

Project/File: 181722380, Ryan Sewer
Addendum No.: 1
Date: June 18, 2026
To: Bidders
Contract No.: 20112202/20120331

This addendum is to be read with and constitutes part of the tender document.

Instructions:

1. Amend your copy of the tender/quotation/proposal in accordance with the detail below.
2. Retain one copy for your file; sign and return a second copy and attach to your submission as confirmation that the Addendum was taken into account in your bid submission.
3. Failure to sign and return this form may result in a non-compliant bid.

Details of the Addendum:

1. Please see the attached Bidders List from the Pre-Bid Meeting held on 6/16/2026.
2. Q: In the bid documents it says you need to post the Davis Bacon wages. Is this a Davis Bacon Job? And if it is can you please provide the wage determination.
A: This is not a Davis Bacon Job and no Davis Bacon wages will be required.
3. Q: Can we obtain a copy of the geotechnical report for the project.
A: Please see attached Geotechnical Report.

Best regards,

Stantec Consulting Services Inc.

Jim Wright PE
Civil Discipline Manager
Phone: (520) 545-7468
Mobile: (520) 247-2918
jim.wright@stantec.com

June 18, 2026

Page 2 of 2

stantec.com

Attachment: Bidders List, Geotechnical Report

c.

Firm Name:

Authorized Signature:

Printed Name:

Date:

PRE-BID CONFERENCE SUMMARY

**Project Number and Name: 20112202 Aviator Ln Sewer Extension and Mill/Overlay
20120331 Connector Rd Reconstruction and Sewer Extension**

Date: Tuesday, June 16, 2026

Time: 9:00 a.m.

Location: Ryan Airfield Administration Building, 9698 W. Ajo Way, Tucson, AZ 85735

Funding: ADOT/TAA

Contracting Officer: Corrie Bussey

Project Director: Dexter De Vera

Project Engineer: Jim Wright, Stantec Consulting

1. SIGN IN AND INTRODUCTIONS

- 1.1. See attached list for attendees.
- 1.2. Corrie Bussey welcomed all attendees and made brief introductions of TAA staff and the Project Engineer.
- 1.3. Corrie Bussey indicated that a copy of the pre-bid conference summary and associated sign-in sheets will be distributed to all bid set holders of record and pre-bid conference attendees via addendum. Bidders wishing to receive any further addenda must confirm they are on the Bid Holder's List.

2. BIDDING REQUIREMENTS:

- 2.1. Bids will be opened at 2:00 p.m. Local Tucson Time on Thursday, July 2, 2026, in the Catalina Room of the TAA Administration Office, Tucson International Airport, Third Level, 7250 South Tucson Boulevard, Suite 300, Tucson, Arizona 85756.
- 2.2. All requests for clarifications or substitutions shall be made in writing to the Engineer via email at jim.wright@stantec.com. Answers will be provided via addendum to all bid set holders of record. The last day for questions will be Friday, June 26, 2026 and a final addendum, if necessary, will be issued on Tuesday, June 30, 2026.

- 2.3. The contractor shall carefully complete the bid as required by the Contract Documents.
- 2.4. Bidders must prepare their bid on the Bid Form and Bid Schedules provided on page 23-25 and BS-1 through BS-4 of the Bid Documents and must enclose with their bid all items listed on page 25. TAA reserves the right to accept all, some, or none of the alternates.
- 2.5. Bidders must enclose a properly executed Non-collusion Affidavit in the form provided on page 26 of the Bid Documents.
- 2.6. Bidders must enclose a properly executed TAA Interest List Form for themselves and their subcontractors. This form will be provided with the pre-bid meeting minutes.
- 2.7. All bids must include a bid bond in the amount of 10 percent of the aggregate of the base bid amount and four (4) alternates in the form shown on page 24 of the Bid Documents.
- 2.8. The Work to be performed will be subject to the provisions of Title 34 of the Arizona Revised Statutes (A.R.S. § 34-201, *et seq.*, as amended). All bidders and subcontractors must be duly licensed to perform the work at the time the bid is submitted (or exempt from licensing requirements). If a licensing exemption is claimed, the bidder must set forth basis for any claimed exception on page 3 of the Bid Form at the time the bid is submitted.

3. CONTRACT REQUIREMENTS:

- 3.1. Bidders shall carefully review the Construction Services Agreement provided on pages 27 - 29 of the Bid Documents, as well as the Master General Conditions, included in the Bid Documents.
- 3.2. There are liquidated damage requirements for this project that are shown in Article 12 of the Master General Conditions.
- 3.3. Insurance requirements are shown in Exhibit F to the Construction Services Agreement. Bidders should carefully review these requirements to confirm they can comply.
- 3.4. Performance and Payment bonds will be required for this project in the form found on pages 31 and 32 of the Bid Documents.
- 3.5. Contractor must comply with all Federal and State required contract provisions as outlined in the Contract Documents.

4. REPORTING AND DBE REQUIREMENTS:

- 4.1. DBE. It is the policy of Tucson Airport Authority (TAA) to ensure that all firms are afforded a fair and equal opportunity to participate in TAA's contracting opportunities. TAA is committed to maintaining a procurement environment in which businesses are not discriminated against in the award and administration of contracts and can compete on a fair and open basis. **No federal funding is involved in this project; therefore, federal Disadvantaged Business Enterprise (DBE) program requirements under 49 CFR Part 26 do not apply.** However, respondents are still encouraged to pursue subcontracting and partnership opportunities with disadvantaged and small businesses. For information, please contact Bert Resimont, TAA DBE Liaison Officer, at 520-573-4892.
- 4.2. The successful proposer will be required to submit the following information: (1) the names and addresses of firms that will participate as subcontractors in the contract; (2) the percentage and dollar amount of participation of each subcontractor firm participating.
- 4.3. The successful proposer will be required to track all payments to subcontractors working on the Project using an online system with access provided by TAA. At the completion of the Project, the successful proposer will be required to complete and submit a final certification of payments to subcontractor firms on a form to be provided by TAA.

5. TITLE VI STATEMENT:

- 5.1. Tucson Airport Authority (TAA), as a recipient of federal financial assistance, operates its programs and activities in accordance with Title VI of the Civil Rights Act of 1964 and related nondiscrimination authorities. TAA is committed to ensuring that no person, on the grounds of race, color, national origin, sex, age, disability, or other protected status, is excluded from participation in, denied the benefits of, or otherwise subjected to discrimination under any of its programs or activities.
- 5.2. Although this specific project is not funded with federal assistance, TAA's nondiscrimination obligations apply to all its operations, including its contracting activities. TAA maintains a policy of fair and open competition and expects all contractors to comply with applicable nondiscrimination requirements in the performance of work.

A copy of TAA's Title VI Program and complaint procedures is available upon request.

6. PROJECT SCOPE AND TIMING:

- 6.1. Dexter De Vera and the Project Engineer reviewed the Scope of the Work.
- 6.2. Corrie Bussey indicated that the successful Bidder will be required to achieve Substantial Completion of the entire Work in accordance with the terms of the contract not later than 120 Calendar Days after the issuance of the Notice to Proceed by TAA.
- 6.3. A copy of the "Ground Rules for Construction at TAA and Ryan Airfield" (June 2020) was made available to meeting attendees. Bidders should note the requirements for a Project Safety Plan and Project Construction Management Plan.

6. GENERAL INFORMATION:

- 6.1. Construction survey layout requirements are explained in the Contract Documents.
- 6.2. General inspection and acceptance testing will be by the Engineer. Quality Control Inspections and testing will be by the Contractor. Testing requirements are outlined in the Contract Documents.
- 6.3. Traffic control and pedestrian access shall be provided for by the Contractor. Pedestrian access, or other accommodations, shall be safe and well-constructed.
- 6.4. Traffic Control and barricading shall be provided and maintained by the Contractor. Barricades shall be of the type indicated in the Contract documents and be lighted, and secured to prevent blow down.
- 6.5. In the event a City of Tucson building permit is required for this project, the Contractor shall pick up and pay for the permit. Permit cost shall be reimbursed by TAA at the Contractor's cost.
- 6.6. An Activity Permit Fees Schedule (Table 17.12.540) covering land stripping and/or earthmoving, trenching, and road construction (including any pavement construction project on TAA properties) has been adopted by Pima County. The Contractor is to include applicable activity permit fees in their bid.
- 6.7. The Engineer explained the requirements for special inspections, submittals, etc., including PDEQ inspections.
- 6.8. The location of the Contractor's yard and the haul routes were discussed.
- 6.9. The Contractor is responsible for arranging and payment of all costs for temporary utilities.
- 6.10. Portable toilets will be required at the job and yard site.

