### DEO-les

## GEOTECHNICAL ENGINEERING SERVICES REPORT JOB NO. 1-21109

NUEVA ACEQUIA HOUSING SANTA FE, NEW MEXICO

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### PREPARED FOR:

# SANTA FE COUNTY COMMUNITY DEVELOPMENT DEPARTMENT & HOUSING AUTHORITY

### DEO-IEST

February 15, 2023 Job No. 1-21109

Santa Fe County Community Development Department Santa Fe County Housing Authority P.O. Box 276 Santa Fe, New Mexico 87507

ATTN:

Paul M. Olafson, Deputy Director

RE:

Geotechnical Engineering Services Report

Nueva Acequia Housing Santa Fe, New Mexico

Dear Mr. Olafson:

Submitted herein is the Geotechnical Engineering Services Report for the above referenced project. The report contains the results of our field investigation, laboratory testing, and recommendations for foundation design, slab support, retaining wall and pavement section design, as well as criteria for site grading.

It has been a pleasure to serve you on this project. If you should have any questions, please contact this office.

Respectfully submitted:

GEO-TEST, INC.

Timothy Matson, Staff Engineer

BERESSIONAL ENG

Patrick R. Whorton, PE

Reviewed By:

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# DEO-IEST

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### INTRODUCTION

This report presents the results of the geotechnical engineering services investigation performed for the proposed Nueva Acequia housing complex to be constructed in Santa Fe, New Mexico.

The objectives of this investigation were to:

- 1) Evaluate the nature and engineering properties of the subsurface soils underlying the site.
- 2) Provide recommendations for foundation design, floor slabs, retaining wall and pavement design as well as criteria for site grading.

The investigation includes subsurface exploration, selected soil sampling, laboratory testing of the samples, performing an engineering analysis and preparation of this report.

### PROPOSED CONSTRUCTION

It is understood that the project consists of the development of about 6.6 acres. Development will consist of the construction of a new affordable housing building with associated parking and drive lanes. The building will be 4 stories in height with 130 units. No basements are planned, and concrete slabs will be cast on-grade. Structural loads are unknown at this time but are anticipated to be relatively light, not exceeding 100 kips on columns and 5 kips per lineal foot on walls.

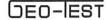
Should structural loads or other project details vary significantly from those outlined above, this firm should be notified for review and revision of recommendations contained herein.

### FIELD EXPLORATION

As requested, seven exploratory borings were drilled to depths ranging from about 12½ to 15½ feet below existing site grades. The locations of the borings were directed by the Client and are shown on the attached Boring Location Map, Figure 1. During the test drilling, the soils encountered in the boring were continuously examined, visually classified, and logged. The boring logs are presented in a following section of this report. Drilling was accomplished with a truck mounted drill rig using 2.25-inch diameter continuous flight hollow stem auger. Subsurface materials were sampled in at five-foot intervals or less utilizing an open tube split barrel sampler driven by a standard penetration test hammer.

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### LABORATORY TESTING

Selected soil samples were tested in the laboratory to determine certain engineering properties of the soils. Moisture contents were determined to evaluate the various soil deposits with depth. The results of these tests are presented on the boring logs.

Sieve analysis and Atterberg limits tests were performed on selected samples to aid in soil classification. The results of these tests are presented in the Summary of Laboratory Results and on the individual test reports presented in a following section of this report.

### SITE CONDITIONS

A brief site reconnaissance was performed during our site exploration. The site for the proposed development is located on a relatively flat vacant parcel of land. The site is bordered by existing Santa Fe County Housing to the north vacant land to the east, Extra Space Storage to the south and Camino de Jacobo to the west. Several single and double track dirt roads traverse the site. Other than the roads and some dumped trash and construction debris. no evidence of previous development of the site was apparent.

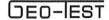
### SUBSURFACE SOIL CONDITIONS

As indicated by the exploratory borings, the soils underlying the site consist of a surficial layer of low plasticity sandy clay. These soils ranged from soft to moderately firm and extend to depths of about 1½ to 2 feet below existing site grades. Below the surficial sandy clay, clayey sands with varying degrees of cementation were encountered. These soils ranged from soft to very firm, ranged from low to medium in plasticity and extended to depths ranging from about 4 to 8 feet below existing site grade. Below the clayey sands, interbedded layers of clayey sands with gravels and gravels with various amounts of silt and sand were encountered and extended to full depth explored. These soils were non-plastic to low in plasticity and ranged from medium dense to very dense.

No free groundwater was encountered, and soil moisture contents were generally moderate to high in the upper 2.0 feet, most likely due to snow melt and relatively low throughout the rest of the borings.

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### SITE SEISMICITY

Based on the results of our investigations, as well as our knowledge of the geology in the area, Site Class D is considered appropriate for structural design. Based on the seismic site class and regional factors, seismic coefficients were determined in accordance with IBC 2015 and are presented in the following table:

| Mapped Spectral Acceleration, Ss                     | 0.458 g |
|--|---------|
| Mapped Spectral Acceleration, S <sub>1</sub>         | 0.137 g |
| Site Modified Spectral Acceleration, Sms             | 0.657 g |
| Site Modified Spectral Acceleration, S <sub>M1</sub> | 0.308 g |
| Design Spectral Acceleration, SDS                    | 0.438 g |
| Design Spectral Acceleration, Sp1                    | 0.206 g |
| Site Coefficient, FA                                 | 1.433   |
| Site Coefficient, F <sub>v</sub>                     | 2.253   |
| Seismic Design Category                              | D       |

### CONCLUSIONS AND RECOMMENDATIONS

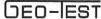
As indicated by the standard penetration and laboratory test results, some of the near surface soils are soft to moderately firm and have the potential to create excessive settlements of shallow foundations, even with the use of low bearing pressures in footing design. Moreover, some of these soils are of medium plasticity and possess a low expansive potential in their relatively dry condition. These soils could create excessive movements, settlements and/or heave of shallow spread-type footings and slabs on-grade, particularly upon significant moisture increases. Accordingly, the existing, near surface native soils are not considered suitable in their present condition to provide reliable support of shallow footings and slabs on-grade.

However, with special site preparation, and to provide a uniform bearing condition, the proposed structures can be supported on shallow spread type footings bearing directly on properly compacted structural fill. The special site preparation would involve overexcavation of a portion of the existing soils throughout the entire building area. These soils should be overexcavated to such an extent as to provide for at least 3.0 feet of properly compacted non-expansive structural fill below all foundations and floor slabs or 5.0 feet below existing site grades, whichever is the greater depth of overexcavation. The limits of the overexcavation should also extend laterally from the footing perimeters a distance equal to the depth of fill beneath their bases. The exposed native soils at the base of the excavation should be densified prior to placement of structural fill.

Detailed recommendations for foundation design and the required site grading are presented in the following sections of this report.

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Post-construction moisture increases in the supporting soils could cause some differential foundation movements. Therefore, moisture protection is considered an important design consideration and should be reflected in overall site grading and drainage details as recommended in the Moisture Protection section of this report. Detailed recommendations for foundation design and the required site grading are presented in the following sections of this report.

