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**SOILS AND GEOLOGY STUDY
RETREAT AT PRAIRIERIDGE FILING NO. 3
POCO ROAD AND VOLLMER ROAD
EL PASO COUNTY, COLORADO**

Prepared for:
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Attn: Loren Moreland

February 28, 2025

Respectfully Submitted,

ENTECH ENGINEERING, INC.

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LLL

PCD No.

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1 SUMMARY

Project Location

The project lies in portions of the S½ of Section 28, Township 12 South, Range 65 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately three miles northeast of Colorado Springs, Colorado.

Project Description

The Retreat at PrairieRidge Filing No. 3 is approximately 17 acres. Development is to consist of 6 rural residential lots that will be accessed from the north along Poco Road. The lots will utilize individual water wells and on-site wastewater treatment systems (OWTS).

Scope of Report

This report presents the results of our geologic evaluation and treatment of engineering geologic hazard study.

Land Use and Engineering Geology

This site was found to be suitable for the proposed development. Areas were encountered where the geologic conditions will impose some constraints on development and land use. These include areas of potentially expansive soils, shallow bedrock, shallow groundwater, seasonal shallow groundwater and potentially seasonally shallow groundwater areas, and the potential for elevated radon levels. Based on the proposed development plan, it appears that these areas will have some impact on the development. These conditions will be discussed in greater detail in the report.

In general, it is our opinion that the development can be achieved if the observed geologic conditions on site are either avoided or properly mitigated. All recommendations are subject to the limitations discussed in the report.

2 GENERAL SITE CONDITIONS AND PROJECT DESCRIPTION

The site is located in portions of the S½ of Section 28, Township 12 South, Range 65 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately three miles northeast of Colorado Springs, Colorado, west of Poco Road and Vollmer Road along the southern side of Poco Road. The location of the site is as shown on the Vicinity Map, Figure 1.

Generally, the topography of Filing No. 3 is gradually sloping to the south with drainages that flow in southerly and southeasterly directions through the lots. Water was not observed in the drainages at the time of our site investigation. Areas of seasonally shallow and potentially seasonally shallow groundwater have been observed within the drainages. The site boundaries are indicated on the USGS Topography Map, Figure 2. Previous land uses have included rural residential, grazing and pasture land. The site contains primarily field grasses, weeds, cacti, and yuccas, with areas of scattered ponderosa pine trees located across the site. Site photographs, taken November 18, 2024, are included in Appendix A and locations are shown on Figure 3.

The Retreat at PrairieRidge Filing No. 3 is approximately 17 acres. Development is to consist of 6 rural residential lots. An existing residence is located on Lot 6 which will remain. The lots will utilize individual water wells and OWTS. Development and grading plans indicate minimal grading associated with the existing drainages along the southern boundary of the Filing No. 3. The lots will be access from Poco Road, and no significant roadway improvements are planned.

3 SCOPE OF THE REPORT

The scope of the report includes a general geologic analysis utilizing published geologic data. Detailed site-specific mapping will be conducted to obtain general information in respect to major geographic and geologic features, geologic descriptions and their effects on the development of the property.

4 FIELD INVESTIGATION

Our field investigation consisted of the preparation of a geologic map of any bedrock features and significant surficial deposits. The Natural Resource Conservation Service (NRCS), previously the Soil Conservation Service (SCS) survey was also reviewed to evaluate the site. The position of mappable units within the subject property are shown on the Geologic Map. Our mapping procedures involved both field reconnaissance and measurements and air photo reconnaissance and interpretation. The same mapping procedures have also been utilized to produce the

Engineering Geology Map which identified pertinent geologic conditions affecting development. The initial field mapping was performed by personnel of Entech Engineering, Inc. on October 19, 2021. The site was revisited on November 18, 2024 to verify previous mapping and observe current site conditions.

Entech Engineering, Inc. prepared a Soils and Geology Study for the site revised date October 25, 2021 (Reference 1). Thirteen Test Borings were drilled across the site as part of the Preliminary Subsurface Soil Investigation to determine general soil and bedrock characteristics. TB-4 was located on Lot 2. Information from this investigation was used in preparing this report. The locations of the test borings are indicated on the Site and Exploration Plan, Figure 3.

The Summary of Test Boring Logs and Test Boring Logs are presented in Appendix B. Laboratory testing was also performed on some of the soils to classify and determine the soils engineering characteristics. Laboratory tests included grain-size analysis ASTM D-422, Atterberg Limits ASTM D-4318, volume change testing using Swell/Consolidation test. Sulfate testing was performed on select samples to evaluate potential for below grade concrete degradation due to sulfate attack. Results of the laboratory testing are included in Appendix C. A Summary of Laboratory Test Results is presented in Table C-1. Results of this testing will be discussed later in this report.

Geoquest, LLC, completed two test holes for a Soils Report for the residence located on Lot 6 (Reference 2). The test hole logs are presented in Appendix D.

