Approved by: AAS	Date: 9/25/2017	PH. (956) 283-8254 FAX. (956) 283-8279		

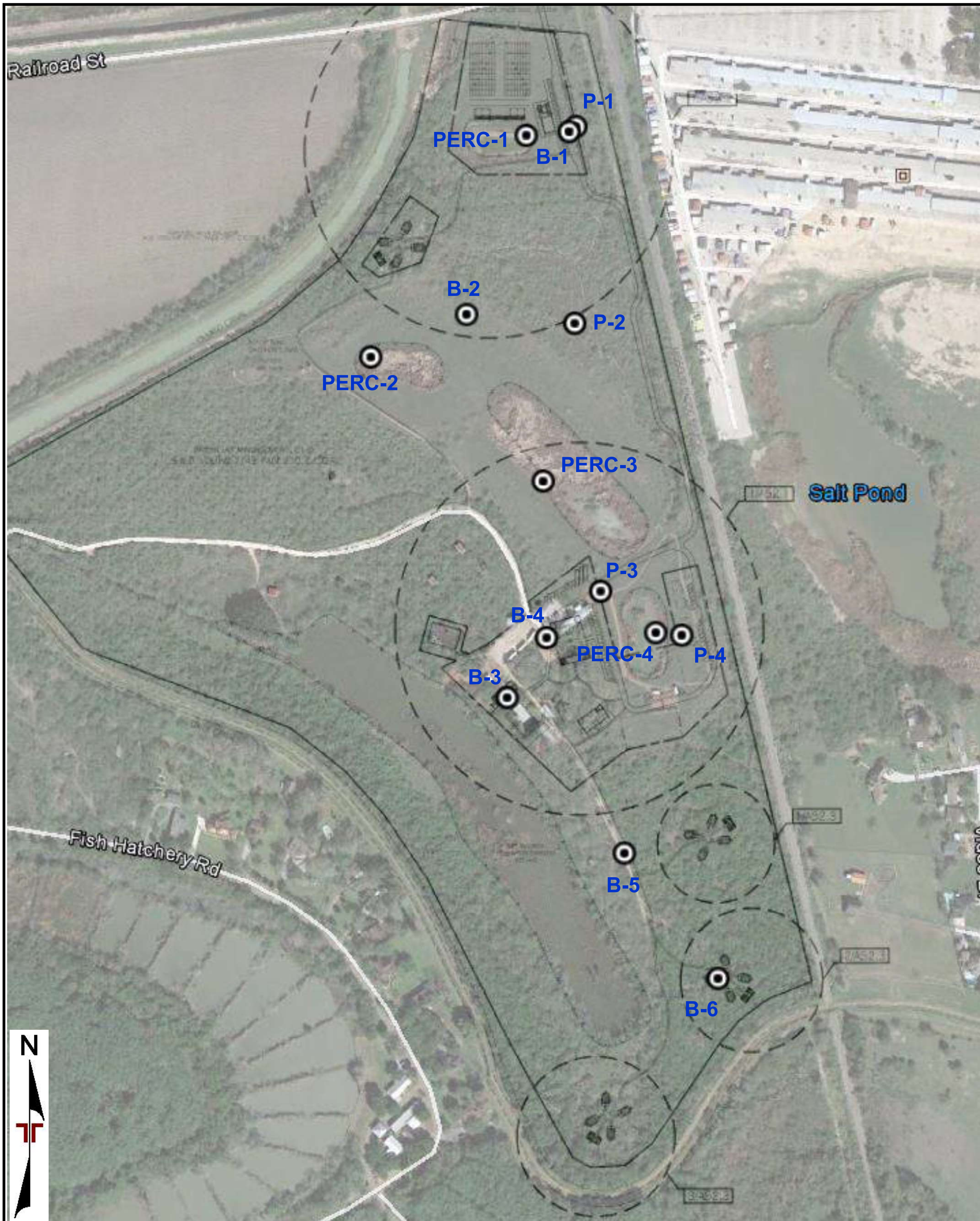


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager: SC	Project No. 88175148	Boring Location Map	Exhibit
Drawn by: SC	Scale: N.T.S	IDEA Camp Rio 280 Fish Hatchery Rd Brownsville, TX	A-2
Checked by: AAS	File Name: 88175148		
Approved by: AAS	Date: 9/25/2017		

Terracon
Consulting Engineers & Scientists

1506 Mid Cities Drive Pharr, Texas 78577
PH. (956) 283-8254 FAX. (956) 283-8279

FIELD EXPLORATION DESCRIPTION

A truck-mounted, rotary drill rig equipped with continuous flight augers was used to advance the boreholes. Soil samples were obtained by split-barrel sampling procedures. In the split-barrel sampling procedure, a standard 2-inch O.D. split-barrel sampling spoon is driven into the ground with a 140-pound hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the standard penetration resistance value. These values are indicated on the boring log at the depths of occurrence.

The samples were tagged for identification, sealed to reduce moisture loss, and taken to our laboratory for further examination, testing, and classification. Information provided on the boring log attached to this report includes soil descriptions, consistency evaluations, boring depth, sampling intervals, and groundwater conditions. The boring was backfilled with soil cuttings upon completion.