### **FOUNDATIONS**

Shallow spread-type footings bearing on a minimum of 3.0 feet of non-expansive properly compacted structural fill are recommended for the support of the structure. An allowable soil bearing pressure of 2,000 pounds per square foot is recommended for footing design. The bearing pressure applies to full dead load plus realistic live loads and can be safely increased by one-third for totals loads including wind and seismic forces.

Exterior footings should be established a minimum of 2.0 feet below lowest adjacent grade while interior footings should extend at least 12 inches below finished floor elevation. The minimum recommended width of continuous footings is 16 inches while the minimum recommended width of isolated spot footings is 2.0 feet.

Resistance to lateral forces will be provided by soil friction between the base of floor slabs and foundation elements and the soil and by passive earth resistance against the sides of the footings and stem walls. A coefficient of friction of 0.40 should be used for computing the lateral resistance between bases of footings and slabs and the soil. With backfill placed as recommended in the site grading section of this report, a passive soil resistance equivalent to a fluid weighing 375 pounds per cubic foot should be used for analysis.

Maximum settlements of foundations designed and constructed as recommended herein are estimated not to exceed ¾ inch for the in-situ soil moisture contents or compaction moistures introduced during construction. Differential settlements are not expected to exceed ½ inch. Significant moisture post-construction increases could create additional settlements and, thus, the moisture protection provisions presented in a following section of this report are considered important.

### **SLABS ON GRADE**

Concrete slabs on grade should be founded on a minimum of 3.0 feet of properly compacted, non-expansive structural fill as required and constructed in conformance with the methods outlined in the current edition of ACI 302.1R.

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Adequate support for lightly loaded slab-on-grade floors will be provided by the structural fill when compacted as recommended in the Site Grading section of this report. Thus, the use of granular base for structural support of lightly loaded slabs is not considered necessary. However, should it be desired as a working surface, or to increase the modulus of subgrade reaction, a course of granular base can be placed beneath concrete floor slabs.

Where granular base is used beneath the slabs, it should have a plasticity index of no greater than 3 and meet the following grading requirements:

| Sieve Size<br>Square Openings    | Percent Passing<br>by Dry Weight |
|----------------------------------|----------------------------------|
| 1 Inch                           | 100                              |
| <sup>3</sup> ⁄ <sub>4</sub> Inch | 85-100                           |
| No. 4                            | 45-95                            |
| No. 200                          | 0-10                             |

The granular base should be compacted to at least 95 percent of maximum dry density as determined in accordance with ASTM D1557.

Any heavily loaded slabs on the project bearing on structural fill should be designed using a modulus of subgrade reaction of 200 pounds per square inch per inch of deflection. If a 6-inch thickness of granular base is placed and compacted beneath the slabs, the modulus of subgrade reaction can be increased to 300 pounds per square inch per inch of deflection.

The granular base may act as a capillary barrier but will not totally eliminate the rise of moisture to the slabs. If floor coverings are proposed which are highly sensitive to moisture or highly moisture sensitive equipment will be installed within the buildings, a synthetic vapor barrier should be installed to prevent moisture intrusion through the slab. A minimum of 4 inches of granular base as recommended above should be placed between the vapor barrier and the slab. Barriers should be overlapped a minimum of 6 inches at joints, should be carefully fitted around service openings and should conform with ACI 302.1R specifications.

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### **RETAINING WALLS**

Any retaining walls should be founded on foundations as recommended for the buildings.

Lateral pressure against retaining walls will depend upon the degree of restraint. Walls which are restrained so as to limit movement at the top of the wall to less than 0.001 times the height of the wall should be designed for an 'at rest' earth pressure of 55 pounds per square foot of depth. Walls free to move at the top should be designed using an 'active' earth pressure equal to 35 pounds per square foot per foot of depth. These recommended lateral

pressures are applicable to a condition of horizontal backfill without surcharge loads. Analysis of earth pressures produced by sloping backfill or surcharge loads can be provided by this firm upon request.

The lateral pressures presented above assume no buildup of hydrostatic pressures behind the walls. To prevent the buildup of hydrostatic pressures, adequate weep holes should be provided or composite drainage systems such as Miradrain or equivalent can be installed on the backside of the walls prior to backfilling. The drainage layer should be connected to a collector pipe at the base of the walls and routed to a sump or to a positive gravity drain.

Retaining wall backfill should meet the structural fill specifications outlined in the Site Grading section of this report. During backfilling, the contractor should be limited to the use of hand operated compaction equipment within a zone of about 3 feet horizontally from the back of the walls. The use of heavier equipment could apply lateral pressures well in excess of the recommended design earth pressure, particularly over the upper portions of the walls.

### **PAVEMENT DESIGN**

The existing near surface soils underlying the site generally classify as sandy clay (CL), clayey sand (SC) and clayey gravel with sand (GC) according to the Unified Soil Classification System (USCS). These soils classify as A-6, A-2-4, A-2-6 and A-7-6 according to the American Association of State Highway and Transportation Officials (AASHTO) soil classification system. According to the NMDOT, these soils possess a wide range of correlated R-values between 9 to 33 and are considered fair to poor subgrade soils for pavements.

Based on the above, subgrade conditions are not ideal, however, the following pavement sections were developed to be used with the lowest R-Value soils encountered such that the onsite soils may be used as pavement subgrade and require no special subgrade preparation other than moisture conditioning and compaction. Prior to the placement of pavement sections recommended below, the subgrade soils should be scarified to a depth of 12 inches, moisture conditioned to ±2 percent of optimum moisture content and compacted to a minimum of 95 percent of maximum dry density as determined in accordance with ASTM D-698.

With the above recommended subgrade preparation, a flexible pavement section consisting of 3 inches of Hot Mix Asphalt (HMA) over 8 inches of aggregate base course placed directly over a minimum of 12 inches of properly compacted native subgrade is recommended for the project. The recommended pavement section applies to automobile parking and drive lanes with an allowance for 1 percent heavy truck traffic. Where traffic lanes are subject to heavy automobile or heavy truck traffic, the above section should be thickened by an additional 1 inch of asphalt pavement.

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The HMA should be SPIII, SPIV or equivalent parking lot mix, compacted to a target density of 94.5 percent, with a minimum compaction of 92 and a maximum compaction of 97 percent of the theoretical maximum density. The recommended Performance Grade (PG) asphalt binder used should be 64-22 according to the NMDOT Design Manual. These pavement recommendations are in general conformance with publications prepared by the *Asphalt Institute*.

With the above recommended subgrade preparation, a rigid pavement section consisting of 6 inches of Portland Cement Concrete (PCC) over 4 inches of aggregate base course placed directly over the minimum of 12 inches of properly compacted subgrade is recommended for areas of concentrated heavy vehicle loads such as dumpster pads and loading docks. The pavement recommendations are in general conformance with ACI 330R-01 *Guide for Design and Construction of Concrete Parking Lots*.

The PCC should have a minimum compressive strength of 4000 psi, be air entrained to between 4.5 and 7.0 percent, and have a maximum aggregate size of 2 inches. The concrete should be placed at a maximum slump of 4 inches. Admixtures may be used to increase the slump and workability provided that the compressive strength is not compromised.