5 SOIL, GEOLOGY, AND ENGINEERING GEOLOGY

5.1 General Geology

The site lies in the western portion of the Great Plains Physiographic Province. Approximately 12 miles to the west is a major structural feature known as the Rampart Range Fault. This fault marks the boundary between the Great Plains Physiographic Province and the Southern Rocky Mountain Province. The site exists within the southeastern edge of a large structural feature known as the Denver Basin. Bedrock in the area tends to be very gently dipping in a northeasterly direction (Reference 3). The rocks in the area of the site are sedimentary in nature and typically Upper Cretaceous in age. The bedrock underlying the site consists of the Dawson Formation. Overlying this formation is a variable layer of residual and/or colluvial soils. The site's stratigraphy will be discussed in more detail in Section 5.3.

5.2 Soil Conservation Survey

The Natural Resource Conservation Service (Reference 4), previously the Soil Conservation Service (Reference 5) has mapped one soil type on the site (Figure 4). In general, the soils classify as coarse sandy loam. The soils are described as follows:

Exhibit 1: Soil Survey Description

Type	Description
71	Pring coarse sandy loam, 3 – 8% slopes

Complete descriptions of each soil type are presented in Appendix E. The soils have generally been described to have moderate to moderately rapid permeabilities. Possible hazards with soil erosion are present on the site. The erosion potential can be controlled with vegetation. The majority of the soils have been described to have moderate erosion hazards.

5.3 Site Stratigraphy

The Geologic Map of the Falcon NW Quadrangle showing the site is presented in Figure 5 (Reference 6). The Geology Map prepared for the site is presented in Figure 8. Two mappable units were identified on this site which are described as follows:

Qaf Artificial Fill of Quaternary Age: These recent man-made deposits associated with a fill berm located in the southern portion of the site. The berm is currently located in the propose pond area and will likely be removed during site grading. Fill was not observed on the proposed new lots within Filing No. 3.

Tkd Dawson Formation of Tertiary to Cretaceous Age: The Dawson formation typically consists of arkosic sandstone with interbedded fine-grained sandstone, siltstone and claystone. Overlying this formation is a variable layer of residual and/or colluvial soils. The residual soils were derived from the in-situ weathering of the bedrock materials on-site. The colluvial soils have been transported by the action of sheetwash and gravity. These soils consisted of silty to clayey sands and sandy clays.

The soils listed above were mapped from site-specific mapping, the *Geologic Map of the Falcon NW Quadrangle* distributed by the Colorado Geological Survey in 2003 (Reference 6), the *Geologic Map of the Colorado Springs-Castle Rock Area*, distributed by the US Geological Survey in 1979 (Reference 7), and the *Geologic Map of the Denver 1° x 2° Quadrangle*, distributed by the

US Geological Survey in 1981 (Reference 8). The EEI Test Borings and Geoquest Test Holes used in evaluating the site and are included in Appendices B and D. The Geology/Engineering Geology Map prepared for the site is presented in Figure 6.

5.4 Soil Conditions

The soils encountered in the Test Borings can be grouped into four general soil types. The soils were classified using the Unified Soil Classification System (USCS).

Soil Type 1 classified as silty sand, sand with silt, and clayey sand (SW-SM, SM, SC). The sand was encountered in all of the test borings at the ground surface extending to depths ranging from 1 to 9 feet bgs. The sand was encountered at medium dense to dense states. The majority of the samples indicated medium dense states. Swell/Collapse Testing on a sample of the clayey sand resulted in a volume change of 0.3%, indicated a low expansion potential.

Soil Type 2 classified as sandy clay (CL). The clay was encountered in TB-3 and TB-4 at 4 to 5 feet bgs extending to approximate depths of 11 to 13 feet. The clay was encountered at very stiff to hard consistencies. Swell/Collapse Testing on a sample of the clay resulted in a volume changes of 0.3 to 3.9%, indicated a moderate to high expansion potential.

Soil Type 3 classified as sandstone (SM-SW, SM) or as sand with silt and silty sand when classified as a soil. The sandstone was encountered in all of the test borings at depths of 3 to 9 feet bgs extending to depths of 14 to 19 feet or the termination of the borings (12.5 to 20 feet). The sandstone was encountered at very dense states.

Soil Type 4 classified as claystone (CL) or as sandy clay when classified as a soil. The claystone was encountered in TB-1 at 13 feet bgs extending to the termination of the test boring (20 feet). The claystone was encountered at hard consistencies. The claystone is typically moderately to highly expansive in the area.

The Test Boring Logs are presented in Appendix B. Laboratory Test Results are presented in Appendix C, and a Summary of Laboratory Test Results is presented in Table C-1.