Our field representative prepared the field log as part of the drilling operations. The field log included visual classifications of the materials encountered during drilling and our field representative's interpretation of the subsurface conditions between samples. Final boring log included with this report represent the engineer's/geologist's interpretation of the field log and include modifications based on laboratory observations and testing of the samples in the laboratory.

The scope of services for our geotechnical engineering services does not include addressing any environmental issues pertinent to the site.

BORING LOG NO. B-1

PROJECT: IDEA Camp Rio

**CLIENT: IDEA Public Schools
Austin, TX**

**SITE: 280 Fish Hatchery Road
Brownsville, TX**

LOCATION See Exhibit A-2

Latitude: 25.99343° Longitude: -97.52914°

Surface Elev.: 25 (Ft.)

DEPTH / Description	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	TEST TYPE	COMPRESSIVE STRENGTH (tsf)	STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
FAT CLAY (CH), dark brown to brown, medium stiff to stiff				X	4-4-5 N=9				16		79-26-53	
				X	5-6-9 N=15				21			97
- grades to light brown; with Lean Clay (CL) seams at 4½ feet		5		X	2-3-4 N=7				24		33-19-14	
- grades to grayish-brown at 6½ feet				X	2-2-3 N=5				29			
- grades to brown below 8½ feet		10		X	2-4-5 N=9				27		72-27-45	
			▽									
		15		X	4-4-6 N=10				26			
		20		X	5-6-8 N=14				21		63-23-40	
- grades to brown and tan at 23½ feet			Cave-in									
25.0	0	25		X	6-6-8 N=14				19			

Boring Terminated at 25 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Dry augered to 25 feet

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS
▽ *While drilling*
Cave-in depth

Terracon
1506 Mid Cities Dr
Pharr, TX

Boring Started: 09-18-2017	Boring Completed: 09-18-2017
Drill Rig: CME 55	Driller: SWD
Project No.: 88175148	Exhibit: A-4

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 88175148 IDEA CAMP RIO.GPJ TERRACON_DATATEMPLATE.GDT 9/25/17

BORING LOG NO. B-2

PROJECT: IDEA Camp Rio

CLIENT: IDEA Public Schools Austin, TX

SITE: 280 Fish Hatchery Road Brownsville, TX

LOCATION See Exhibit A-2

Latitude: 25.99197° Longitude: -97.53005°

Surface Elev.: 27 (Ft.)

GRAPHIC LOG	DEPTH / Description / ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	LEAN CLAY (CL), grayish-brown to brown, stiff			X	4-4-6 N=10				13			
				X	4-5-5 N=10				17		47-19-28	
		5		X	3-3-5 N=8				21			
				X	2-3-5 N=8				23		42-21-21	
	10.0 — 17	10	∇	X	3-5-6 N=11				25			98
	FAT CLAY (CH), brown to brown and tan, stiff		∇									
		15		X	4-4-6 N=10				26		55-23-32	
		20		X	4-5-5 N=10				31			
	25.0 — 2	25	Cave-in	X	4-5-7 N=12				24			
	Boring Terminated at 25 Feet											

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Dry augered to 25 feet

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS
- ∇ *While drilling*
- ∇ *After 15 minutes*
- *Cave-in depth*

Terracon
1506 Mid Cities Dr
Pharr, TX

Boring Started: 09-18-2017	Boring Completed: 09-18-2017
Drill Rig: CME 55	Driller: SWD
Project No.: 88175148	Exhibit: A-5

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 88175148 IDEA CAMP RIO.GPJ TERRACON_DATATEMPLATE.GDT 9/25/17

BORING LOG NO. B-3

PROJECT: IDEA Camp Rio

CLIENT: IDEA Public Schools
Austin, TX

SITE: 280 Fish Hatchery Road
Brownsville, TX

LOCATION See Exhibit A-2

Latitude: 25.98891° Longitude: -97.52969°

Surface Elev.: 28 (Ft.)

DEPTH	DESCRIPTION	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	TEST TYPE	COMPRESSIVE STRENGTH (tsf)	STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	FAT CLAY (CH), light brown to brown, medium stiff to stiff, with Lean Clay (CL) seams to 2 feet				X	4-3-3 N=6				10		49-21-28	
					X	3-4-6 N=10				18			
			5		X	5-6-6 N=12				22		65-23-42	
				While drilling	X	4-6-8 N=14				24			99
				At completion of drilling; After 15 minutes	X	4-5-6 N=11				25		68-24-44	
			10										
				Cave-in depth	X	2-3-4 N=7				27			
			15										
18.5		9.5											
	SILTY SAND (SM), light brown, loose, with Poorly Graded Sand with Silt (SP-SM) seams to 20 feet				X	3-4-4 N=8				26			8
			20										
25.0		3	25		X	3-3-4 N=7				27			
	Boring Terminated at 25 Feet												

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Dry augered to 25 feet

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

- *While drilling*
- *After 15 minutes*
- *At completion of drilling*
- *Cave-in depth*

1506 Mid Cities Dr
Pharr, TX

Boring Started: 09-18-2017	Boring Completed: 09-18-2017
Drill Rig: CME 55	Driller: SWD
Project No.: 88175148	Exhibit: A-6

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 88175148 IDEA CAMP RIO.GPJ TERRACON_DATATEMPLATE.GDT 9/25/17

BORING LOG NO. B-4

PROJECT: IDEA Camp Rio

CLIENT: IDEA Public Schools
Austin, TX

SITE: 280 Fish Hatchery Road
Brownsville, TX

LOCATION See Exhibit A-2

Latitude: 25.98939° Longitude: -97.52934°

Surface Elev.: 27.5 (Ft.)