The use of reinforcement within the PCC should be left to the discretion of the structural engineer; however, it is recommended that the pavement be constructed with load transfer joints designed for heavy traffic.

### **EXCAVATIONS**

Excavation of the surficial soils can be readily accomplished using normal earthmoving equipment. Excavated slopes for foundation and utility construction should be designed and constructed in accordance with 29 CFR 1926, Subpart P, and any applicable state or local regulations. Excavated temporary and permanent slopes should not exceed 1.5 to 1 (horizontal to vertical). The contractor should be responsible for all temporary excavation slopes excavated for the purpose of structural fill placement as well as the design of any required temporary shoring, as applicable. Shoring, bracing, and benching should be performed by the contractor in accordance with applicable safety standards. Spoil piles and heavy equipment should not be allowed within 5 feet of the top of the slopes.

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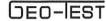
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### SITE-GRADING

The following general guidelines should be included in the project construction specifications to provide a basis for quality control during site grading. It is recommended that all structural fill and backfill be placed and compacted under full-time engineering supervision and in accordance with the following:



- 1) After clearing and grubbing, the existing soils throughout the building area should be overexcavated to such an extent as to provide for a minimum thickness of 3.0 feet of structural fill beneath all footings and floor slabs or 5.0 feet below existing site grades, whichever is the greater depth of overexcavation. The overexcavation limits should extend beyond the perimeter of the addition equal to the depth of fill beneath the footings. The exposed native soils should then be densified prior to the placement of structural fill.
- 2) Densification of the exposed cut surface should consist of scarifying to a depth of 8 inches, moisture conditioning to within 2 percent of the optimum moisture content and compacting to a minimum of 95 percent of maximum dry density as determined in accordance with ASTM D-698.
- 3) The results of this investigation indicate that at least some of the overexcavated clayey soils will not be suitable for use as structural fill, however, may be properly blended with a more granular imported material to meet the specifications listed below. It should be noted that blending imported granular material with the native clay soils may be difficult. If this cannot be achieved, imported material will be required. Any imported material must also meet the criteria for structural fill. All structural fill or backfill material should be free of vegetation and debris and contain no rocks larger than 3 inches. Gradation of the backfill material, as determined in accordance with ASTM D-422, should be as follows:

| Size    | Percent Passing |
|---------|-----------------|
| 3-inch  | 100             |
| No. 4   | 60 - 100        |
| No. 200 | 20 - 55         |

- 4) The plasticity index should be no greater than 15 when tested in accordance with ASTM D-4318.
- 5) Fill or backfill, should be placed in 8-inch loose lifts and compacted with approved compaction equipment. Lifts should be reduced to 4-inches if hand-held compaction equipment is used. Each lift should be firm and non-yielding.
- 6) All compaction of structural fill should be accomplished to a minimum of 95 percent of the maximum dry density determined in accordance with ASTM D-1557. The moisture content of the structural fill during compaction should be within 2 percent of the optimum moisture content.

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7) Tests for the degree of compaction should be determined in accordance with ASTM D-1556 or ASTM D-6938 methods. Observation and field tests should be carried on during fill placement by the geotechnical engineer to assist the contractor to obtain the required degree of compaction. If less than 95 percent compaction is indicated, additional compaction effort should be made with adjustment of the moisture content as necessary until 95 percent compaction is obtained.

### MOISTURE PROTECTION

Precautions should be taken during and after construction to minimize moisture increase of foundation soils. Accumulations of excessive moisture could be harmful to some types of interior flooring, to HVAC ductwork beneath the slabs, and can weaken or cause other changes in the soils supporting the foundations and slabs. This can cause differential movement of the foundations and can result in cosmetic or structural damage to the structure.

Positive drainage should be established away from the exterior walls of the structure. A typical adequate slope is 6 inches in the first 5 feet with positive drainage being provided from those points to streets, pavement or natural water courses. If necessary to provide positive drainage, the building area should be raised above adjacent grades with structural fill.

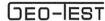
Roof runoff from the structure should be collected by gutters and downspouts or roof canales and discharged to splash blocks which carry water rapidly away from the structures' foundation. Should lot size or other factors impede positive drainage away from the structure to less than 5 feet from foundations, a non-perforated drain system should be installed to carry water to a minimum of five feet away from foundations or to streets or natural water courses.

Utility backfill should be well compacted and should meet the specifications outlined in the Site Grading section of this report. Special care should be taken during installation of the subfloor sewer and water lines to reduce the possibility of future subsurface saturation.

Irrigation within 10 feet of foundations is discouraged or at the very least should be carefully controlled. Proper landscaping and drainage maintenance are required to preclude accumulation of excessive moisture in the soils below the structures and throughout the site. This should include but is not limited to routine maintenance checks of irrigation system to ensure no leakage and proper functionality and that irrigation is adjusted and maintained seasonally so that over watering does not occur. Native drought resistant plants are recommended for use in landscaping. Landscape features should not impede positive drainage away from foundations as recommended above.

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Drainage control ponds or any other drainage/landscaping feature which allow for surface waters to infiltrate the subsurface soils should not be placed within 20 feet of building foundations.

Increases in the subgrade moisture content can weaken the subgrade soils, thereby shortening pavement life and causing localized failure. Therefore, all paved areas should be graded to drain and not allow any ponding on the surface of the paved areas. Positive drainage should be provided away from the perimeter of all paved areas for a distance of at least 10 feet. It is recommended that the pavement be graded with a 2 percent crown or slope to facilitate drainage.

The foregoing recommendations should only be considered minimum requirements for overall site development. It is recommended that a civil/drainage engineer be consulted for more detailed grading and drainage recommendations.

### FOUNDATION REVIEW AND INSPECTION

This report has been prepared to aid in the evaluation of this site and to assist in the design of this project. It is recommended that the geotechnical engineer be provided the opportunity to review the final design drawings and specifications in order to determine whether the recommendations in this report are applicable to the final design. Review of the final design drawings and specifications should be noted in writing by the geotechnical engineer.

In order to permit correlation between the conditions encountered during construction and to confirm recommendations presented herein, it is recommended that the geotechnical engineer be retained to perform continuous observations and testing during the earthwork portion of this project. Observation and testing should be performed during construction to confirm that suitable fill soils are placed upon competent materials and properly compacted and foundation elements penetrate the recommended soils.

### **CLOSURE**

Our conclusions, recommendations and opinions presented herein are:

- 1) Based upon our evaluation and interpretation of the findings of the field and laboratory program.
- 2) Based upon an interpolation of soil conditions between and beyond the explorations.
- 3) Subject to confirmation of the conditions encountered during construction.

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- 4) Based upon the assumption that sufficient observation will be provided during construction.
- 5) Prepared in accordance with generally accepted professional geotechnical engineering principles and practice.

This report has been prepared for the sole use of Santa Fe County Community Development Department and Housing Authority, specifically to aid in the design of the proposed Nueva Acequia Housing to be located in Santa Fe, New Mexico, and not for use by any third parties. We make no other warranty, either express or implied.

Any person using this report for bidding or construction purposes should perform such independent investigation as they deem necessary to satisfy themselves as to the surface and subsurface conditions to be encountered and the procedures to be used in the performance of work on this project. If conditions encountered during construction appear to be different than indicated by this report, this office should be notified.