- 6.11. All work done within the security area will require TAA Project Officer escorts at no charge to Contractors. However, 24 hour scheduling notice is required.
- 6.12. Subcontractor work shall not be permitted without supervision of the Prime Contractor.
- 6.13. No drugs, alcohol or firearms are allowed on any airport property.
- 6.14. All contractor vehicles must display the company name on both sides, legible from 20 feet away. Company-owned vehicles without permanent lettering must use magnetic signs at least 12" x 24" on each side, also legible from 20 feet away.
- 6.15. All company vehicles admitted to the secured area shall have a copy of vehicle registration (or rental/lease contract) and insurance card in the name of the company.
- 6.16. Vehicles operating during daylight hours must display a securely mounted 3' x 3' orange-and-white checkered flag with 1-foot squares at the highest point of the vehicle, positioned to remain clean and in place. During evening hours, vehicles must display a securely mounted rotating or flashing amber beacon at the highest point.
- 6.17. No private vehicles are permitted in the secured operations area. Parking of private vehicles will be in a designated area, usually in or adjacent to the contractor yard.
- 6.18. All Contractor personnel will be required to sign an entry log sheet.
- 6.19. No badging is required.
- 6.20. The Contractor must comply with all OSHA Hazard Communication Program requirements, including maintaining Material Safety Data Sheets in a designated on-site location accessible to personnel and the Fire Department.
- 6.21. The Contractor is responsible for the immediate cleanup of any leak or spill, including fuel, oil, and antifreeze. All spilled materials must be properly disposed of off airport property, and the Contractor must provide TAA with disposal documentation.
- 6.22. The work and traffic areas must be kept free of debris, including dust, mud, and construction materials, that could interfere with operations. Adjacent active pavements must be cleaned using appropriate methods to prevent foreign object debris from damaging aircraft or ground vehicles.

- 6.23. TAA shall not be responsible for the security of any stored materials or equipment. The Contractor shall provide whatever measures are necessary to protect materials or equipment.
- 6.24. Personnel will be working in a high noise area and should take appropriate protective measures.
- 6.25. If any welding or open flame cutting (including equipment repairs) is done, a daily, no cost, welding permit will be issued by TAA's Fire Department.
- 6.26. TAA has a confined space program is outlined in the project specifications. The Contractor will be responsible to provide all equipment and trained personnel if required by project activities.

7. DISCUSSION

The floor was opened to questions and answers and discussion followed.

Questions

Q1: Are there any benefits to already having badging?

Answer: No.

Q2: It was mentioned that there's going to be security fencing to get into the lay down area and then a secondary fence.

Answer: Yes. That will be opened up for the contractor during the time of construction. Okay. And for access into a contractor yard, the fencing will be daisy chained and you will have access at all times. There will be security fencing to protect open trenches.

Q3: For the laydown mentioned, we have access to water in the laydown. Is that a hydrant that we're putting a meter on?

Answer: Yes, it's a fire hydrant.

Q4: The work areas, as far as coming and going with contractors being in and out, what is that process?

Answer: The escort will take you in and out of the secure area. Majority of the work along the Aviator Lane and Connector Road is on the public side of the airport with no strict security requirements there.

Q5: As far as the on your secured side of that though, will there be an escort with us the whole day?

Answer: Yes, all day. It may be two or three escorts but at no cost. Coordinate 24 hours in advance. And the key piece is to understand how spread out you're going

to be. The crew needs to be in visual range and ear shot of the escort at all times. If you're going to have a crew at two different locations, you'll need two different escorts.

If there is a need to get a water truck in and out, the normal practice is that there will be one project officer escorting you on site during the construction work. And if there's any transportation delivering all trucks and the like, then there will be another escort watching the access gate and monitoring activities there.

Q6: Is there a flag man or signage that needs to be put up when working on the roadway?

Answer: Yes. When there is work in the roadway and traffic areas, there's traffic control expected and is laid out for budgetary purposes in the plans.

Q7: Are there airport barriers required during work on the taxiway?

Answer: Anticipate having some airport barricades available, especially when doing the trench work on Taxiway B4 which. Any open trenches would have to be marked off. In this case, since it's impacting a taxiway, you will need to provide low profile barricades.

8. SITE VISIT

Corrie Bussey indicated that a site visit would be conducted for interested firms immediately following the conference.

9. SUBMITTAL REMINDERS

Corrie Bussey noted that several documents in the Bid Package are currently labeled as "DRAFT." Bidders are required to submit these documents without the "DRAFT" designation. Updated forms will be provided and included with the pre-bid meeting minutes.

Contractor's Qualification Statement
Bid Form
Noncollusion Affidavit

Last day for questions 6/26/2026. Bids are due by 2:00 pm local Tucson time, 7/2/2026.

The conference adjourned at 9:34 am local Tucson time and a site visit was conducted.

This is a summary of the proceedings of the Pre-Bid Conference as recalled by Corrie Bussey. A recording of the proceedings was made and is on file in the TAA Procurement Department.

cc: File O

Tucson Airport Authority
 7250 S. Tucson Blvd., Suite 300
 Tucson, Arizona 85756
 (520) 573-8100
 (520) 573-8008

ATTENDANCE SIGN IN SHEET

PRE-BID MEETING

20112202 Aviator Lane & 20120331 Connector Road



Date: 6/16/2026

Time: 9:00 am

Location: Ryan Airfield

Name	Company Name	Address City/State/Zip	Phone	Fax	Email
Dexter De Vera	Tucson Airport Authority	7250 S Tucson Blvd. Suite 300, Tucson, AZ 85756	520-573-8202		ddevera@flytucson.com
Jim Wright	Stantec Consulting	One South Church Avenue, Suite 2100, Tucson AZ 85701	520-545-7468		jim.wright@stantec.com
Corrie Bussey	Tucson Airport Authority	7250 S Tucson Blvd. Suite 300, Tucson, AZ 85756	520-573-4821		cbussey@flytucson.com
Matti Garry	Tucson Airport Authority	7250 S Tucson Blvd. Suite 300, Tucson, AZ 85756	520-573-4807		mgarry@flytucson.com
Bert Resimont	Tucson Airport Authority	7250 S Tucson Blvd. Suite 300, Tucson, AZ 85756	520-573-4892		bresimont@flytucson.com
Ben Height	Granite Construction	4115 E Illinois St Tucson, AZ 85714	520-528-1292		ben.height@gcinc.com
Garrett Raymond	Llyod Construction	2180 N Wilmot Rd Tucson, AZ 85712	520-954-8379		grattett@lloydconstruction.com
Donald Logan	Llyod Construction	2180 N Wilmot Rd Tucson, AZ 85712	520-496-9012		donald@lloydconstruction.com
David Tyrpak	Tucson Asphalt	2680 E Valencia Rd., Ste 196 Tucson, AZ 85706	520-990-9254		david@tucsonasphalt.com
Michael Gibson	Red Point Contracting	39506 N Daisy Mtn Dr., Ste 122 Phoenix, AZ 85086	602-792-0013		michael.gibson@redpointcontracting.com
Justin Humphrey	ISX Construction	3210 E El Camino del Cerro Tucson, AZ 85745	515-343-4654		justin.humphrey@isx-inc.com
Rob Preshun	ISX Construction	3210 E El Camino del Cerro Tucson, AZ 85745	515-343-4654		Rob.presuhn@isx-inc.com
Steven Teichert	KE&G	3949 E Irvington Rd. Tucson, AZ 85714	520-354-0713		steichert@kegtus.com
Kody Day	Days Excavating	4295 E Dawson Rd Sahuarita, AZ 85629	520-940-1553		kody.daysexcavating@gmail.com

CONTRACTOR'S QUALIFICATION STATEMENT

The Undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

SUBMITTED TO: _____

ADDRESS: _____

SUBMITTED BY: _____

NAME: _____

ADDRESS: _____

PRINCIPAL OFFICE: _____

- | | |
|--------------------------------------|--|
| <input type="checkbox"/> Corporation | <input type="checkbox"/> Partnership |
| <input type="checkbox"/> Individual | <input type="checkbox"/> Joint Venture |
| <input type="checkbox"/> Other _____ | |

NAME OF PROJECT: 20112202 AVIATOR LN SEWER EXTENSION AND MILL/OVERLAY
 20120331 CONNECTOR RD RECONSTRUCTION AND SEWER EXTENSION

TYPE OF WORK (file separate form for each Classification of Work):

_____	General Construction	_____	HVAC
_____	Plumbing	_____	Electrical
_____	Systems	_____	Other (please specify)

1. ORGANIZATION

1.1 How many years has your organization been in business as a Contractor?
(Minimum of five years continuous operation is required.)

1.2 How many years has your organization been in business under its current business name? *(No minimum required if five years continuous operation required in Paragraph 1.1 can be demonstrated.)*

1.2.1 Under what other or former names has your organization operated?

1.3 If your organization is a corporation, answer the following:

1.3.1 Date of incorporation:

1.3.2 State of incorporation:

1.3.3 President's Name:

1.3.4 Vice-president's name(s):

1.3.5 Secretary's name:

1.3.6 Treasurer's name:

1.4 If your organization is a partnership, answer the following:

1.4.1 Date of organization:

1.4.2 Type of partnership (if applicable):

1.4.3 Name(s) of general partner(s):

1.5 If your organization is individually owned, answer the following:

1.5.1 Date of organization:

1.5.2 Name of owner:

1.6 If the form of your organization is other than those listed above, describe it and name the principals:

2. LICENSING

2.1 List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration or license numbers, if applicable.

2.2 List jurisdictions in which your organization's partnership or trade name is filed.

3. EXPERIENCE

3.1 List the categories of work that your organization normally performs with its own forces. Also indicate the percentage of the work you expect to self-perform.