Depth (Ft.)	Description	Elevation (Ft.)
0.0–10.0	**FAT CLAY (CH)**, brown, very stiff - stiff at 8½ feet - grades to light-brown; with Sandy Lean Clay (CL) seams; medium stiff below 6½ feet	17.5
10.0–20.0	**SANDY SILT (ML)**, nonplastic, light brown and tan, loose	7.5
20.0–25.0	**SILTY SAND (SM)**, light brown and tan, medium dense	2.5
25.0	***Boring Terminated at 25 Feet***	

Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
5-7-8 N=15	9		
7-9-11 N=20	15	56-16-40	
3-4-4 N=8	22		
3-3-3 N=6	27	31-18-13	
1-2-2 N=4	28		73
2-2-2 N=4	25		
2-3-6 N=9	25		63
4-8-11 N=19	27		18

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Dry augered to 25 feet

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS
- *While drilling*
- *After 15 minutes*
- *At completion of drilling*
- *Cave-in depth*

Terracon
1506 Mid Cities Dr
Pharr, TX

Boring Started: 09-12-2017
Boring Completed: 09-12-2017
Drill Rig: CME 55
Driller: SWD
Project No.: 88175148
Exhibit: A-7

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 88175148 IDEA CAMP RIO.GPJ TERRACON_DATATEMPLATE.GDT 9/25/17

BORING LOG NO. B-5

PROJECT: IDEA Camp Rio

CLIENT: IDEA Public Schools, Austin, TX

SITE: 280 Fish Hatchery Road, Brownsville, TX

LOCATION See Exhibit A-2

Latitude: 25.98767° Longitude: -97.52865°

Surface Elev.: 28 (Ft.)

Graphic Log	Depth / Description / Elevation (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Strength Test: Test Type	Strength Test: Compressive Strength (tsf)	Strength Test: Strain (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
Fat clay	**FAT CLAY (CH)**, light brown, medium stiff to stiff	0–1.5		X	4-2-4 N=6				15			
		2–3.5		X	5-6-9 N=15				19		63-25-38	
		4–5.5		X	2-3-5 N=8				28			99
		6–7.5		X	4-7-8 N=15				26		69-26-43	
		8–9.5	▽ ~8 ft (while drilling); ▼ ~9.5 ft (at completion)	X	4-4-6 N=10				25			
		13–14.5	Cave-in ~13 ft	X	2-2-3 N=5				26		54-24-30	
		18–19.5		X	3-4-5 N=9				25			
	25.0 … 3	23–24.5		X	4-4-6 N=10				26		60-25-35	

Boring Terminated at 25 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Dry augered to 25 feet

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Boring location not surveyed. Surface elevation assumed to be at 28 feet.

Notes:
Boring location not surveyed. Surface elevation assumed to be at 28 feet.

WATER LEVEL OBSERVATIONS
- ▽ *While drilling*
- ▽ *After 15 minutes*
- ▼ *At completion of drilling*
- *Cave-in depth*

Terracon
1506 Mid Cities Dr
Pharr, TX

Boring Started: 09-18-2017	Boring Completed: 09-18-2017
Drill Rig: CME 55	Driller: SWD
Project No.: 88175148	Exhibit: A-8

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 88175148 IDEA CAMP RIO.GPJ TERRACON_DATATEMPLATE.GDT 9/25/17

BORING LOG NO. B-6

PROJECT: IDEA Camp Rio

CLIENT: IDEA Public Schools Austin, TX

SITE: 280 Fish Hatchery Road Brownsville, TX

LOCATION See Exhibit A-2

Latitude: 25.98667° Longitude: -97.52782°

Surface Elev.: 28 (Ft.)

DEPTH	Description	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	TEST TYPE	COMPRESSIVE STRENGTH (tsf)	STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	FAT CLAY (CH), brown, stiff to hard					5-6-7 N=13				16		72-23-49	
						4.5 (HP)				19			98
			5			4.25 (HP)				22		61-24-37	
						1.5 (HP)				26			
	- with Sandy Lean Clay seams below 8½ feet		10			3-4-4 N=8				27		33-20-13	
11.0	**SILTY SAND (SM)**, brown, loose to medium dense	17											
			15			2-5-4 N=9				30			
			20			5-7-13 N=20				23			27
25.0		3	25			6-7-13 N=20				28			
	Boring Terminated at 25 Feet												

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Dry augered to 25 feet

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Boring location not surveyed. Surface elevation assumed to be at 28 feet.

Notes:
Boring location not surveyed. Surface elevation assumed to be at 28 feet.