All soil samples will be discarded 30 days after the date of this report unless we receive a specific request to retain the samples for a longer period of time.

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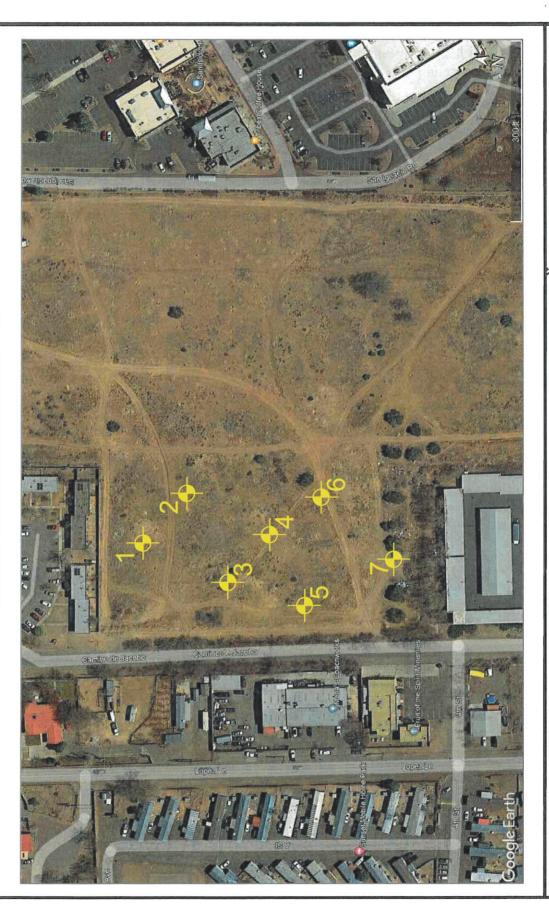


Figure 1



CEOTECHNICAL ENGINEERING
AND MATERIAL TESTING

Nueva Acequia Housing Santa Fe, New Mexico Job No. 1-21109

**DEO-IEST** 

Project:

Nueva Acequia Housing

Date:

02/01/2023

Project No: 1-21109

Elevation:

Type:

2,25" I.D. HSA

LOG OF TEST BORINGS

**GROUNDWATER DEPTH** 

NO: 1

During Drilling: NONE

After 24 Hours:

|   |            |     |        |      | SAI            | MPLE          |                      |       | SUBSURFACE PROFILE  |                          |       |
|---|------------|-----|--------|------|----------------|---------------|----------------------|-------|---|--------------------------|-------|
|   | DEPTH (Ft) | ТОС | SAMPLE | TYPE | N. BLOWS/FT    | MOISTURE<br>% | DRY DENSITY<br>(pcf) | nsc   | DESCRIPTION   | N<br>blows/i<br>20 40 6i |       |
| •   | -          |     |        | AC   |                | 15            |                      | CL    | SANDY CLAY, low to medium plasticity, slightly moist to moist, brown  |                          | ļ<br> |
|   | <br>       |     | X      | ss   | 7-7-7<br>14    | 9             |                      |       |   | <b>9</b> 14 i            |       |
|   | 5 —<br>-   |     | X      | SS   | 10-6-3<br>9    | 8             |                      | sc    | CLAYEY SAND, fine grained, low to medium plasticity, moderately firm to soft, weakly cemented, slightly moist, tan/white      | 19                       |       |
| 113/23  | -<br>-     |     |        |      |                |               |                      |       |   |                          |       |
| A.GPJ GEO TEST.GDT 2  | 10 —       |     | X      | SS   | 18-20-25<br>45 | 7             |                      | sc    | CLAYEY SAND with GRAVEL, fine to medium grained, low plasticity, dense, slightly moist, brown/light brown                     | 45                       |       |
| LOG OF TEST BORING 1-21109-NUEVA ACEQUIA GPJ GEO TEST GDT 2/13/23 | 15 —       |     | X      | SS   | 10-22-28<br>50 | 4             |                      | GP-GM | GRAVEL with SILT and SAND, fine to coarse grained, non-plastic, dense to very dense, slightly moist to dry, brown/orange/pink |                          |       |
| DE TEST BORING  |            |     |        |      |                |               |                      |       | STOPPED AUGER AT 14'<br>STOPPED SAMPELR AT 15.5'  |                          |       |
| 9   |            |     |        |      |                |               |                      |       |   | <u> </u>                 |       |

### **LEGEND**

SS - Split Spoon AC - Auger Cuttings UD/SL - Undisturbed Sleeve

AMSL - Above Mean Sea Level CS - Continuous Sampler UD - Undisturbed

ST - Shelby Tube
Stratification lines represent approximate boundaries between soil types. Transitions may be gradual. Water level readings have been made at times and under conditions stated, Fluctuations of groundwater may occur due to factors other than those present at the time measurments were made.

GEO-IEST

Project:

Nueva Acequia Housing

Date:

02/01/2023

Project No: 1-21109

Elevation:

Type:

2,25" I.D. HSA

LOG OF TEST BORINGS

**GROUNDWATER DEPTH** 

NO: 2

During Drilling: NONE

After 24 Hours:

|                     |     |                    |      | SAI            | MPLE          |                      |       | SUBSURFACE PROFILE  |    |     |             |           |                                     |
|---------------------|-----|--------------------|------|----------------|---------------|----------------------|-------|---|----|-----|-------------|-----------|-------------------------------------|
| DEPTH (Ft)          | 907 | SAMPLE<br>INTERVAL | TYPE | N. BLOWS/FT    | MOISTURE<br>% | DRY DENSITY<br>(pcf) | DSC   | DESCRIPTION   | 20 |     | N<br>lows/  |           | 30                                  |
| _                   |     |                    | AC   |                | 15            |                      | CL    | SANDY CLAY, low to medium plasticity, slightly moist to moist, brown  |    |     |             |           | ļ<br>                               |
| -                   |     | X                  | SS   | 10-15-20<br>35 | 8             |                      | sc    | CLAYEY SAND, fine grained, low to medium plasticity, very firm, moderately cemented, sigithly moist to dry, tan/white                                     |    |     | 5<br>5      |           | !<br>!<br>!                         |
| 5                   |     |                    | SS   | 12-14-13<br>27 | 1             |                      |       |   |    | 27. | <b></b> · • | <br>  · - | <br>                                |
| -                   |     |                    | AC   |                | 3             |                      | GC    | CLAYEY GRAVEL with SAND, fine to coarse grained, low plasticity, firm, dry to slightly moist, tan/light brown   |    |     |             |           | <br> <br> <br> <br>                 |
| 10 <del></del><br>- |     | X                  | SS   | 12-14-15<br>29 | 10            |                      | SC    | CLAYEY SAND, fine to medium grained,<br>some gravel, low plasticity, firm, slightly<br>moist, brown/orange  |    | 29  |             |           | †                                   |
| -                   |     | 0                  | NR   | 50/4"          |               |                      | GP-GM | GRAVEL with SILT and SAND, fine to coarse grained, non-plastic, dense to very dense, slightly moist to dry, brown/orange/pink AUGER REFUSAL ON VERY DENSE |    |     |             |           |                                     |
| -<br>15 —<br>-      |     |                    |      |                |               |                      |       | GRAVELS/COBBLES AT 13'  |    |     |             |           | :<br><br>!<br>!<br>!<br>!<br>!<br>! |
|                     |     |                    |      |                |               |                      |       |   |    |     |             |           | i<br>!<br>!                         |

**LEGEND** 

SS - Split Spoon AMSL - Above Mean Sea Level
AC - Auger Cuttings CS - Continuous Sampler
UD/SL - Undisturbed Sleeve UD - Undisturbed
ST - Shelby Tube
Stratification lines represent approximate boundaries between soil types. Transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurments were made.