- 3.2 Claims and Suits. (If the answer to any of the questions below is yes, please attach details.)
- 3.2.1 Has your organization ever failed to complete any work awarded to it?
 Yes No
- 3.2.2 Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers?
 Yes No
- 3.2.3 Has your organization filed any lawsuits or requested arbitration with regard to construction contracts within the last five years?
 Yes No
- 3.2.4 Has your organization ever been defaulted on or terminated from a construction project?
 Yes No
- 3.2.5 Has your organization ever been a sub-contractor to a contractor that failed to complete the work awarded to it?
 Yes No
- 3.2.6 Has your organization ever been a sub-contractor to a contractor that was defaulted or terminated from a construction project?
 Yes No
- 3.3 Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? (If the answer is yes, please attach details.)
 Yes No
- 3.4 On a separate sheet, list major construction projects your organization has in progress, giving the name of project, owner, architect, contract amount, percent complete and scheduled completion date.
- 3.4.1 State total worth of work in progress and under contract:
- 3.4.2 List name, address and telephone number of a reference for each project listed under Item 3.4 above.

- 3.5 List name of project, location, owner, architect or engineer, contract amount, date of completion and percent of work with own forces of the major projects of the same general nature as this project which your organization has completed in the past five years. Also include a brief description of the work executed for each project, and list name, address and telephone number of a reference for each project listed.
- 3.6 On a separate sheet, list the construction experience and present commitments of the key individuals of your organization.
- 3.6.1 On a separate sheet, list the names of each superintendent who will be primarily responsible for this construction project, their experience with the same or similar type of project in the last five years. Include the projects name, dates of construction and locations for each project with which they were involved. **Attach resumes** for the proposed superintendent(s).

4. REFERENCES

4.1 Trade References:

4.2 Bank References:

4.3 Surety:

4.3.1 Name of bonding company:

4.3.2 Name and address of agent:

5. FINANCING

5.1 Financial Statement.

5.1.1 Attach an audited financial statement, including your organization's latest balance sheet and income statement showing the following items:

Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses);

Net Fixed Assets;

Other Assets;

Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes);

Other Liabilities (e.g., capital, capital stock, authorized and outstanding shares par values, earned surplus and retained earnings).

5.1.2 Name and address of firm preparing attached financial statement, and date thereof;

5.1.3 Is the attached financial statement for the identical organization named on page one?

Yes No

5.1.4 If not, explain the relationship and financial responsibility of the organization whose financial statement is proved (e.g., parent-subsiary).

5.2 Will the organization whose financial statement is attached act as a guarantor of the contract for construction?

Yes No

SIGNATURE

Dated at __: __ .m. this _____ day of _____, 20__.

Name of Organization:

By: _____

Title: _____

_____ Being duly sworn deposes and says that the information provided herein is true and sufficiently complete so as not to be misleading.

Subscribed and sworn to before me this _____ day of _____, 20__.

Notary Public

My Commission Expires:



**20112202 AVIATOR LN SEWER EXTENSION AND MILL/OVERLAY
20120331 CONNECTOR RD RECONSTRUCTION AND SEWER EXTENSION**

TUCSON AIRPORT AUTHORITY SUBMITTER LIST FORM

The Tucson Airport Authority ("TAA") receives federal grant funding and, in compliance with USDOT regulations, requires completion of the following information about firms submitting for projects or contracts. Please complete this form for your firm and submit with your response.

Firm understands and agrees that the following information will be submitted to the United States Department of Transportation for statistical tracking.

Name of Firm: _____

Contact Person: _____

Address of Firm: _____

Telephone: _____

Fax: _____

Email Address: _____

Specialty of Firm: _____

Is the firm currently certified as a Small Business Enterprise ("SBE") by any Partner(s) of the Arizona Unified Certification Program (City of Tucson, City of Phoenix, Arizona Department of Transportation)?

SBE: ___ Yes ___ No

If yes, please state from which certifying agency the firm received certification: _____

Age of firm (number of years since commencing business): _____

NAICS code(s) applicable to each scope of work the firm seeks to perform in its bid:

Annual gross receipts of the firm:

_____ Less than \$500,000 _____ \$15,000,000 - \$20,000,000

_____ \$500,000 - \$999,999 _____ Over \$20,000,000

_____ \$1,000,000 - \$1,999,999

_____ \$2,000,000 - \$4,999,999

_____ \$5,000,000 - \$9,999,999

_____ \$10,000,000 - \$14,999,999

BID FORM

PLACE: TUCSON AIRPORT AUTHORITY
Tucson International Airport Terminal
7250 S. Tucson Blvd., Suite 300
Tucson, Arizona 85756

DATE/TIME: 2:00 p.m. local Tucson time, Thursday, July 2, 2026

BID OF: _____
(Hereinafter called the "Bidder")

DOING BUSINESS AS: _____
Corporation Partnership Individual

TO: Tucson Airport Authority ("TAA" or "Owner")

PROJECTS: 20112202 Aviator Ln Sewer Extension and Mill/Overlay
20120331 Connector Rd Reconstruction and Sewer Extension

I (We), the undersigned, propose to provide all construction and services required by the Bid Documents or reasonably inferable therefrom to produce the results intended, whether completed or partially completed, and including all other administration, supervision, labor, materials, equipment, supplies, incidentals, facilities, requirements, and services to be provided by Contractor to fulfill Contractor's obligations under the Contract Documents, hereinafter called the "Work."

I (We) further declare that we have carefully read and examined all Bid Documents and all portions of the Contract Documents, including the Drawings and Specifications, and that we have made personal examination of the property, and that we have a full understanding of the exact scope of the Work.

I (We) further declare that in case of a joint bid each party thereto certifies, as to his/her own organization, that this Bid has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Bid with any other Bidder or with any competitor. The Bid as stated herein includes the cost of insurance and bonds as required by the Contract Documents. I (We) agree to provide the bonds and insurance required under the Contract Documents.

I (We) further declare that we have not in the preparation or submission of this Bid, or with regard to any act of performance under the Contract Documents, entered into any contract, combination, conspiracy or other act in restraint of trade or commerce which is unlawful under the laws of the State of Arizona.

I (We) further acknowledge receipt of the following Addenda:

Addendum No.	Date
Addendum No.	Date
Addendum No.	Date
Addendum No.	Date

In submitting this Bid, I (we) agree to the following:

1. To execute the Construction Services Agreement for the Work for the price stated below, in the form submitted in the Bid Documents, as that form is supplemented and amended by the Contract Documents, within fourteen (14) Calendar Days of receipt of notification of acceptance of this Bid.
2. To accomplish the Work in strict accordance with the Contract Documents and all applicable laws, statutes, ordinances, codes and regulations, and to submit herewith the attached Non-Collusion Affidavit.
3. To commence Work on or before the date specified in the "Notice to Proceed," and to complete the Work within the time set forth in the Contract Documents.
4. To complete the Work for the price(s) shown below:

20112202 Aviator Ln Sewer Extension and Mill/Overlay

BASE BID (_____)

_____ (\$_____)
In Words In numbers

TOTAL AGGREGATE BID (Base Bid)

_____ (\$_____)
In Words In numbers

20120331 Connector Rd Reconstruction and Sewer Extension

BASE BID (_____)

_____ (\$_____)
In Words In numbers

TOTAL AGGREGATE BID (Base Bid)

_____ (\$_____)
In Words In numbers

Enclosed is a Bid Bond as required in the Instructions to Bidders consisting of a _____ in the amount of _____ dollars (\$_____) which is not less than ten percent (10%) of the Total Aggregate Bid.

In accordance with the terms and conditions set forth in the Instruction to Bidders, the undersigned Bidder understands and agrees that the Bid Bond can be forfeited to TAA in the event the Bidder fails to deliver the required bonds and insurance and otherwise fails to execute the Construction Services Agreement for the Project within fourteen (14) Calendar Days of receipt of notification of TAA's acceptance of this Bid.

The undersigned Bidder represents to TAA the Bidder's Representations set forth in Section II of the Instructions to Bidders.

NONCOLLUSION AFFIDAVIT

Bidder hereby affirmatively represents to the Tucson Airport Authority that it has not, in the preparation or submission of its bid, or with regard to any act of performance under the Construction Services Agreement for projects 20112202 Aviator Ln Sewer Extension and Mill/Overlay & 20120331 Connector Rd Reconstruction and Sewer Extension entered into any contract, combination, conspiracy or other act in restraint of trade or commerce which is unlawful under the laws of the State of Arizona with regard to any contract with any person or entity for the purchase of equipment, labor or materials, or for the construction, repair, addition or alteration to any building, structure, or improvement under the Construction Services Agreement for 20112202 Aviator Ln Sewer Extension and Mill/Overlay & 20120331 Connector Rd Reconstruction and Sewer Extension or any subcontract with a contractor or a proposed contractor for the purchase of equipment, labor or materials, or for the construction, repair, addition or alteration to any building, structure or improvement.

BIDDER _____

By _____

Its _____

STATE OF ARIZONA)

) ss.

County of Pima)

SUBSCRIBED AND SWORN TO before me this _____ day

of _____, by _____ in his

capacity as _____.

Notary Public

My commission expires:

GEOTECHNICAL EVALUATION REPORT

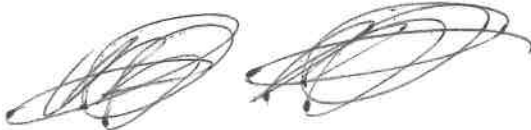
AVIATOR LANE AND CONNECTOR ROAD IMPROVEMENTS

Ryan Airfield, 9698 West Tucson-Ajo Highway
Tucson, Arizona
WT Job No. 29-223568-0

PREPARED FOR:

Stantec Consulting Services, Inc.
1 South Church Avenue, Suite 2100
Tucson, Arizona 85701
Attn: Jim Wright, P.E.