WATER LEVEL OBSERVATIONS

- *While drilling*
- *After 15 minutes*
- *At completion of drilling*
- *Cave-in depth*

Terracon
1506 Mid Cities Dr
Pharr, TX

Boring Started: 09-08-2017	Boring Completed: 09-08-2017
Drill Rig: CME 55	Driller: SWD
Project No.: 88175148	Exhibit: A-9

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 88175148 IDEA CAMP RIO.GPJ TERRACON_DATATEMPLATE.GDT 9/25/17

BORING LOG NO. P-1

PROJECT: IDEA Camp Rio

CLIENT: IDEA Public Schools
Austin, TX

SITE: 280 Fish Hatchery Road
Brownsville, TX

LOCATION See Exhibit A-2

Latitude: 25.99347° Longitude: -97.52908°

Surface Elev.: 25.5 (Ft.)

GRAPHIC LOG	DEPTH / DESCRIPTION / ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	FAT CLAY (CH), with sand, dark brown to light brown, medium stiff to stiff			X	5-5-5 N=10				21		71-23-48	
				X	2-3-4 N=7				22			85
	5.0 ... 20.5	5	Cave-in	X	3-7-3 N=10				31			
	Boring Terminated at 5 Feet											

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Dry augered to 5 feet

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

No free water observed

Cave-in depth

Terracon
1506 Mid Cities Dr
Pharr, TX

Boring Started: 09-18-2017	Boring Completed: 09-18-2017
Drill Rig: CME 55	Driller: SWD
Project No.: 88175148	Exhibit: A-10

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 88175148 IDEA CAMP RIO.GPJ TERRACON_DATATEMPLATE.GDT 9/25/17

BORING LOG NO. P-2

PROJECT: IDEA Camp Rio

CLIENT: IDEA Public Schools Austin, TX

SITE: 280 Fish Hatchery Road Brownsville, TX

LOCATION See Exhibit A-2

Latitude: 25.9919° Longitude: -97.52909°

Surface Elev.: 26.5 (Ft.)

GRAPHIC LOG	DEPTH / ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	FAT CLAY (CH), light brown to brown, stiff											
				X	5-4-7 N=11				17			
				X	4-6-8 N=14				16		52-21-31	
	5.0 / 21.5	5	Cave-in	X	5-4-5 N=9				20			
	Boring Terminated at 5 Feet											

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Dry augered to 5 feet

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

No free water observed

Cave-in depth

Terracon
1506 Mid Cities Dr
Pharr, TX

Boring Started: 09-18-2017	Boring Completed: 09-18-2017
Drill Rig: CME 55	Driller: SWD
Project No.: 88175148	Exhibit: A-11

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 88175148 IDEA CAMP RIO.GPJ TERRACON_DATATEMPLATE.GDT 9/25/17

BORING LOG NO. P-3

PROJECT: IDEA Camp Rio

CLIENT: IDEA Public Schools
Austin, TX

SITE: 280 Fish Hatchery Road
Brownsville, TX

LOCATION See Exhibit A-2

Latitude: 25.98976° Longitude: -97.52886°

Surface Elev.: 27.5 (Ft.)

GRAPHIC LOG	DEPTH / ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	FAT CLAY (CH), gray, stiff to very stiff											
					3-3-6 N=9				29		78-26-52	
					11-10-10 N=20				29			
	5.0 / 22.5	5	Cave-in depth		4-4-6 N=10				30			
	Boring Terminated at 5 Feet											

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Dry augered to 5 feet

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

No free water observed

Cave-in depth

Terracon
1506 Mid Cities Dr
Pharr, TX

Boring Started: 09-18-2017	Boring Completed: 09-18-2017
Drill Rig: CME 55	Driller: SWD
Project No.: 88175148	Exhibit: A-12

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 88175148 IDEA CAMP RIO.GPJ TERRACON_DATATEMPLATE.GDT 9/25/17

BORING LOG NO. P-4

PROJECT: IDEA Camp Rio

CLIENT: IDEA Public Schools Austin, TX

SITE: 280 Fish Hatchery Road Brownsville, TX

LOCATION See Exhibit A-2

Latitude: 25.98941° Longitude: -97.52814°

Surface Elev.: 25 (Ft.)

GRAPHIC LOG	DEPTH / ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	FAT CLAY (CH), gray, medium stiff to stiff											
					4-4-4 N=8				24			100
					3-3-4 N=7				25		87-25-62	
	5.0 / 20	5	Cave-in depth		3-4-5 N=9				27			
	Boring Terminated at 5 Feet											

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Dry augered to 5 feet

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

No free water observed

Cave-in depth

Terracon
1506 Mid Cities Dr
Pharr, TX

Boring Started: 09-18-2017	Boring Completed: 09-18-2017
Drill Rig: CME 55	Driller: SWD
Project No.: 88175148	Exhibit: A-13

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 88175148 IDEA CAMP RIO.GPJ TERRACON_DATATEMPLATE.GDT 9/25/17

APPENDIX B

LABORATORY TESTING

LABORATORY TESTING

Soil samples were tested in the laboratory to measure their dry unit weight and natural water content. Selected samples were also classified using the results of Atterberg limit testing. The calibrated hand penetrometer has been correlated with unconfined compression tests and provides a better estimate of soil consistency than visual examination alone. The test results are provided on the boring logs included in Appendix A.