GEO-IEST

Project:

Nueva Acequia Housing

Date:

Elevation:

02/01/2023

Project No: 1-21109

Туре:

2.25" I.D. HSA

LOG OF TEST BORINGS

**GROUNDWATER DEPTH** 

NO: 3

During Drilling: NONE

After 24 Hours:

| [   |            |  |                    |      | SAI            | MPLE          | ···                  |       | SUBSURFACE PROFILE  |                              |
|---|------------|--|--------------------|------|----------------|---------------|----------------------|-------|---|------------------------------|
| :   | DEPTH (Ft) | 907  | SAMPLE<br>INTERVAL | TYPE | N. BLOWS/FT    | MOISTURE<br>% | DRY DENSITY<br>(pcf) | nsc   | DESCRIPTION   | N<br>blows/ft<br>20 40 60 80 |
|   |            |  |                    | AC   |                | 16            |                      | CL    | SANDY CLAY, low to medium plasticity,<br>moist, brown   |                              |
|   | -          |  | X                  | SS   | 5-3-4<br>7     | 8             |                      |       |   | • <del>7</del>               |
|   | 5 —<br>-   |  | X                  | SS   | 5-9-11<br>20   | 8             |                      | sc    | CLAYEY SAND, fine grained, low to medium plasticity, soft to firm, weakly cemented, slightly moist to dry, tan/white          | 20.                          |
| 1.GDT 2/13/23   | -          | 30°0°5°0°5°0°5°0°5°0°5°0°5°0°5°0°0°5°0°0°5°0 |                    | SS   | 25-50          |               |                      |       |   |                              |
| LOG OF TEST BORING 1-21109-NUEVA ACEQUIA.GPJ GEO TEST.GDT 2/13/23 | 10<br>-    |  |                    | 33   | 75<br>75       | 2             |                      | GP-GM | GRAVEL with SILT and SAND, fine to coarse grained, non-plastic, dense to very dense, slightly moist to dry, brown/orange/pink |                              |
| 1-21109-NUEVA ACI   | -<br>15 —  |  |                    | SS   | 16-24-33<br>57 | 2             |                      |       | J.  | 57.                          |
| TEST BORING   | -          | <u> </u>   |                    |      | 01             |               |                      |       | STOPPED AUGER AT 14'<br>STOPPED SAMPELR AT 15.5'  |                              |
| 10 00 J   |            |  |                    |      |                |               |                      |       |   |                              |

LEGEND

SS - Split Spoon AC - Auger Cuttings UD/SL - Undisturbed Sleeve

AMSL - Above Mean Sea Level CS - Continuous Sampler

UD - Undisturbed

ST - Shelby Tube
Stratification lines represent approximate boundaries between soil types. Transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurments were made.

**DEO-JEST** 

Project:

Nueva Acequia Housing

Date:

02/01/2023

Project No: 1-21109

Elevation:

Type:

2,25" I.D. HSA

LOG OF TEST BORINGS

**GROUNDWATER DEPTH** 

NO: 4

During Drilling: NONE

After 24 Hours:

| ſ   | ,              |  |                    |      | SA                           | MPLE          |                      |       | SUBSURFACE PROFILE   |   |   |            |   |    |
|---|----------------|--|--------------------|------|------------------------------|---------------|----------------------|-------|--|---|---|------------|---|----|
|   | DEPTH (Ft)     | 907                                    | SAMPLE<br>INTERVAL | TYPE | N. BLOWS/FT                  | MOISTURE<br>% | DRY DENSITY<br>(pcf) | nsc   | DESCRIPTION  | 2 |   | N<br>plows |   | 30 |
| 1/23  | 5 —            |  |                    | SS   | 6-9-12<br>21<br>11-7-8<br>15 | 7             |                      | CL    | SANDY CLAY, low to medium plasticity,<br>moderately firm to firm, moist to slightly<br>moist, brown<br>*moderately to weakly cemented, tan/light<br>brown below 2' |   | 5 |            | + - · · · · · · · · · · · · · · · · · · |    |
| ACEQUIA.GPJ GEO TEST.GDT 2/13                                     | -<br>10 —<br>- |  |                    | SS   | 50/6"                        | 1             |                      | GP-GM | GRAVEL with SILT and SAND, fine to coarse grained, non-plastic, dense to very dense, slightly moist to dry, brown/orange/pink                                      |   |   |            | <br>                                    |    |
| LOG OF TEST BORING 1-21109-NUEVA ACEQUIA.GPJ GEO TEST.GDT 2/13/23 | -<br>15 —<br>  | 00000000000000000000000000000000000000 |                    | SS   | 12-28-34<br>62               | 2             |                      |       | STOPPED AUGER AT 14'<br>STOPPED SAMPLER AT 15.5'   |   |   |            | 162.                                    |    |

LEGEND

SS - Split Spoon AC - Auger Cuttings UD/SL - Undisturbed Sleeve

AMSL - Above Mean Sea Level CS - Continuous Sampler UD - Undisturbed

ST - Shelby Tube
Stratification lines represent approximate boundaries between soil types. Transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurments were made.

**DEO-IEST** 

Project:

Nueva Acequia Housing

Date:

02/01/2023

Project No: 1-21109

Elevation:

Type:

2.25" I.D. HSA

LOG OF TEST BORINGS

**GROUNDWATER DEPTH** 

NO: 5

During Drilling: NONE

After 24 Hours:

|            |  |                    |          | SA                               | MPLE          |                      | •  | SUBSURFACE PROFILE   |    |                        |       |
|------------|--|--------------------|----------|----------------------------------|---------------|----------------------|--|--|----|------------------------|-------|
| DEPTH (Ft) | 907                                    | SAMPLE<br>INTERVAL | TYPE     | N. BLOWS/FT                      | MOISTURE<br>% | DRY DENSITY<br>(pcf) | nsc  | DESCRIPTION  | 20 | N<br>blows/ft<br>40 60 | 80    |
|            |  |                    | AC       |                                  | 25            |                      | CL   | SANDY CLAY, low to medium plasticity,<br>moist to very moist, brown  |    | ! !                    |       |
| 5 -        |  | X                  | SS<br>SS | 16-26-21<br>47<br>21-25-29<br>54 |               |                      |  | `  |    | 47)<br>                | :<br> |
| -          |  |                    |          |                                  |               |                      | GC   | CLAYEY GRAVEL with SAND, fine to coarse grained, low plasticity, dense to very dense, slightly moist to dry, tan/light brown to brown to brown/orange/pink  *very difficult drilling below 10' |    |                        |       |
| 10 -       |  | $\times$           | ss       | 27-50<br>77                      | 2             |                      |  |  |    |                        | 777   |
| -<br>15 —  | ************************************** |                    |          |                                  |               |                      | and the second s | AUGER REFUSAL ON VERY DENSE<br>GRAVELS/COBBLES AT 12.5'  |    |                        |       |
|            |  |                    |          |                                  |               |                      |  |  |    |                        | 1     |