July 15, 2024



Anthony Sarmiento, E.I.T.
Staff Engineer



Justin M. Heinecke, P.E., R.G.
Senior Geotechnical Engineer

GEOTECHNICAL

ENVIRONMENTAL

INSPECTIONS

NDT

MATERIALS

3480 South Dodge Boulevard
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**GEOTECHNICAL EVALUATION
AVIATOR LANE AND CONNECTOR IMPROVEMENTS
RYAN AIRFIELD, 9698 WEST TUCSON-AJO HIGHWAY
PIMA COUNTY, ARIZONA
JOB NO. 29-223568-0**

1.0 PURPOSE

This report contains the results of our geotechnical evaluation for a proposed sewer line and roadway and parking improvements to be located at Ryan Airfield in Pima County near Tucson, Arizona. The purpose of these services is to provide information and recommendations regarding:

- Subsurface conditions
- Lateral earth pressures
- Earthwork guidelines
- Pavement sections
- Drainage
- Groundwater
- Corrosivity (soil to concrete)
- Seismic conditions
- Excavation conditions

Results of the field exploration, field tests, and laboratory testing program are presented in the Appendices.

2.0 PROJECT DESCRIPTION

Based on information provided by Stantec Consulting, Inc., the project consists of the placement of new 8-inch sewer line, approximately 1,700-feet in length, along Aviator Lane. The roadway components include an asphalt mill and overlay a portion of Aviator Lane (approximately 34,147 square feet), and the reconstruction of Aviator Lane parking lots covering approximately 34,609 square feet. The project also includes reconstruction of Connector Road with a proposed asphalt pavement section (approximate area 31,833 square feet), asphalt mill and overlay of the parking lot area adjacent to the Ryan Airfield Administration building and restaurant, and installation of a new sewer line to a connection at an existing Pima County Regional Wastewater Reclamation District (PCRWRD) manhole at Airfield Drive. The relocation of fire access Gate 3 will include construction of gate pavements, conduit installation, updated fencing, gate loops, and electronic gate operators. It is anticipated that pavement elevations will remain essentially unchanged and

that sewer lines will be installed at depths less than 10 feet below grade. Should this information not be correct, we should be notified immediately.

3.0 SCOPE OF SERVICES

3.1 Field Exploration

Ten (10) borings were drilled to depths of about 11.5 feet below existing site grade in the improvement areas. The borings were at the approximate locations shown on the attached Boring Location Diagram. A field log was prepared for each boring. These logs contain visual classifications of the materials encountered during drilling as well as interpolation of the subsurface conditions between samples. Final logs, included in Appendix A, represent our interpretation of the field logs and may include modifications based on laboratory observations and tests of the field samples. The final logs describe the materials encountered, their thickness, and the locations where samples were obtained.

The Unified Soil Classification System was used to classify soils. The soil classification symbols appear on the boring logs and are briefly described in Appendix A. Local and regional geologic characteristics were used to estimate the seismic design criteria.

3.2 Laboratory Analyses

Laboratory analyses were performed on representative soil samples to aid in material classification and to estimate pertinent engineering properties of the on-site soils for preparation of this report. Testing was performed in general accordance with applicable standard test methods. The following tests were performed, and the results are presented in Appendix B.

- Water content
- Dry density
- Plasticity
- Minus #200 sieve
- R-Value
- Gradation
- Moisture-density relationship (proctor)
- Permeability

3.3 Analyses and Report

This geotechnical engineering report includes a description of the project, a discussion of the field and laboratory testing programs, a discussion of the subsurface conditions, and

design recommendations as appropriate to its purpose. The scope of services for this project does not include, either specifically or by implication, any environmental assessment of the site, discovery of underground storage tanks or other underground structures, or identification of contaminated or hazardous materials or conditions. If there is concern about the potential for such contamination, other studies should be undertaken. We are available to discuss the scope of such studies with you.

4.0 SITE CONDITIONS

4.1 Surface

Existing site development consisted of the current Aviator Lane, Connector Road, and parking lot pavements. Fills or underground facilities such as septic tanks, cesspools, basements, utilities, and dry wells were not observed. The ground surface was relatively flat and vegetation consisted of sparse to dense trees, cacti, and grasses. Site drainage trended to the northwest as sheet surface flow, although shallow depressions existed.

Existing pavements along Aviator Lane and the access roads and parking lots consisted of about 2 to 4 inches of asphalt concrete overlying 2 to 6 inches of aggregate base course.

4.2 Subsurface

As presented on the Boring Logs, surface soils to depths of 10 feet consisted of loose to very dense Clayey SAND. Near surface soils are of medium to high plasticity. The materials underlying the surface soils and extending to the full depth of exploration consisted of medium dense to dense Silty SAND and Clayey SAND. No apparent zones of carbonate cementation were encountered. Groundwater was not encountered in any boring at the time of exploration. A detailed description of the soils encountered can be found on the boring logs in Appendix A.

5.0 GEOTECHNICAL PROPERTIES & ANALYSIS

5.1 Laboratory Tests

Laboratory test results (see Appendix B) indicate that on-site subsoils are of moderate to high plasticity. These soils are fair quality materials for support of pavements may be used as utility trench backfill.

A hydraulic conductivity (permeability) test was performed on a relatively undisturbed sample obtained from Boring 4 at a depth of 2 to 3 feet below the ground surface. The hydraulic conductivity rate was measured at 1.6×10^{-6} centimeters per second. The test was performed by Daniel B. Stephens & Associates.

5.2 Field Tests

On-site subsoils near shallow foundation level exhibited low to high resistance to penetration using the standard penetration test method (ASTM D1586) and ring-lined barrel sampler (ASTM D3550).

The boring logs included in this report are indicators of subsurface conditions only at the specific location and date noted. Variations from the field conditions represented by the borings may become evident during construction. If variations appear, we should be contacted to re-evaluate our recommendations.

6.0 RECOMMENDATIONS

6.1 General

Recommendations contained in this report are based on our understanding of the project criteria described in Section 2.0 and the assumption that the soil and subsurface conditions are those disclosed by the explorations. Others may change the plans and final elevations during design or construction. Substantially different subsurface conditions from those described herein may be encountered or become known. Any changes in the project criteria or subsurface conditions shall be brought to our attention in writing. This report does not encompass the effects, if any, of underlying geologic hazards or regional groundwater

withdrawal and expresses no opinion regarding their effects on surface movements at the project site.

6.2 Pavements – Mill and Overlay

Where existing pavement sections consist of at least 3 inches of asphalt concrete, a mill and overlay procedure may be considered. Milling existing asphalt concrete to a depth of 1.5 to 2 inches and placement of an asphalt concrete overlay should create a pavement section to achieve another 10 or more years of useful service. A 2-inch-thick overlay should be sufficient for the vehicular traffic loads that typically use the pavements (i.e. primarily passenger cars and occasional medium to heavy trucks). The cracks in the remaining asphalt concrete will reflect up through the new overlay; however, the new overlay, if properly bonded to the milled surface using a tack coat, should provide suitable support for traffic. A stress-absorbing fabric interlayer between the existing and new asphalt layers should be considered to reduce and delay reflective cracking.

6.3 Pavement Reconstruction

No specific traffic loads have been provided, but for the purpose of this evaluation it has been presumed that traffic loads will be less than 60,000 Equivalent 18-Kip Single Axle Loads (ESAL) for roadway and parking areas. Therefore, based on the existing subgrade conditions, a seasonal variation factor of 1.7, a design R-value of 13 (calculated using the Pima County Roadway Design Manual that utilizes both correlated and tested R-values), a reliability value of 80 percent, and a resilient modulus of 6,080 psi, the following pavement sections are recommended for a 20-year design life:

Aviator Lane, Access Roads, Parking Lots	Asphalt Concrete Pavement (inches)	Base Course (inches) ¹
Option 1	3	8
Option 2	3½	6
Option 3	4	4

¹ Asphalt concrete millings may be used as part of the base course for the new pavement section. If more than 50 percent of the base course thickness is comprised of millings, the overall base course thickness should be increased by 1 inch.

Due to the high static loads imposed by parked trucks in loading and unloading areas and at dumpster locations, we recommend that a rigid pavement section be considered for these areas. A minimum 6-inch thick portland cement concrete pavement overlying 4 inches of aggregate base is recommended.

Base course and asphalt concrete should conform to *PAG (Pima Association of Governments) Standard Specifications for Public Improvements*, Current Edition. Bituminous surfacing should be constructed of dense-graded, central plant-mix, asphalt concrete. Light duty asphalt concrete should conform to the specifications for what is referred to locally as "PAG 2 for Local Streets or PAG 2 Low Volume." Medium and heavy-duty asphalt concrete should consist of two layers. The bottom or base layer should consist of PAG 1 asphalt concrete overlaid by a surface layer that conforms to the specifications for what is referred to locally as "PAG 2 for Arterial Streets or PAG 2 High Volume."

Material and compaction requirements should conform to recommendations presented under **EARTHWORK**. The gradient of paved surfaces should ensure positive drainage. Water should not pond in areas directly adjoining paved sections. The on-site clayey subgrade soils may soften and lose stability if subjected to conditions that result in an increase in water content.