Descriptive classifications of the soils indicated on the boring logs are in accordance with the enclosed General Notes and the Unified Soil Classification System. Also shown are estimated Unified Soil Classification Symbols. A brief description of this classification system is attached to this report. All classification was by visual manual procedures.

IDEA Camp Rio
280 Fish Hatchery Road
Brownsville, Texas

Project No.: 88175148

SWELL TEST SUMMARY

			INITIAL CONDITIONS		FINAL CONDITIONS			
Boring No.	Depth (feet)	Overburden Pressure (psf)	Moisture Content (%)	γ_d (pcf)	Moisture Content (%)	γ_d (pcf)	Moisture Gain (%)	Percent Swell
B-6	3.0	100	19.1	107.5	28.3	75.8	9.2	10.5
B-6	7.0	100	26.0	95.9	29.0	73.2	3.0	1.5

IDEA Camp Rio
280 Fish Hatchery Road
Brownsville, Texas

Project No.: 88175148

SWELL TEST SUMMARY

			INITIAL CONDITIONS		FINAL CONDITIONS			
Boring No.	Depth (feet)	Overburden Pressure (psf)	Moisture Content (%)	γ_d (pcf)	Moisture Content (%)	γ_d (pcf)	Moisture Gain (%)	Percent Swell
B-6	3.0	460	19.1	107.1	26.1	80.3	7.0	5.8
B-6	7.0	940	27.2	95.8	29.5	73.6	2.4	0.5

APPENDIX C

SUPPORTING DOCUMENTS

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

SAMPLING

Auger	Split Spoon
Shelby Tube	Macro Core
Ring Sampler	Rock Core
Grab Sample	No Recovery

WATER LEVEL

- Water Initially Encountered
- Water Level After a Specified Period of Time
- Water Level After a Specified Period of Time

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

FIELD TESTS

(HP)	Hand Penetrometer
(T)	Torvane
(b/f)	Standard Penetration Test (blows per foot)
(PID)	Photo-Ionization Detector
(OVA)	Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance Includes gravels, sands and silts.			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance			
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength, Qu, psf**	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**
Very Loose	0 - 3	0 - 6	Very Soft	less than 500	0 - 1	< 3
Loose	4 - 9	7 - 18	Soft	500 to 1,000	2 - 4	3 - 4
Medium Dense	10 - 29	19 - 58	Medium-Stiff	1,000 to 2,000	4 - 8	5 - 9
Dense	30 - 50	59 - 98	Stiff	2,000 to 4,000	8 - 15	10 - 18
Very Dense	> 50	$\geq$ 99	Very Stiff	4,000 to 8,000	15 - 30	19 - 42
			Hard	> 8,000	> 30	> 42

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 15
With	15 - 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

Major Component of Sample	Particle Size
Boulders	Over 12 in. (300 mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm
Silt or Clay	Passing #200 sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 5
With	5 - 12
Modifier	> 12