**LEGEND** 

SS - Split Spoon AC - Auger Cuttings UD/SL - Undisturbed Sleeve

AMSL - Above Mean Sea Level CS - Continuous Sampler UD - Undisturbed

ST - Shelby Tube
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**GEO-IEST** 

Project:

Nueva Acequia Housing

Date:

02/01/2023

Project No: 1-21109

Elevation:

Type:

2.25" I.D. HSA

LOG OF TEST BORINGS

**GROUNDWATER DEPTH** 

NO: 6

During Drilling: NONE

After 24 Hours:

|   |            |     |                    |      | SA          | MPLE          | r                    |     | SUBSURFACE PROFILE  |   |
|---|------------|-----|--------------------|------|-------------|---------------|----------------------|-----|---|---|
|   | ОЕРТН (Ft) | 907 | SAMPLE<br>INTERVAL | TYPE | N. BLOWS/FT | MOISTURE<br>% | DRY DENSITY<br>(pcf) | osc | DESCRIPTION   | N<br>blows/ft<br>20 40 60 80            |
|   | _          |     |                    | AC   |             | 18            |                      | CL  | SANDY CLAY, low to medium plasticity,<br>moist, brown   |   |
|   | -          |     |                    | SS   | 9-8-6<br>14 | 10            |                      |     | ,   | *14                                     |
|   | 5 —        |     | X                  | SS   | 2-3-6<br>9  | 6             |                      | sc  | CLAYEY SAND, fine grained, low to medium plasticity, moderately firm to soft, slightly moist, tan/white to light brown              |   |
| 2/13/23   | -          |     |                    |      |             |               |                      |     |   |   |
| LOG OF TEST BORING 1-21108-NUEVA ACEQUIA GPJ GEO TEST GDT 2/13/23 | 10 —       |     |                    | SS   | 31-50<br>81 | 7             |                      |     | CLAYEY GRAVEL with SAND, fine to  | 1 |
| ACEQUIA.GPJ (   |            |     |                    |      |             |               |                      | GC  | coarse grained, low plasticity, medium dense to dense, slightly moist to dry, brown/light brown/pink  *difficult drilling below 10' |   |
| -21109-NUEVA  | -          |     |                    | SS   | 14-26-26    |               |                      |     | annual dilling bolow to   |   |
| EST BORING 1  | 15 —       | 228 |                    |      | 52          | 3             |                      |     | STOPPED AUGER AT 14'<br>STOPPED SAMPLER AT 15.5'  |   |
| LOGOFTI   | _          | ì   |                    |      |             |               |                      |     |   |   |

### **LEGEND**

SS - Split Spoon AC - Auger Cuttings UD/SL - Undisturbed Sieeve

AMSL - Above Mean Sea Level CS - Continuous Sampler UD - Undisturbed

ST - Shelby Tube
Stratification lines represent approximate boundaries between soil types. Transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurments were made.

**GEO-IEST** 

Project:

Nueva Acequia Housing

Date:

02/01/2023

Project No: 1-21109

Elevation:

Type:

2.25" I.D. HSA

LOG OF TEST BORINGS

**GROUNDWATER DEPTH** 

NO: 7

During Drilling: NONE

After 24 Hours:

| ſ   |            |   |                    |          | SA                              | MPLE          |                     |       | SUBSURFACE PROFILE  |                              |
|---|------------|---|--------------------|----------|---------------------------------|---------------|---------------------|-------|---|------------------------------|
|   | DEPTH (Ft) | 907   | SAMPLE<br>INTERVAL | TYPE     | N. BLOWS/FT                     | MOISTURE<br>% | DRY DENSITY<br>(pd) | nsc   | DESCRIPTION   | N<br>blows/ft<br>20 40 60 80 |
|   | _          |   | X                  | ss       | 2-4-4<br>8                      | 16            |                     | CL    | SANDY CLAY, low to medium plasticity, soft, moist, brown  | •8                           |
| EQUIA.GPJ GEO TEST.GDT 2/13/23                                    | 5 —        | <u>; 0 % 0 % 0 % 0 % 0 % 0 % 0 % 0 % 0 % 0 </u> |                    | SS<br>SS | 9-16-31<br>47<br>50/4"<br>50/6" | 2 2           | •                   | GP-GM | GRAVEL with SILT and SAND, fine to coarse grained, non-plastic, dense to very dense, sightly moist to dry, brown/orange/pink *difficult drilling below 6' | 47)                          |
| LOG OF TEST BORING 1-21109-NUEVA ACEQUIA.GPJ GEO TEST.GDT 2/13/23 | 15 —       | io III  |                    |          |                                 |               |                     |       | AUGER REFUSAL ON VERY DENSE<br>GRAVELS/COBBLES AT 13'   |                              |

LEGEND

SS - Split Spoon AC - Auger Cuttings UD/SL - Undisturbed Sleeve

AMSL - Above Mean Sea Level CS - Continuous Sampler

UD/SL - Undisturbed Sleeve
UD - Undisturbed
ST - Shelby Tube
Stratification lines represent approximate boundaries between soil types. Transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurments were made.