The "design life" (20 years) of a pavement is defined as the expected life at the end of which reconstruction of the pavement will need to occur. Normal maintenance, including crack sealing, slurry sealing, and/or chip sealing, should be performed during the life of the pavement.

6.4 **Drainage**

It is important that subgrade soils beneath pavements and sidewalks not be allowed to become saturated during or after construction. Grades should be such that drainage is off of, and away from, pavements. Water and sewer utility lines should be properly installed to avoid possible sources for subsurface saturation. It is important that all utility trenches be properly backfilled.

6.5 **Corrosivity to Concrete**

In order to be consistent with standard local practice and for reasons of material availability, we recommend a Type II portland cement be used for all concrete on and below grade.

7.0 EARTHWORK

7.1 General

The conclusions contained in this report for the proposed construction are contingent upon compliance with recommendations presented in this section. Any excavating, trenching, or disturbance that occurs after completion of the earthwork must be backfilled, compacted and tested in accordance with the recommendations contained herein. It is not reasonable to rely upon our conclusions and recommendations if any future unobserved and untested trenching, earthwork activities or backfilling occurs.

Although fills or underground facilities such as septic tanks, cesspools, basements, utilities, and dry wells were not observed, such features might be encountered during construction. These features should be demolished in accordance with the recommendations of the geotechnical engineer. Any loose or disturbed soils resulting from demolition should be removed or recompacted as engineered fill and any excavations should be backfilled in accordance with recommendations presented herein.

7.2 Excavation

We anticipate that excavations for utility trenches for the proposed construction can be accomplished with conventional equipment.

On-site clayey soils may pump or become unworkable at high water contents. Workability may be improved by scarifying and drying. Over-excavation of wet zones and replacement with granular materials may be necessary. The use of lightweight excavation and compaction equipment may be required to minimize subgrade pumping.

The soils to be penetrated by the proposed excavations may vary significantly across the site. Our soil classifications are based solely on the materials encountered in widely spaced exploratory test borings. The contractor should verify that similar conditions exist throughout the proposed area of excavation. If different subsurface conditions are found at the time of construction, we should be contacted immediately to evaluate the conditions encountered.

7.2.1 Temporary Excavations and Slopes

Temporary, non-surcharged construction excavations should be sloped or shored. The individual contractor should be made responsible for designing and constructing stable, temporary excavations as required to maintain stability of both the excavation sides and bottom. All excavations should be sloped or shored in the interest of safety following local and federal regulations, including current OSHA excavation and trench safety standards. OSHA recommends a maximum slope inclination of $\frac{3}{4}$:1 (horizontal:vertical) for Type A soils, 1:1 for Type B soils, and $1\frac{1}{2}$:1 for Type C soils.

As a safety measure, it is recommended that all vehicles and soil piles be kept a minimum lateral distance back from the crest of the slope at least equal to the slope height. The exposed slope face should be protected against the elements.

If any excavation, including a utility trench, is extended to a depth of more than 20 feet, it will be necessary to have the side slopes designed by a professional engineer.

We recommend that the contractor retain a geotechnical engineer to observe the soils exposed in all excavations and provide engineering design for the slopes. This will provide an opportunity to classify the soil types encountered, and to modify the excavation slopes as necessary. This also allows the opportunity to analyze the stability of the excavation slopes during construction.

7.3 Pavement Preparation

Where new pavement sections are constructed, the subgrade should be scarified, moistened as required, and recompact to a minimum depth of 12 inches prior to placement of fill and pavement materials.

7.4 Wet or Unstable Subgrade Soils

At the time of our field exploration, subgrade soils were relatively dry and stable. If site soils become excessively wet, pumping and instability should be anticipated. If wet, unstable subgrade soils are encountered during construction, there are several alternatives to mitigate them. The alternatives vary in cost and time to implement, so the alternatives should be evaluated and compared in order to decide which one is most beneficial for the project.

1. The wet, unstable subgrade may be scarified and/or partially removed in order to allow the excess moisture to evaporate. The soils should be periodically blended to allow uniform drying to occur. When the soils are near optimum moisture content, they should be compacted in accordance with project requirements.
2. The wet, unstable subgrade may be removed and replaced with drier, granular soil and/or aggregate base course. The depth of removal necessary will vary depending on the conditions in each unstable area. It may be best to remove a uniform thickness of 2 feet in each area. Although the wet, unstable soils may extend to a depth greater than 2 feet, the granular material should bridge over these deeper wet soils. Removal should be performed with an excavator or similar piece of equipment so that underlying wet soils will not be adversely affected by wheel loads and thereby become more unstable. The first foot of granular backfill should be placed at near-optimum moisture content and compacted using static (non-vibrating) equipment to at least 90 percent of the maximum dry density. The second foot of granular material may then be placed and compacted in accordance with project requirements.
3. Geogrid and aggregate base course may be used to bridge over wet subgrade soils. Wet, unstable subgrade should be removed to a depth of at least 1 foot and to a distance at least 2 feet beyond the edge of the unstable area. Removal should be performed with an excavator or similar piece of equipment so that underlying wet soils will not be adversely affected by wheel loads and thereby become unstable. Geogrid should consist of Tensor Type 3, HX165, NX750 or equivalent and should be installed in accordance with the manufacturer's installation instructions. The geogrid should extend at least 2 feet beyond the edge of the unstable area. Aggregate base course (not just granular soil) should be placed over the geogrid and compacted in accordance with project requirements.
4. Wet, unstable subgrade soils at the site may be mixed with dry portland cement or hydrated lime. For cost-estimating purposes, it may be assumed that 5 percent by dry weight of the soil will be required to stabilize the site soils and that treatment to a depth of 1 foot will be required to bridge over the unstable areas. The depth of treatment and quantity of cement or lime may be modified during construction depending on the results achieved. It should be noted that the portland cement will not chemically react with the clay component of the soil; however, the cement will dry the soil and will provide cementation of the coarse-

grained particles in the soil. Since the dry cement will react with the excess moisture in the subgrade soils, additional water will need to be added to achieve moisture contents near optimum prior to compaction of the soils. The blended soil should be compacted and tested in accordance with project requirements.

The extent of the unstable areas to be treated may be identified by proof rolling the exposed materials with a 20-ton, tandem-axle, dual-wheel water truck or dump truck loaded to the legal limit with tires inflated to 100 psi. Areas where soil movement is observed more than 6 inches away from the truck's rear tires should be considered unstable.

7.5 **Materials**

Clean on-site soils with low expansive potentials and maximum dimension of 6 inches or imported materials may be used as fill material for the following:

- Exterior slab areas²
- Pavement areas
- Backfill

Imported soils should conform to the following:

- Gradation (ASTM C136): percent finer by weight

6"	100
4"	85-100
¾"	70-100
No. 4 Sieve	50-100
No. 200 Sieve	40 (max)
- Maximum expansive potential (%)³..... 1.5

² On-site clayey soils are not recommended for use within 12 inches of the bottom of slabs-on-grade or as structural backfill behind retaining walls.

³ Measured on a sample compacted to approximately 95 percent of the ASTM D698 maximum dry density at about 3 percent below optimum water content. The sample is confined under a 100 psf surcharge and submerged.

- Maximum soluble sulfates (%).....0.10

Base course should conform to the *PAG (Pima Association of Governments) Standard Specifications for Public Improvements* or other local government specifications.

7.6 **Placement and Compaction**

- a. Place and compact fill in horizontal lifts, using equipment and procedures that will produce recommended water contents and densities throughout the lift.
- b. Uncompacted lift thickness should not exceed 10 inches.
- c. Materials should be compacted to the following:

Minimum Percent Material Compaction (ASTM D698)

- On-site or imported soil, reworked and fill:
 Below pavement 95
- Aggregate base below pavement 100
- Nonstructural backfill 90

Fill at depths greater than 5 feet below finished grade should be compacted to at least 100 percent of the ASTM D698 dry-density value to within 5 feet of finished grade. Fill at depths less than 5 feet below finished grade should be compacted to the minimum values provided above.

On-site clayey soils should be compacted within a water content range of 1 percent below to 3 percent above optimum. Imported and on-site granular soils with low expansion potential should be compacted within a water content range of 3 percent below to 3 percent above optimum.

7.7 Compliance

Recommendations for slabs-on-grade, and pavements supported on compacted fills or prepared subgrade depend upon compliance with the **EARTHWORK** recommendations. To assess compliance, observation and testing should be performed under the direction of a WT geotechnical engineer. Please contact us to provide these observation and testing services.

8.0 **ADDITIONAL SERVICES**

The recommendations provided in this report are based on the assumption that a sufficient schedule of tests and observations will be performed during construction to verify compliance. At a minimum, these tests and observations should be comprised of the following:

- Observations and testing during site preparation and earthwork,
- Observation of foundation excavations, and
- Consultation as may be required during construction.

Retaining the geotechnical engineer who developed your report to provide construction observation is the best way to verify compliance and to help you manage the risks associated with unanticipated conditions.

9.0 **LIMITATIONS**

This report has been prepared assuming the project criteria described in **2.0 PROJECT DESCRIPTION**. If changes in the project criteria occur, or if different subsurface conditions are encountered or become known, the conclusions and recommendations presented herein shall become invalid. In any such event, WT should be contacted in order to assess the effect that such variations may have on our conclusions and recommendations. If WT is not retained for the construction observation and testing services to determine compliance with this report, our professional responsibility is accordingly limited.