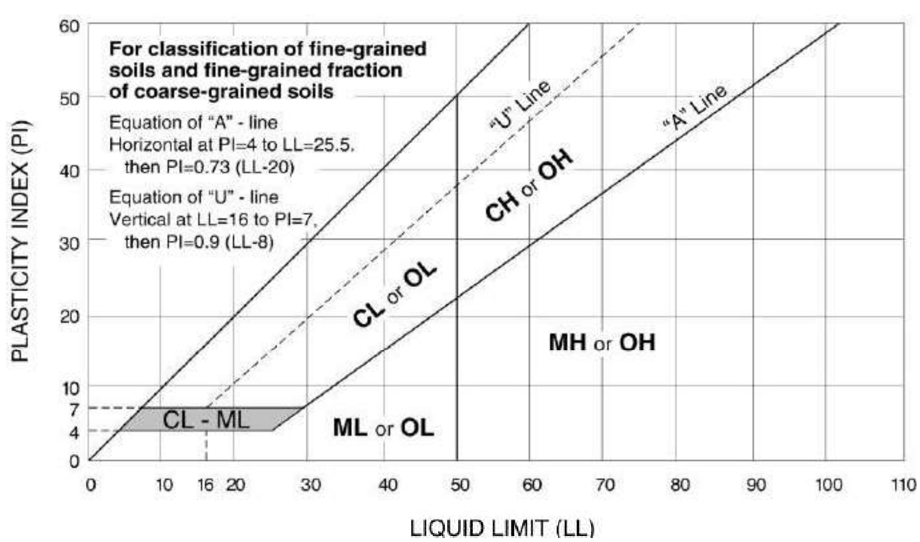
PLASTICITY DESCRIPTION

Term	Plasticity Index
Non-plastic	0
Low	1 - 10
Medium	11 - 30
High	> 30

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]				Soil Classification: Group Symbol	Soil Classification: Group Name [B]
Coarse Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	$Cu \geq 4$ and $1 \leq Cc \leq 3$ [E]	GW	Well-graded gravel [F]
			$Cu < 4$ and/or $1 > Cc > 3$ [E]	GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH	GM	Silty gravel [F,G,H]
			Fines classify as CL or CH	GC	Clayey gravel [F,G,H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	$Cu \geq 6$ and $1 \leq Cc \leq 3$ [E]	SW	Well-graded sand [I]
			$Cu < 6$ and/or $1 > Cc > 3$ [E]	SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH	SM	Silty sand [G,H,I]
			Fines Classify as CL or CH	SC	Clayey sand [G,H,I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	$PI > 7$ and plots on or above "A" line [J]	CL	Lean clay [K,L,M]
			$PI < 4$ or plots below "A" line [J]	ML	Silt [K,L,M]
		Organic:	Liquid limit - oven dried / Liquid limit - not dried < 0.75	OL	Organic clay [K,L,M,N]
					Organic silt [K,L,M,O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line	CH	Fat clay [K,L,M]
			PI plots below "A" line	MH	Elastic Silt [K,L,M]
		Organic:	Liquid limit - oven dried / Liquid limit - not dried < 0.75	OH	Organic clay [K,L,M,P]
					Organic silt [K,L,M,Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor			PT	Peat

[A] Based on the material passing the 3-in. (75-mm) sieve
[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.
[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay
[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$
[F] If soil contains $\geq$ 15% sand, add "with sand" to group name.
[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.
[H] If fines are organic, add "with organic fines" to group name.
[I] If soil contains $\geq$ 15% gravel, add "with gravel" to group name.
[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.
[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.
[L] If soil contains $\geq$ 30% plus No. 200 predominantly sand, add "sandy" to group name.
[M] If soil contains $\geq$ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.
[N] $PI \geq 4$ and plots on or above "A" line.
[O] $PI < 4$ or plots below "A" line.
[P] PI plots on or above "A" line.
[Q] PI plots below "A" line.



Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, clients can benefit from a lowered exposure to the subsurface problems that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed below, contact your GBA-member geotechnical engineer. Active involvement in the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Geotechnical-Engineering Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. *Those who rely on a geotechnical-engineering report prepared for a different client can be seriously misled.* No one except authorized client representatives should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one – not even you – should apply this report for any purpose or project except the one originally contemplated.*

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read it *in its entirety*. Do not rely on an executive summary. Do not read selected elements only. *Read this report in full.*

You Need to Inform Your Geotechnical Engineer about Change

Your geotechnical engineer considered unique, project-specific factors when designing the study behind this report and developing the confirmation-dependent recommendations the report conveys. A few typical factors include:

- the client's goals, objectives, budget, schedule, and risk-management preferences;
- the general nature of the structure involved, its size, configuration, and performance criteria;
- the structure's location and orientation on the site; and
- other planned or existing site improvements, such as retaining walls, access roads, parking lots, and underground utilities.

Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.*

This Report May Not Be Reliable

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, that it could be unwise to rely on a geotechnical-engineering report whose reliability may have been affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If your geotechnical engineer has not indicated an "apply-by" date on the report, ask what it should be*, and, in general, *if you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying it. A minor amount of additional testing or analysis – if any is required at all – could prevent major problems.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface through various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing were performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgment to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team from project start to project finish, so the individual can provide informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, *they are not final*, because the geotechnical engineer who developed them relied heavily on judgment and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* revealed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a full-time member of the design team, to:

- confer with other design-team members,
- help develop specifications,
- review pertinent elements of other design professionals' plans and specifications, and
- be on hand quickly whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction observation.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for informational purposes only*. To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report, but they may rely on the factual data relative to the specific times, locations, and depths/elevations referenced. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely*. Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures*. If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. As a general rule, *do not rely on an environmental report prepared for a different client, site, or project, or that is more than six months old.*

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, none of the engineer's services were designed, conducted, or intended to prevent uncontrolled migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration.*** Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

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Instructions to School District Contractors Regarding Criminal History Background Searches Under Senate Bill 9

Senate Bill 9 directs school district contractors to obtain state and national criminal history background searches on their employees who will have direct contact with students, and to receive those results through the DPS criminal history clearinghouse (Fingerprint-based Applicant Clearinghouse of Texas –FACT). In order for contractors to receive the information through FACT, they must first establish an account with the DPS for FACT clearinghouse access. The Company owner must sign a user agreement with the DPS. To obtain the user agreement and more information, please contact:

Access and Dissemination Bureau
Texas Department of Public Safety Crime
Records Service
P. O. Box 149322
Austin, Texas 78714-9322

Email: FACT@dps.texas.gov
Phone: (512) 424-2365, Option 2

For fastest service, please email or call. State in the message that you are a school district contractor and need to have an account established for DPS FACT clearinghouse access. Please include:

Company Name
Company Address
Company Phone
Name of Company point of contact
Phone of Company point of contact
Company email to be used for notification of FACT records and messages

The information in the DPS FACT Clearinghouse is confidential, and access must be restricted to the least number of persons needed to review the records. The account must include at least one designated supervisor to make necessary changes and to monitor the site's security and the access to the criminal history data retrieved. Additional users must be limited to those who need to request, retrieve, or evaluate data regarding the individual applicants.

PLEASE NOTE: After you sign the DPS User Agreement for FACT, DPS will provide you with a revised ***FAST Fingerprint Pass*** that you will have to provide to your employees and applicants. Your employees and applicants will use that ***FAST Fingerprint Pass*** when scheduling their FAST fingerprinting.