# SUMMARY OF LABORATORY RESULTS

|                                   |                 | en company | SEVER E |     | 155000 | Standards and                           |           | arrentes | entimetry. |           | OKARAMAN<br>I |           | JANEAR PROPERTY. |     | depert sity o |          | -   |     | _   |      | Commence of the Commence of th |
|-----------------------------------|-----------------|------------|---------|-----|--------|---|-----------|----------|------------|-----------|---------------|-----------|------------------|-----|---------------|----------|-----|-----|-----|------|--|
|                                   | <u>*</u>        |            |         |     |        |   |           |          |            |           |               |           |                  |     |               |          |     |     |     |      |  |
|                                   | 2"              |            |         |     |        |   |           |          |            |           |               |           |                  |     |               |          |     |     |     |      |  |
|                                   | 1 1/2"          |            |         |     |        |   |           |          |            | 100       |               |           |                  |     |               |          |     |     |     |      | Housing<br>/ Mexico  |
|                                   | ź               |            |         |     |        |   |           |          |            | 85        |               |           |                  |     |               |          |     |     |     |      | a Acequia<br>ta Fe, New<br>109   |
| YSIS<br>SSING                     | 3/4"            | 100        |         |     |        |   |           |          |            | 80        |               |           | 100              |     |               |          |     |     |     |      | Project: Nueva Acequia Housing<br>Location: Santa Fe, New Mexico<br>Number: 1-21109  |
| SIEVE ANALYSIS<br>PERCENT PASSING | 1/2"            | 96         |         |     | " •    |   |           |          |            | 73        |               |           | 98               |     |               |          |     |     |     |      | Pro  |
| SIE<br>PER(                       | 3/8"            | 96         |         |     |        |   |           |          |            | 28        |               |           | 86               |     |               |          |     | 100 |     |      | ALUE   |
|                                   | Ñ 4             | 94         |         |     |        |   |           |          |            | 47        |               |           | 26               |     |               |          |     | 26  |     |      | LL = LIQUID LIMIT<br>PI = PLASTICITY INDEX<br>NP = NON PLASTIC or NO VALUE   |
|                                   | 8°6             | 9          |         |     |        |   |           |          |            | 35        |               |           | 9                |     |               |          |     | 63  |     |      | LIQUID<br>ASTICIT<br>LASTIC  |
|                                   | Ñ 4             | 85         |         |     |        |   |           |          | :          | 56        |               |           | 7.5              |     |               |          |     | 78  |     |      | LL =<br>PI = PL/<br>NON PI   |
| :                                 | 85              | 75         |         |     |        |   |           |          |            | 21        |               |           | 61               |     |               |          |     | 89  |     |      | H QN   |
|                                   | NO<br>200       | 61         |         |     |        |   |           |          |            | 17        |               |           | 43               |     |               |          |     | 53  |     |      |  |
|                                   | <u>a</u>        | 81         |         |     |        |   |           |          |            | 14        |               |           | 18               |     |               |          |     | 19  |     |      |  |
|                                   | 4               | 35         |         |     |        |   |           |          |            | 33        |               |           | 37               |     |               |          |     | 33  | ,   |      | I_E  |
|                                   | (%)<br>MOIST    | 14.9       | 9.0     | 8.3 | 7.3    | 4.4                                     | 14.6      | 7.9      | 1.3        | 3.1       | 10.4          | 16.3      | 8.3              | 8.4 | 2.3           | 1.8      | 7.0 | 7.2 | 4.  | 2.4  | ·EST   |
|                                   | UNIFIED         | ರ          |         |     |        | *************************************** |           |          |            | ၁ဗ        |               |           | SC               |     |               | <i>-</i> |     | CF  |     |      | -0 <b>=</b> C  |
|                                   | DEPTH<br>(FEET) | 0.0 - 2.0  | 3.0     | 5.0 | 10.0   | 15.0                                    | 0.0 - 2.0 | 3.0      | 5.0        | 5.0 - 9.0 | 10.0          | 0.0 - 2.0 | 3.0              | 5.0 | 10.0          | 15.0     | 3.0 | 5.0 | 0.6 | 15.0 | 0  |
|                                   | TEST<br>HOLE    | ₹          | ~       | 1   | 1      | <b>~</b> -                              | 2         | 2        | 7          | 2         | 2             | က         | ဗ                | 3   | ည             | က        | 4   | 4   | 4   | 4    |  |

SUMMARY OF LABORATORY RESULTS. 1-21109-NUEVA ACEQUIA GEO TEST GDT. 2/13/23

# SUMMARY OF LABORATORY RESULTS

|                                   | <u>"</u> 4      |           |     |   |      |           |     |     |      |      |      |                   |     |     |                                      |  |   |
|-----------------------------------|-----------------|-----------|-----|---|------|-----------|-----|-----|------|------|------|-------------------|-----|-----|--------------------------------------|--|---|
|                                   |                 |           |     |   |      |           |     | ·   |      |      |      |                   |     |     |                                      |  |   |
|                                   | 2"              |           |     |   |      |           |     |     |      |      |      |                   |     |     |                                      |  |   |
|                                   | 1 1/2"          |           |     |   |      |           |     |     |      |      |      |                   |     |     |                                      |  | Housing<br>Mexico   |
|                                   | =               |           |     |   |      |           |     |     |      |      |      |                   | 100 |     |                                      |  | Project: Nueva Acequia Housing<br>Location: Santa Fe, New Mexico<br>Number: 1-21109 |
| rsis<br>ssing                     | 3/4"            |           |     |   |      | 100       |     |     |      |      |      |                   | 96  |     |                                      |  | Project: Nueva Ac<br>Location: Santa Fi<br>Number: 1-21109                          |
| SIEVE ANALYSIS<br>PERCENT PASSING | 1/2"            |           |     |   |      | 66        | 100 |     |      |      |      |                   | 98  |     |                                      |  | Proj<br>Nun   |
| SIE                               | 3/8"            |           |     |   |      | 66        | 66  |     |      |      |      |                   | 75  |     |                                      |  | LUE   |
|                                   | Ö 4             |           |     | · · · · · · · · · · · · · · · · · · ·   |      | 86        | 94  |     |      |      |      |                   | 51  |     |                                      |  | LL = LIQUID LIMIT<br>PI = PLASTICITY INDEX<br>NP = NON PLASTIC or NO VALUE          |
|                                   | 0<br>0<br>0     |           |     | *************************************** |      | 96        | 84  |     |      |      |      |                   | 36  |     |                                      |  | IQUID L<br>STICITY<br>ASTIC o   |
|                                   | NO<br>40        |           |     |   |      | 91        | 99  |     |      |      |      |                   | 23  |     |                                      |  | LL = L<br>NON PL  |
|                                   | 8<br>8<br>8     |           |     |   |      | 83        | 51  |     |      |      |      |                   | 65  |     |                                      |  | u dN<br>u l   |
|                                   | NO<br>200       |           |     |   |      | 72        | 33  |     |      |      |      |                   | 4   |     |                                      |  |   |
|                                   | ۵               |           |     |   |      | 24        | 19  |     |      |      |      |                   | O.  |     |                                      |  |   |
|                                   | 크               |           |     |   |      | 41        | 40  |     |      |      |      |                   | 24  |     |                                      |  | <del> -</del>   |
|                                   | (%)<br>MOIST    | 25.4      | 1.7 | 2.3                                     | 2.0  | 17.9      | 9.6 | 5.6 | 6.8  | 3.3  | 15.7 | <del>د</del><br>ي | 2.0 | 1.6 |                                      |  |   |
|                                   | UNIFIED         |           |     |   |      | CL        | sc  |     |      |      |      |                   | 39  |     |                                      |  | JEO-lest  |
|                                   | DEPTH<br>(FEET) | 0.0 - 2.0 | 3.0 | 5.0                                     | 10.0 | 0.0 - 2.0 | 3.0 | 5.0 | 10.0 | 15.0 | 1.0  | 3.0               | 4.0 | 9.0 |                                      |  | 0   |
| :<br>:                            | TEST<br>HOLE    | 22        | 5   | 5                                       | ಬ    | 9         | 9   | 9   | 9    | 9    | 7    | 7                 | 7   | 7   | PR RESULTS 1-21108-MUEVA ACEOUIA GP. |  |   |