The recommendations presented are based entirely upon data derived from a limited number of samples obtained from widely spaced explorations. The attached logs are indicators of subsurface conditions only at the specific locations and times noted. This report assumes the

uniformity of the geology and soil structure between explorations, however variations can and often do exist. Whenever any deviation, difference, or change is encountered or becomes known, WT should be contacted.

This report is for the exclusive benefit of our client alone. There are no intended third-party beneficiaries of our contract with the client or this report, and nothing contained in the contract or this report shall create any express or implied contractual or any other relationship with, or claim or cause of action for, any third party against WT.

This report is valid for the earlier of one year from the date of issuance, a change in circumstances, or discovered variations. After expiration, no person or entity shall rely on this report without the express written authorization of WT.

10.0 CLOSURE

We prepared this report as an aid to the designers of the proposed project. The comments, statements, recommendations and conclusions set forth in this report reflect the opinions of the authors. These opinions are based upon data obtained at the location of the explorations, and from laboratory tests. Work on your project was performed in accordance with generally accepted standards and practices utilized by professionals providing similar services in this locality. No other warranty, express or implied, is made.



LEGEND



APPROXIMATE BORING LOCATION

NOT TO SCALE: FOR REFERENCE ONLY



PROJECT: AVIATOR LN AND CONNECTOR RD IMPROVEMENTS
 JOB NO.: 29-223568-0

PLATE

1

BORING LOCATION DIAGRAM

Allowable Soil Bearing Capacity	The recommended maximum contact stress developed at the interface of the foundation element and the supporting material.
Backfill	A specified material placed and compacted in a confined area.
Base Course	A layer of specified aggregate material placed on a subgrade or subbase.
Base Course Grade	Top of base course.
Bench	A horizontal surface in a sloped deposit.
Caisson/Drilled Shaft	A concrete foundation element cast in a circular excavation which may have an enlarged base (or belled caisson).
Concrete Slabs-On-Grade	A concrete surface layer cast directly upon base course, subbase or subgrade.
Crushed Rock Base Course	A base course composed of crushed rock of a specified gradation.
Differential Settlement	Unequal settlement between or within foundation elements of a structure.
Engineered Fill	Specified soil or aggregate material placed and compacted to specified density and/or moisture conditions under observations of a representative of a soil engineer.
Existing Fill	Materials deposited through the action of man prior to exploration of the site.
Existing Grade	The ground surface at the time of field exploration.
Expansive Potential	The potential of a soil to expand (increase in volume) due to absorption of moisture.
Fill	Materials deposited by the actions of man.
Finished Grade	The final grade created as a part of the project.
Gravel Base Course	A base course composed of naturally occurring gravel with a specified gradation.
Heave	Upward movement.
Native Grade	The naturally occurring ground surface.
Native Soil	Naturally occurring on-site soil.
Rock	A natural aggregate of mineral grains connected by strong and permanent cohesive forces. Usually requires drilling, wedging, blasting or other methods of extraordinary force for excavation.
Sand and Gravel Base Course	A base course of sand and gravel of a specified gradation.
Sand Base Course	A base course composed primarily of sand of a specified gradation.
Scarify	To mechanically loosen soil or break down existing soil structure.
Settlement	Downward movement.
Soil	Any unconsolidated material composed of discrete solid particles, derived from the physical and/or chemical disintegration of vegetable or mineral matter, which can be separated by gentle mechanical means such as agitation in water.
Strip	To remove from present location.
Subbase	A layer of specified material placed to form a layer between the subgrade and base course.
Subbase Grade	Top of subbase.
Subgrade	Prepared native soil surface.

COARSE-GRAINED SOILS

LESS THAN 50% FINES

GROUP SYMBOLS	DESCRIPTION	MAJOR DIVISIONS
GW	WELL-GRADED GRAVEL OR WELL-GRADED GRAVEL WITH SAND, LESS THAN 5% FINES	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE
GP	POORLY-GRADED GRAVEL OR POORLY-GRADED GRAVEL WITH SAND, LESS THAN 5% FINES	
GM	SILTY GRAVEL OR SILTY GRAVEL WITH SAND, MORE THAN 12% FINES	
GC	CLAYEY GRAVEL OR CLAYEY GRAVEL WITH SAND, MORE THAN 12% FINES	
SW	WELL-GRADED SAND OR WELL-GRADED SAND WITH GRAVEL, LESS THAN 5% FINES	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE
SP	POORLY-GRADED SAND OR POORLY-GRADED SAND WITH GRAVEL, LESS THAN 5% FINES	
SM	SILTY SAND OR SILTY SAND WITH GRAVEL, MORE THAN 12% FINES	
SC	CLAYEY SAND OR CLAYEY SAND WITH GRAVEL, MORE THAN 12% FINES	

NOTE: Coarse-grained soils receive dual symbols if they contain 5% to 12% fines (e.g., SW-SM, GP-GC).

FINE-GRAINED SOILS

MORE THAN 50% FINES

GROUP SYMBOLS	DESCRIPTION	MAJOR DIVISIONS
ML	SILT, SILT WITH SAND OR GRAVEL, SANDY SILT, OR GRAVELLY SILT	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50
CL	LEAN CLAY OF LOW TO MEDIUM PLASTICITY, SANDY CLAY, OR GRAVELLY CLAY	
OL	ORGANIC SILT OR ORGANIC CLAY OF LOW TO MEDIUM PLASTICITY	
MH	ELASTIC SILT, SANDY ELASTIC SILT, OR GRAVELLY ELASTIC SILT	SILTS AND CLAYS LIQUID LIMIT MORE THAN 50
CH	FAT CLAY OF HIGH PLASTICITY, SANDY FAT CLAY, OR GRAVELLY FAT CLAY	
OH	ORGANIC SILT OR ORGANIC CLAY OF HIGH PLASTICITY	
PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	HIGHLY ORGANIC SOILS

NOTE: Fine-grained soils may receive dual classification based upon plasticity characteristics (e.g. CL-ML).

SOIL SIZES

COMPONENT	SIZE RANGE
BOULDERS	Above 12 in.
COBBLES	3 in. – 12 in.
GRAVEL	No. 4 – 3 in.
Coarse	¾ in. – 3 in.
Fine	No. 4 – ¾ in.
SAND	No. 200 – No. 4
Coarse	No. 10 – No. 4
Medium	No. 40 – No. 10
Fine	No. 200 – No. 40
Fines (Silt or Clay)	Below No. 200

NOTE: Only sizes smaller than three inches are used to classify soils

CONSISTENCY

CLAYS & SILTS	BLOWS PER FOOT
VERY SOFT	0 – 2
SOFT	3 – 4
FIRM	5 – 8
STIFF	9 – 15
VERY STIFF	16 – 30
HARD	OVER 30

RELATIVE DENSITY

SANDS & GRAVELS	BLOWS PER FOOT
VERY LOOSE	0 – 4
LOOSE	5 – 10
MEDIUM DENSE	11 – 30
DENSE	31 – 50
VERY DENSE	OVER 50

NOTE: Number of blows using 140-pound hammer falling 30 inches to drive a 2-inch-OD (1½-inch ID) split-barrel sampler (ASTM D1586).

PLASTICITY OF FINE GRAINED SOILS

PLASTICITY INDEX	TERM
0	NON-PLASTIC
1 – 7	LOW
8 – 20	MEDIUM
Over 20	HIGH

DEFINITION OF WATER CONTENT

DRY
SLIGHTLY DAMP
DAMP
MOIST
WET
SATURATED



METHOD OF CLASSIFICATION

PLATE

A-2

The number shown in "**BORING NO.**" refers to the approximate location of the same number indicated on the "Boring Location Diagram" as positioned in the field by pacing or measurement from property lines and/or existing features, or through the use of Global Positioning System (GPS) devices. The accuracy of GPS devices is somewhat variable.

"**DRILLING TYPE**" refers to the exploratory equipment used in the boring wherein **HSA = hollow stem auger**, and the dimension presented is the outside diameter of the HSA used.

"**N**" in "**BLOW COUNTS**" refers to a 2-inch outside diameter split-barrel sampler driven into the ground with a 140 pound drop-hammer dropped 30 inches repeatedly until a penetration of 18 inches is achieved or until refusal. The number of blows, or "blow count", of the hammer is recorded for each of three 6-inch increments totaling 18 inches. The number of blows required for advancing the sampler for the last 12 inches (2nd and 3rd increments) is defined as the Standard Penetration Test (SPT) "**N**"-Value. Refusal to penetration is considered more than 50 blows per 6 inches. (Ref. ASTM D1586).

"**R**" in "**BLOW COUNTS**" refers to a 3-inch outside diameter ring-lined split barrel sampler driven into the ground with a 140 pound drop-hammer dropped 30 inches repeatedly until a penetration of 12 inches is achieved or until refusal. The number of blows required to advance the sampler 12 inches is defined as the "**R**" blow count. The "**R**" blow count requires an engineered conversion to an equivalent SPT N-Value. Refusal to penetration is considered more than 50 blows per foot. (Ref. ASTM D3550).