Chapter 153. School District Personnel
Subchapter DD. Criminal History Record Information Review

Statutory Authority: The provisions of this Subchapter DD issued under the Texas Education Code, §§22.0832, 22.0833, 22.0834, 22.0836, 22.0837, 22.085, and 12.1162, unless otherwise noted.

§153.1101. Definitions.

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

(1) Clearinghouse--The criminal history clearinghouse established by the Texas Department of Public Safety (DPS) pursuant to the Texas Government Code, §411.0845.

(2) Continuing duties related to contracted services--Work duties that are performed pursuant to a contract to provide services to a school entity on a regular, repeated basis rather than infrequently or one-time only.

(3) Covered contract employee--An individual who:

(A) is employed or offered employment by a service contractor or a subcontractor of a service contractor, is an individual independent contractor of the school entity, or is an individual subcontractor of a service contractor;

(B) has or will have continuing duties related to the contracted services;

(C) has or will have direct contact with students; and

(D) is not a student of (or enrolled in) the school entity for which the services are performed.

(4) Criminal history record information--In accordance with the Texas Government Code, §411.082(2), information collected about a person by the DPS, a law enforcement or a criminal justice agency, or a private entity governed by the Fair Credit Reporting Act (15 U.S.C. Section 1681 et seq.) that consists of identifiable descriptions and notations of arrests, detentions, indictments, informations, and other formal criminal charges and their dispositions.

(5) Date of employment--For purposes of the Texas Education Code (TEC), §22.0834, the date of employment by an entity that contracts with a school entity shall be deemed to be:

(A) with respect to an individual independent contractor, the date of the contract or agreement to provide services to the school entity;

(B) with respect to a covered contract employee of a service contractor, the date the employee began providing services to the contractor for compensation; and

(C) with respect to an employee or independent contractor of a subcontractor of a service contractor, the later of the date the service contractor secures the services of the subcontractor and the date the subcontractor secures the services of the employee or independent contractor.

(6) Date of securing services--For purposes of the TEC, §22.0834, the date of securing the services of a covered contract employee or a subcontractor by an entity that contracts with a school entity shall be deemed to be the date the employee or subcontractor accepts an offer from the service contractor for a

specific job position or for the performance of a specific project that is to begin on a date that is certain or reasonably ascertainable.

(7) Direct contact with students--The contact that results from activities that provide substantial opportunity for verbal or physical interaction with students that is not supervised by a certified educator or other professional district employee. Contact with students that results from services that do not provide substantial opportunity for unsupervised interaction with a student or students, such as addressing an assembly, officiating a sports contest, or judging an extracurricular event, is not, by itself, direct contact with students. However, direct contact with students does result from any activity that provides substantial opportunity for unsupervised contact with students, which might include, without limitation, the provision of coaching, tutoring, or other services to students.

(8) National criminal history record information--In accordance with the TEC, §22.081, criminal history record information obtained from both the DPS and the Federal Bureau of Investigation based on fingerprint identification information.

(9) School entity--A Texas school district, an open-enrollment charter school, or a shared services arrangement.

(10) Service contractor--An entity, including a government entity and an individual independent contractor, that contracts or agrees with a school entity by written agreement or verbal understanding to provide services through individuals who receive compensation. However, when conducting an investigation or intervention regarding an alleged crime or act of child abuse on a school campus, a law enforcement agency or the Department of Family and Protective Services is not a service contractor, and the investigator or intervener is not a covered contract employee.

(11) Substitute teacher--A teacher who is on call or on a list of approved substitutes to replace a regular teacher and has no regular or guaranteed hours. A substitute teacher may be certified or noncertified.

Source: The provisions of this §153.1101 adopted to be effective December 30, 2007, 32 TexReg 9626; amended to be effective November 20, 2008, 33 TexReg 9233.

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§153.1103. Purpose; Required Assistance.

(a) This subchapter provides rules for the implementation of the criminal history record information review of school entity employees required by the Texas Education Code, Chapter 22, Subchapter C, as amended by Senate Bill 9, 80th Texas Legislature, 2007.

(b) All school entities, private schools, and regional education service centers shall assist the Texas Education Agency in the collection of criminal history record information to facilitate this review.

Source: The provisions of this §153.1103 adopted to be effective December 30, 2007, 32 TexReg 9626.

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§153.1105. Criminal History Record Information Review of Persons for Whom a National Criminal History Record Information Review is Not Required.

(a) A school district or an open-enrollment charter school shall obtain criminal history record information, as provided by the Texas Education Code (TEC), §22.083, on all employees who are not subject to a national criminal history record information review. Persons subject only to a criminal history record information review include, but are not limited to, noncertified administrative support personnel, school bus drivers, and custodial staff hired before January 1, 2008, and charter school employees not working in a position described in the TEC,

§12.1059. As defined in §153.1101 of this title (relating to Definitions), the criminal history record information does not include fingerprint identification information.

(b) A shared services arrangement:

(1) shall obtain criminal history record information on all employees whose duties are performed on school property or at another location where students are regularly present; and

(2) may obtain the same information on all other employees.

(c) A regional education service center or a private school may obtain criminal history record information on:

(1) any of its employees or applicants for employment; and

(2) an employee or applicant for employment of a person or entity that contracts with the service center or private school if:

(A) the employee or applicant has or will have continuing duties related to the contracted services; and

(B) the employee or applicant has or will have direct contact with students.