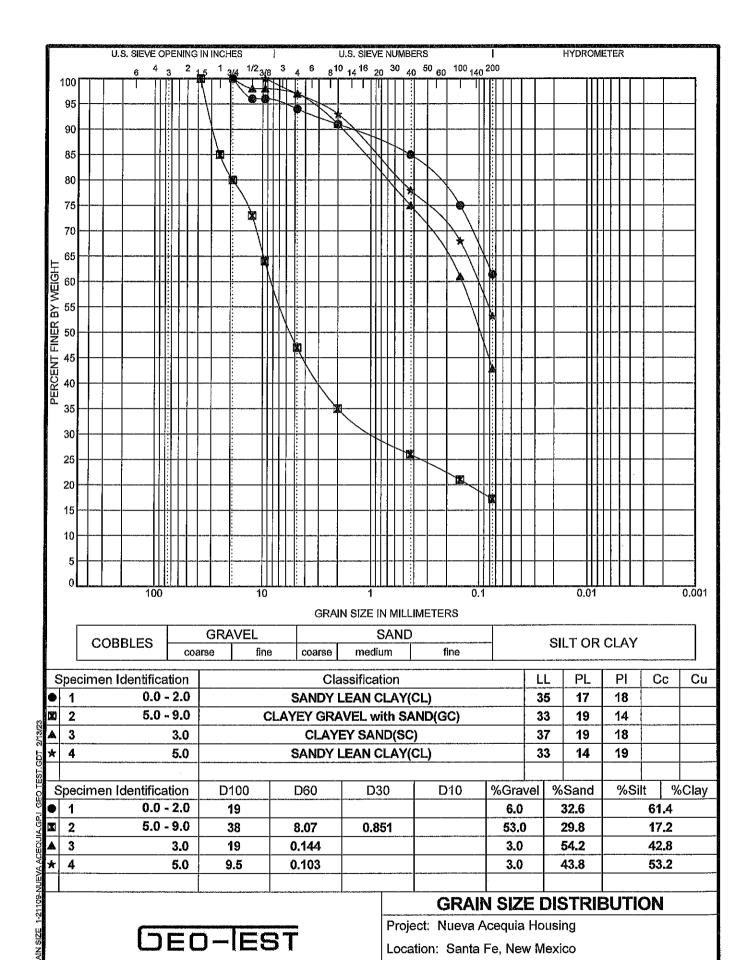
|          |           |                 | ·                |                     |                         |                 |                     |                         |                         | She             | et 1 of 1        |
|----------|-----------|-----------------|------------------|---------------------|-------------------------|-----------------|---------------------|-------------------------|-------------------------|-----------------|------------------|
| Borehole | Depth     | Liquid<br>Limit | Plastic<br>Limit | Plasticity<br>Index | Maximum<br>Size<br>(mm) | %<#200<br>Sieve | Class-<br>ification | Water<br>Content<br>(%) | Dry<br>Density<br>(pcf) | AASHTO<br>CLASS | Corr.<br>R-Value |
| 1        | 0.0 - 2.0 | 35              | 17               | 18                  | 19                      | 61              | CL                  | 14.9                    |                         | A-6             | 8                |
| 3        | 3.0       | 37              | 19               | 18                  | 19                      | 43              | SC                  | 8.3                     |                         | A-6             | 8                |
| 4        | 5.0       | 33              | 14               | 19                  | 9.5                     | 53              | CL                  | 7.2                     |                         | A-6             | 8                |
| 6        | 0.0 - 2.0 | 41              | 17               | 24                  | 19                      | 72              | CL                  | 17.9                    |                         | A-7-6           | 5                |
| 6        | 3.0       | 40              | 21               | 19                  | 12.5                    | 33              | SC                  | 9.6                     |                         | A-2-6           | 12               |
| 7        | 4.0       | 24              | 15               | 9                   | 25                      | 14              | GC                  | 2.0                     |                         | Δ-2-4           | 22               |

**DEO-IEST** 

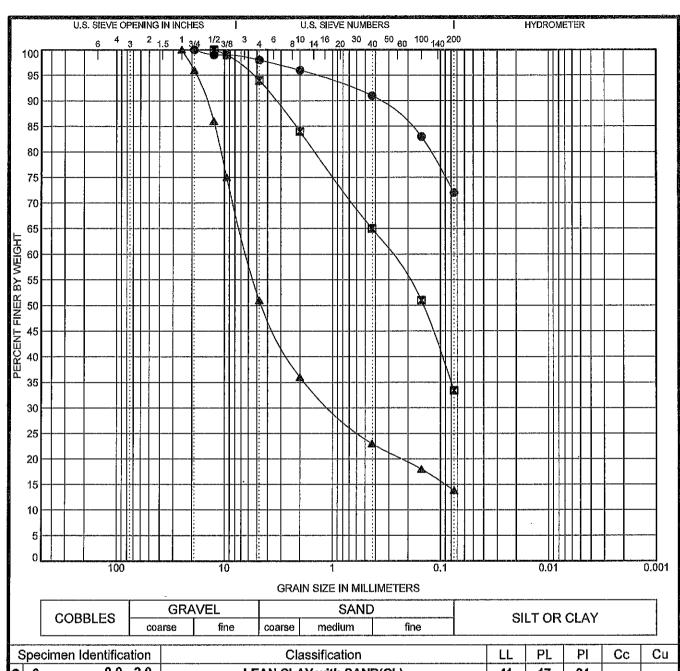
**Summary of Laboratory Results** 

Project: Nueva Acequia Housing Location: Santa Fe, New Mexico

Number: 1-21109



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| 3      | Specime | n Identification                  |      | Cla   | ssification | 1                               |        | LL             | PL    | PI   | Сс   | Cu    |  |  |  |
|--------|---------|-----------------------------------|------|-------|-------------|---------------------------------|--------|----------------|-------|------|------|-------|--|--|--|
|        | 6       | 0.0 - 2.0                         |      | 41    | 17          | 24                              |        |                |       |      |      |       |  |  |  |
| X<br>A | 6       | 3.0                               |      |       | 40          | 21                              | 19     |                |       |      |      |       |  |  |  |
| A      | 7       | 7 4.0 CLAYEY GRAVEL with SAND(GC) |      |       |             |                                 |        |                | 15    | 9    |      |       |  |  |  |
|        |         |                                   |      |       |             |                                 |        |                |       |      |      |       |  |  |  |
| 3      | Specime | n Identification                  | D100 | D60   | D30         | D10                             | %Gra   | /el S          | %Sand | %Si  | It 9 | 6Clay |  |  |  |
| 0      | 6       | 0.0 - 2.0                         | 19   |       |             |                                 | 2.0    |                | 26.0  | 72.0 |      |       |  |  |  |
| X      | 6       | 3.0                               | 12.5 | 0.295 |             |                                 | 6.0    |                | 60.6  |      | 33,4 |       |  |  |  |
| A      | 7       | 4.0                               | 25   | 6.16  | 0.984       |                                 | 49.0   | 1              | 37.2  |      | 13.8 |       |  |  |  |
| _      |         |                                   |      |       |             |                                 |        |                |       |      |      |       |  |  |  |
|        |         |                                   |      |       |             | GRA                             | IN SIZ | E DISTRIBUTION |       |      |      |       |  |  |  |
| 1      |         |                                   |      |       |             | Dusingly Manager Annual Lauring |        |                |       |      |      |       |  |  |  |



# **GRAIN SIZE DISTRIBUTION**

Project: Nueva Acequia Housing Location: Santa Fe, New Mexico

Number: 1-21109