"**CS**" in "**BLOWS/FT.**" refers to a 2½-in. outside diameter California style split-barrel sampler, lined with brass sleeves, driven into the ground with a 140-pound hammer dropped 30 inches repeatedly until a penetration of 18 inches is achieved or until refusal. The number of blows of the hammer is recorded for each of the three 6-inch increments totaling 18 inches. The number of blows required for advancing the sampler for the last 12 inches (2nd and 3rd increments) is defined as the "**CS**" blow count. The "**CS**" blow count requires an engineered conversion to an equivalent SPT N-Value. Refusal to penetration is considered more than 50 blows for a 6-inch increment. (Ref. ASTM D 3550)

"**SAMPLE TYPE**" refers to the form of sample recovery, in which **N** = Split-barrel sample, **R** = Ring-lined sample, "**CS**" = California style split-barrel sample, **G** = Grab sample, **B** = Bucket sample, **C** = Core sample (ex. diamond bit rock coring).

"**DRY DENSITY (LBS/CU FT)**" refers to the laboratory-determined dry density in pounds per cubic foot. The symbol "**NR**" indicates that no sample was recovered.

"**WATER (MOISTURE) CONTENT**" (% of Dry Wt.) refers to the laboratory-determined water content in percent using the standard test method ASTM D2216.

"**USCS**" refers to the "Unified Soil Classification System" Group Symbol for the soil type as defined by ASTM D2487 and D2488. The soils were classified visually in the field, and where appropriate, classifications were modified by visual examination of samples in the laboratory and/or by appropriate tests.

These notes and boring logs are intended for use in conjunction with the purposes of our services defined in the text. Boring log data should not be construed as part of the construction plans nor as defining construction conditions.

Boring logs depict our interpretations of subsurface conditions at the locations and on the date(s) noted. Variations in subsurface conditions and characteristics may occur between borings. Groundwater levels may fluctuate due to seasonal variations and other factors.

The stratification lines shown on the boring logs represent our interpretation of the approximate boundary between soil or rock types based upon visual field classification at the boring location. The transition between materials is approximate and may be more or less gradual than indicated.



BORING LOG NOTES

PLATE

A-3

**Project: AVIATOR LANE &
CONNECTOR ROAD
IMPROVEMENTS**
Project Number: 29-223568-0

BORING NO. 1



Date(s) Drilled 5/30/2024	Logged By T. DOMINGUEZ	Checked By J. HEINECKE
Drilling Method HSA	Drill Bit Size/Type 7"	Total Depth of Borehole 11.5 FT
Drill Rig Type CME-75	Drilling Contractor GSI	Approximate Surface Elevation NOT DETERMINED
Groundwater Level and Date Measured NOT ENCOUNTERED	Sampling Method(s) Bulk, Ring, SPT	Hammer Data 140-LB AUTOHAMMER
Borehole Backfill AUGER CUTTINGS	Location SEE LOCATION DIAGRAM	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			G			Asphalt		4" Asphalt Concrete on 5" Aggregate Base Course	
						SC		Clayey SAND; red-brown, loose, damp becomes medium dense	
6.3	6.3	115	R		17				
5.6	5.6	91	R		29				
10			N		3 11 14	SM		Silty SAND; light brown, medium dense, slightly damp	
								BORING STOPPED AT 11.5 FEET	

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**Project: AVIATOR LANE &
CONNECTOR ROAD
IMPROVEMENTS**
Project Number: 29-223568-0

BORING NO. 2



Date(s) Drilled 5/30/2024	Logged By T. DOMINGUEZ	Checked By J. HEINECKE
Drilling Method HSA	Drill Bit Size/Type 7"	Total Depth of Borehole 11.5 FT
Drill Rig Type CME-75	Drilling Contractor GSI	Approximate Surface Elevation NOT DETERMINED
Groundwater Level and Date Measured NOT ENCOUNTERED	Sampling Method(s) Bulk, Ring, SPT	Hammer Data 140-LB AUTOHAMMER
Borehole Backfill AUGER CUTTINGS	Location SEE LOCATION DIAGRAM	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			G			SC		Clayey SAND; red-brown, loose, damp	
6.3	96		R		31			becomes brown, medium dense	
7.2	89		R		22 50/3"			becomes red-brown, very dense	
10			N					becomes medium dense	
11.5								BORING STOPPED AT 11.5 FEET	

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**Project: AVIATOR LANE &
CONNECTOR ROAD
IMPROVEMENTS**
Project Number: 29-223568-0

BORING NO. 3



Date(s) Drilled 5/30/2024	Logged By T. DOMINGUEZ	Checked By J. HEINECKE
Drilling Method HSA	Drill Bit Size/Type 7"	Total Depth of Borehole 11.5 FT
Drill Rig Type CME-75	Drilling Contractor GSI	Approximate Surface Elevation NOT DETERMINED
Groundwater Level and Date Measured NOT ENCOUNTERED	Sampling Method(s) Bulk, Ring, SPT	Hammer Data 140-LB AUTOHAMMER
Borehole Backfill AUGER CUTTINGS	Location SEE LOCATION DIAGRAM	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			G			Asphalt		4" Asphalt Concrete on 5" Aggregate Base Course	
11.0	112		R		28	SC		Clayey SAND; red-brown, medium dense, moist	
5	10.4	116	R		23				
10			N		4 10 12	SM		Silty SAND; light brown, medium dense, damp	
11.5								BORING STOPPED AT 11.5 FEET	

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Project: AVIATOR LANE & CONNECTOR ROAD IMPROVEMENTS
Project Number: 29-223568-0

BORING NO. 4



Date(s) Drilled 5/30/2024	Logged By T. DOMINGUEZ	Checked By J. HEINECKE
Drilling Method HSA	Drill Bit Size/Type 7"	Total Depth of Borehole 11.5 FT
Drill Rig Type CME-75	Drilling Contractor GSI	Approximate Surface Elevation NOT DETERMINED
Groundwater Level and Date Measured NOT ENCOUNTERED	Sampling Method(s) Bulk, Ring	Hammer Data 140-LB AUTOHAMMER
Borehole Backfill AUGER CUTTINGS	Location SEE LOCATION DIAGRAM	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			G			Asphalt		4" Asphalt Concrete on 5" Aggregate Base Course	
						SC		Clayey SAND; brown, loose, moist	
			R		16				
5			R		35			becomes red-brown, medium dense	
10			N		5 16 18			becomes damp, dense	
11.5								BORING STOPPED AT 11.5 FEET	

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**Project: AVIATOR LANE &
CONNECTOR ROAD
IMPROVEMENTS**
Project Number: 29-223568-0

BORING NO. 5



Date(s) Drilled 5/30/2024	Logged By T. DOMINGUEZ	Checked By J. HEINECKE
Drilling Method HSA	Drill Bit Size/Type 7"	Total Depth of Borehole 11.5 FT
Drill Rig Type CME-75	Drilling Contractor GSI	Approximate Surface Elevation NOT DETERMINED
Groundwater Level and Date Measured NOT ENCOUNTERED	Sampling Method(s) Bulk, Ring, SPT	Hammer Data 140-LB AUTOHAMMER
Borehole Backfill AUGER CUTTINGS	Location SEE LOCATION DIAGRAM	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			G			Asphalt		4" Asphalt Concrete on 4" Aggregate Base Course	
						SC		Clayey SAND; red-brown, medium dense, damp	
9.6	108		R		24				
14.5	111		R		23			becomes moist	
10			N		5 7 9			becomes brown, damp	
11.5								BORING STOPPED AT 11.5 FEET	

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**Project: AVIATOR LANE &
CONNECTOR ROAD
IMPROVEMENTS**
Project Number: 29-223568-0

BORING NO. 6



Date(s) Drilled 5/30/2024	Logged By T. DOMINGUEZ	Checked By J. HEINECKE
Drilling Method HSA	Drill Bit Size/Type 7"	Total Depth of Borehole 11.5 FT
Drill Rig Type CME-75	Drilling Contractor GSI	Approximate Surface Elevation NOT DETERMINED
Groundwater Level and Date Measured NOT ENCOUNTERED	Sampling Method(s) Bulk, Ring, SPT	Hammer Data 140-LB AUTOHAMMER
Borehole Backfill AUGER CUTTINGS	Location SEE LOCATION DIAGRAM	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			G			Asphalt		4" Asphalt Concrete on 5" Aggregate Base Course	
						SC		Clayey SAND; brown, medium dense, damp	
10.8	116		R		31				
5	9.8	95	R		50/3"			becomes very dense	
10			N		3 7 8	SM		Silty SAND; light brown, medium dense, damp	
								BORING STOPPED AT 11.5 FEET	
15									

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Project: AVIATOR LANE & CONNECTOR ROAD IMPROVEMENTS
Project Number: 29-223568-0

BORING NO. 7



Date(s) Drilled 5/30/2024	Logged By T. DOMINGUEZ	Checked By J. HEINECKE
Drilling Method HSA	Drill Bit Size/Type 7"	Total Depth of Borehole 11.5 FT
Drill Rig Type CME-75	Drilling Contractor GSI	Approximate Surface Elevation NOT DETERMINED
Groundwater Level and Date Measured NOT ENCOUNTERED	Sampling Method(s) Bulk, Ring, SPT	Hammer Data 140-LB AUTOHAMMER
Borehole Backfill AUGER CUTTINGS	Location SEE LOCATION DIAGRAM	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			G			Asphalt		4" Asphalt Concrete on 5" Aggregate Base Course	
	8.1	113	R		10	SC		Clayey SAND; trace gravel, brown, loose, damp	
5	10.5	115	R		18			becomes medium dense, moist	
10			N		4 3 0			BORING STOPPED AT 11.5 FEET	
15									