Source: The provisions of this §153.1105 adopted to be effective December 30, 2007, 32 TexReg 9626.

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§153.1107. Failure to Disclose Criminal Convictions.

An employee of a school entity, private school, or regional education service center may be discharged pursuant to the Texas Education Code, §22.085(d), if the employee fails to disclose information of the employee's conviction of a felony or a misdemeanor involving moral turpitude to the State Board for Educator Certification or to the school entity, private school, or regional education service center.

Source: The provisions of this §153.1107 adopted to be effective December 30, 2007, 32 TexReg 9626.

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§153.1109. Noncertified Employees.

(a) National criminal history record information review.

(1) This section applies to a person described in the Texas Education Code (TEC), §22.0833, that is, any person who is not a holder of or applicant for Texas educator certification under the TEC, Chapter 21, Subchapter B, and who, after January 1, 2008, is offered employment by a school district or an open-enrollment charter school.

(2) This section also applies to such a person who is offered employment by a shared services arrangement, if the employee's or applicant's duties are or will be performed on school property or at another location where students are regularly present.

(3) Before being employed by a school entity, every person to whom this section applies shall submit fingerprint, photograph, and identification information to the Texas Department of Public Safety (DPS) as required by this section. All information shall be submitted in the form the DPS requires for the purpose of being included in the Clearinghouse.

(b) Submission of required information.

HR Compliance and Risk Management Services

IDEA Public Schools Vendor/Professional Services Insurance Requirements:

Vendor/Professional Services: Please use this matrix as a guideline for Vendor/Professional Service Providers. The actual insurance requirements will be reviewed and determined by the ***nature and scope of work*** by the HR Compliance and Risk Management Team. If you have any questions regarding the insurance guidelines, please contact the HR Compliance and Risk Management Team @ riskmanagementsupport@ideapublicschoolsorg.onmicrosoft.com

MINIMUM INSURANCE COVERAGE & LIMITS FOR VENDORS AND PROFESSIONAL SERVICE PROVIDERS			
Type of Contractor	**Required Coverage**	**Required Coverage Limits**	**Other**
Speakers, Presenters, Judges, DJ, Decoration and Photobooth Vendors (This is not an all-inclusive list)	NA	NA	Hold Harmless Agreement
Charter Bus Services	Commercial General Liability	Each Occurrence: $1,000,000 General Aggregate: $2,000,000 Medical Expenses: $5,000	Additional Insured and Waiver of Subrogation Endorsement
	Automobile Liability	Combined Single Limit or Umbrella Liability (excess) $5,000,000 Uninsured Motorist: $100,000 Medical Payments or Personal Injury Protection: $5,000	Additional Insured and Waiver of Subrogation Endorsement
Maintenance/Repair (painting, plumbing, HVAC, roofing, landscape, etc.) **Service Providers (copier/fax service, computers, security, equipment vendors, etc.)**	Commercial General Liability	Each Occurrence: $1,000,000 General Aggregate: $2,000,000 Personal and Advertising Injury: $500,000	Additional Insured Endorsement
	Automobile Liability Including: ☐ Owned Vehicles ☐ Non-Owned Vehicles ☐ Hired Vehicles *(Required for vehicles driven on school property)*	Combined Single Limit: $1,000,000	
	Workers' Compensation* Employers' Liability	Limit: State- Statutory Each Occurrence: $500,000	Waiver of Subrogation Endorsement

Vendor General Insurance Requirements	Commercial General Liability	Each Occurrence: $1,000,000 General Aggregate: $2,000,000 Personal and Advertising Injury: $500,000	Additional Insured Endorsement
	Automobile Liability Including: ☐ Owned Vehicles ☐ Non-Owned Vehicles ☐ Hired Vehicles *(Required for vehicles driven on school property)*	Combined Single Limit: $1,000,000	
	Workers' Compensation* Employers' Liability	Limit: State- Statutory Each Occurrence $500,000	Waiver of Subrogation Endorsement

For the contractor categories below, the following coverages may apply in addition to the general insurance requirements listed above:

Welders, plumbers (work with open flames)	Fire Damage	Each Occurrence: $1,000,000	Additional Insured Endorsement
Hazardous Materials, Waste Haulers, Pest Control, etc.	Pollution Liability (May require project-specific coverage)	Each Occurrence: $1,000,000	Additional Insured Endorsement
Professional Services (accountants, architects, attorneys, education consultants, etc.)	Professional Liability	General Aggregate: $2,000,000 Each Occurrence: $1,000,000 Abuse of Molestation (If applicable) $1,000,000	Additional Insured Endorsement
Nurses, therapists, medical providers	Professional Liability or Medical Malpractice (as applicable)	General Aggregate: $3,000,000 Each Occurrence: $1,000,000 Abuse of Molestation: (If applicable) $1,000,000	Additional Insured Endorsement
Payroll company, Data managers	Cyber Liability	Each Occurrence $1,000,000	Additional Insured Endorsement

The Additional Insured Endorsement language must name as follows: IDEA Public Schools, 2115 W. Pike Blvd, Weslaco, TX 78596.
Please click here to see a COI Example.

Risk Management Department Rev. July 29, 2024