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Project: AVIATOR LANE & CONNECTOR ROAD IMPROVEMENTS
Project Number: 29-223568-0

BORING NO. 8



Date(s) Drilled 5/30/2024	Logged By T. DOMINGUEZ	Checked By J. HEINECKE
Drilling Method HSA	Drill Bit Size/Type 7"	Total Depth of Borehole 11.5 FT
Drill Rig Type CME-75	Drilling Contractor GSI	Approximate Surface Elevation NOT DETERMINED
Groundwater Level and Date Measured NOT ENCOUNTERED	Sampling Method(s) Bulk, Ring, SPT	Hammer Data 140-LB AUTOHAMMER
Borehole Backfill AUGER CUTTINGS	Location SEE LOCATION DIAGRAM	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			G			Asphalt		4" Asphalt Concrete on 5" Aggregate Base Course	
						SC		Clayey SAND; red-brown, loose, moist	
10.6	116		R		16				
5	5.7	103	R		46			becomes medium dense, damp	
10			N		3 13 12				
								BORING STOPPED AT 11.5 FEET	
15									

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Project: AVIATOR LANE & CONNECTOR ROAD IMPROVEMENTS
Project Number: 29-223568-0

BORING NO. 9



Date(s) Drilled 5/30/2024	Logged By T. DOMINGUEZ	Checked By J. HEINECKE
Drilling Method HSA	Drill Bit Size/Type 7"	Total Depth of Borehole 11.5 FT
Drill Rig Type CME-75	Drilling Contractor GSI	Approximate Surface Elevation NOT DETERMINED
Groundwater Level and Date Measured NOT ENCOUNTERED	Sampling Method(s) Bulk, Ring, SPT	Hammer Data 140-LB AUTOHAMMER
Borehole Backfill AUGER CUTTINGS	Location SEE LOCATION DIAGRAM	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			G			Asphalt		4" Asphalt Concrete on 6" Aggregate Base Course	
13.2	13.2	117	R		22	SC		Clayey SAND; brown, medium dense, moist	
12.5	12.5	114	R		41				
10			N		7 11 11				
11.5								BORING STOPPED AT 11.5 FEET	

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**Project: AVIATOR LANE &
CONNECTOR ROAD
IMPROVEMENTS**
Project Number: 29-223568-0

BORING NO. 10



Date(s) Drilled 5/30/2024	Logged By T. DOMINGUEZ	Checked By J. HEINECKE
Drilling Method HSA	Drill Bit Size/Type 7"	Total Depth of Borehole 11.5 FT
Drill Rig Type CME-75	Drilling Contractor GSI	Approximate Surface Elevation NOT DETERMINED
Groundwater Level and Date Measured NOT ENCOUNTERED	Sampling Method(s) Bulk, Ring, SPT	Hammer Data 140-LB AUTOHAMMER
Borehole Backfill AUGER CUTTINGS	Location SEE LOCATION DIAGRAM	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			G			Asphalt SC		2" Asphalt Concrete on 2" Aggregate Base Course	
17.6	17.6	110	R		27			Clayey SAND; red-brown, medium dense, moist	
5	5.4	105	R		31			becomes damp	
10			N		6 7 11				
11.5								BORING STOPPED AT 11.5 FEET	

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Boring No.	Sample Depth (ft)	USCS Class.	Percent Passing #200	Atterberg Limits		Initial Dry Density (pcf)	Initial Water Content (%)	Compression Properties			Moisture-Density Relationship			Expansion Properties			R-Value	Permeability cm/sec	Remarks
				LL	PI			Surcharge (ksf)	Total Compression (%)		Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Method	Surcharge (ksf)	Expansion (%)	Expansion Index (EI)			
									In-Situ	After Saturation									
1	0-5	SC	34	25	12													12	
1	2-3	SC				115	6.3												
1	5-6	SC				91	5.6	1.0	2.4									11	
								2.0	2.5	18.5								2	
								4.0		20.1								2	
2	0-5	SC	36	34	21													12	
2	2-3	SC				96	6.3												
2	5-6	SC				89	7.2											11	
1&2	0-5	SC									118.8	11.5	A					12	
3	0-5	SC	46	56	43											14		12	
3	2-3	SC				112	11.0												
3	5-6	SC				116	10.4											11	
4	0-5	SC	44	41	28						115.5	12.4	A					10,12	
4	2-3	SC																14	
5	0-5	SC	41	55	43													12	
5	2-3	SC				108	9.6												
5	5-6	SC				111	14.5											11	
6	0-5	SC	37	42	29													12	
6	2-3	SC				116	10.8												
6	5-6	SC				95	9.8											11	
7	0-5	SC																12	
7	2-3	SC	33	31	17	113	8.1	1.0	1.5										
								2.0	1.6	3.1								2	
								4.0		4.2								2	
7	5-6	SC				115	10.5											11	

Remarks

1. Compacted density is approximately 95% of ASTM D698 maximum density at a moisture content slightly below optimum.
2. Submerged to approximate saturation.
3. Slight rebound after saturation.
4. Sample disturbance observed.
5. Expansion Index (EI) test in accordance with ASTM D4829.

6. Chloride (ARIZ 736a) by Motzz Laboratory Inc.
7. Sulfate (ARIZ 733a) by Motzz Laboratory Inc.
8. pH (ARIZ 237b).
9. Minimum Resistivity (ARIZ 236c).
10. Test Method ASTM D698 / AASHTO T99.
11. Field Visual Classification (ASTM D 2488).

12. Laboratory Soil Classification (ASTM D 2487).
13. Test Method ASTM D1557 / AASHTO T180.
14. Flexible wall permeability by D.B. Stephens & Associates.
15. See Corrosion Plate.
16. Initial Dry Density and Initial Water Content from Remolded Swell.
Notes: Initial Dry Density and Initial Water Content are in-situ values unless otherwise noted.
NP = Non-Plastic NV = No Value

	PROJECT: AVIATOR LANE AND CONNECTOR ROAD IMPROVEMENTS	PLATE
	JOB NO.: 29-223568-0	
SOIL PROPERTIES		B-1

Boring No.	Sample Depth (ft)	USCS Class.	Percent Passing #200	Atterberg Limits		Initial Dry Density (pcf)	Initial Water Content (%)	Compression Properties			Moisture-Density Relationship			Expansion Properties			R-Value	Permeability cm/sec	Remarks
				LL	PI			Surcharge (ksf)	Total Compression (%)		Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Method	Surcharge (ksf)	Expansion (%)	Expansion Index (EI)			
									In-Situ	After Saturation									
8	0-5	SC	45	39	26													12	
8	2-3	SC				116	10.6												
8	5-6	SC				103	5.7												
9	0-5	SC	42	35	23														
9	2-3	SC				117	13.2												
9	5-6	SC				114	12.5												
10	0-5	SC	45	43	29														
10	2-3	SC				110	17.6												
10	5-6	SC				105	5.4	1.0	2.1										
								2.0	2.3	11.0									
								4.0		12.8									
9&10	0-5	SC									114.3	12.7	A						

Remarks

1. Compacted density is approximately 95% of ASTM D698 maximum density at a moisture content slightly below optimum.
2. Submerged to approximate saturation.
3. Slight rebound after saturation.
4. Sample disturbance observed.
5. Expansion Index (EI) test in accordance with ASTM D4829.

6. Chloride (ARIZ 736a) by Motzz Laboratory Inc.
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13. Test Method ASTM D1557 / AASHTO T180.
14. Flexible wall permeability by D.B. Stephens & Associates.
15. See Corrosion Plate.
16. Initial Dry Density and Initial Water Content from Remolded Swell.
Notes: Initial Dry Density and Initial Water Content are in-situ values unless otherwise noted.
NP = Non-Plastic NV = No Value

	PROJECT: AVIATOR LANE AND CONNECTOR ROAD IMPROVEMENTS	PLATE
	JOB NO.: 29-223568-0	
SOIL PROPERTIES		B-2

Boring No.	Sample Depth (ft)	USCS Class.	Particle Size Distribution - Percent Passing by Weight																		Atterberg Limits		Remarks	
			6"	4"	3"	2"	1-1/2"	1"	3/4"	1/2"	3/8"	1/4"	#4	#8	#10	#16	#30	#40	#50	#100	#200	LL		PI
			1	0-5	SC							100	99	98	97	96	90	88	82	71	64	57		44
2	0-5	SC										100	99	95	93	85	71	64	58	47	36	34	21	
3	0-5	SC										100	99	94	91	82	72	67	63	54	46	56	43	
4	0-5	SC										100	99	95	93	87	77	71	66	54	44	41	28	
5	0-5	SC									100	99	99	93	90	81	71	66	61	51	41	55	43	
6	0-5	SC									100	99	97	95	89	85	75	64	59	55	46	37	42	29
7	0-5	SC						100	99	97	96	94	93	87	84	75	64	59	53	42	33	31	17	
8	0-5	SC									100	99	98	94	91	84	73	68	63	53	45	39	26	
9	0-5	SC						100	99	99	98	97	96	90	87	79	69	65	60	51	42	35	23	
10	0-5	SC						100	99	99	98	97	96	92	89	81	72	67	63	54	45	43	29	

REMARKS
 NP = Non-plastic



PROJECT: AVIATOR LN & CONNECTOR RD IMPROVEMENTS
 JOB NO.: 29-223568-0

SOIL PROPERTIES

**PLATE
 B-3**