5.5 Groundwater

Groundwater was encountered in TB-4 (Lot 2) at 7 feet subsequent to drilling. Depth to groundwater is shown on Table B-1, and on each test boring log in Appendix B. Shallow water conditions have been encountered across the Retreat at PrairieRidge development along existing

drainages and low-lying areas. These areas have been identified as seasonal shallow groundwater water, and potential seasonal shallow groundwater as indicated on the Geology/Engineering Geology Map (Figure 6). These areas are discussed in the following section. Fluctuation in groundwater conditions may occur due to variations in rainfall and other factors not readily apparent at this time.

It should be noted that in the sandy materials on-site, some groundwater conditions might be encountered due to the variability in the soil profile. Isolated sand and gravel layers within the soils, sometimes only a few feet in thickness and width, can carry water in the subsurface. Groundwater may also flow on top of the underlying bedrock. Builders and planners should be cognizant of the potential for the occurrence of such subsurface water features during construction on-site and deal with each individual issue as necessary at the time of construction.

6 ENGINEERING GEOLOGY – IDENTIFICATION AND MITIGATION OF GEOLOGIC HAZARDS

Detailed mapping has been performed on this site to produce an Engineering Geology Map Figure 7. This map shows the location of various geologic conditions of which the developers should be cognizant during the planning, design and construction stages of the project. These hazards and the recommended mitigation techniques are as follows:

Artificial Fill – Constraint

These are recent man-made fill deposits associated with the earthen dam located in the eastern portion of the site and are not located within Filing No. 3. It is anticipated that this dam will be removed and filled during the site grading process. At the time of the investigation, the condition of the dam was observed, and appeared to be in good condition.

Mitigation: Any uncontrolled fill encountered beneath foundations will require removal and recompaction at a minimum of 95% of its maximum Modified Proctor Dry Density, ASTM D-1557.

Collapsible Soils – Constraint

The majority of the soils encountered on-site do not exhibit collapsible characteristics, however, areas of loose soils may be encountered on the site. Should loose or collapsible soils be encountered beneath foundations, recompaction and moisture conditioning of the upper 2 feet of soil at 95% of its maximum Modified Proctor Dry Density ASTM D-1557 will be required. Exterior flatwork and parking areas may also experience movement. Proofrolling and recompaction of soft areas should be performed during site work.

Expansive Soils – Constraint

Expansive soils were not encountered in test borings drilled within Filing 3, but are common in the area. These occurrences are typically sporadic; therefore, none have been indicated on the maps. These clays and claystone, if encountered at foundation grade, can cause differential movement in structures. These occurrences should be identified and dealt with on an individual basis. Swell/collapse testing resulted in volume changes of 0.3 to 3.9% indicating low to high expansion potentials.

Mitigation Should expansive soils be encountered beneath foundations; mitigation will be necessary. Mitigation of expansive soils will require special foundation design. Overexcavation and replacement with non-expansive soils at a minimum of 95% of its maximum Modified Proctor Dry Density, ASTM D-1557 is a suitable mitigation, which is common in the area. Floor slabs on expansive soils should be expected to experience movement. Overexcavation and replacement has been successful in minimizing slab movements. The use of structural floors should be considered for basement construction on highly expansive clays. Final recommendations should be determined after additional investigation of each building site.

Slope Stability and Landslide Susceptibility – Hazard

The majority of the slopes on-site are gradually to moderately sloping and do not exhibit any past or potential unstable slopes or landslides. It is recommended that any future grading or fill slopes should be 3:1 or flatter.

Areas of Erosion – Constraint

Due to the nature of the soils on this site, virtually all the soils are subject to erosion by wind and water. Areas of erosion can occur across the entire site, particularly if the soils are disturbed during construction. Vegetation reduces the potential for erosion. The areas identified where erosion is actually taking place may require check dams, regrading and revegetation using channel lining mats to anchor vegetation. Further recommendations for erosion control are discussed under Section 8.0 "Erosion Control" of this report. Recommendations pertaining to revegetation may require input from a qualified landscape architect and/or the Natural Resource Conservation Service (previously Soil Conservation Service).

Shallow Bedrock – Constraint

Bedrock was encountered in all the test borings at depths ranging from 2 to 3 feet within Filing No. 3 (References 1 and 2). Shallow bedrock will be encountered across most of the lots. Where claystone or sandstone are encountered, excavation/grading may be difficult requiring track-mounted excavators.

Groundwater and Floodplain Areas – Constraint

A few drainages are located across the filing which has been identified as areas of seasonally shallow or potentially seasonally shallow groundwater areas. Water was not observed in the drainages at the time of our site investigation. The site is not mapped within floodplain zones according to the FEMA Map No. 08041CO535G, (Figure 9, Reference 9). Portions of the drainages have been included in the National Wetland Inventory as Freshwater Emergent Wetland habitats classified as **R4SBC** (Riverine – R, Intermittent – 4, Stream Bed – SB, Seasonally Flooded – C) (Figure 10, Reference 10). These areas are discussed as follows:

Seasonal Shallow Groundwater Area – Constraint

In these areas, we would anticipate periodic high subsurface moisture conditions and frost heave potential on a seasonal basis. Additional, highly organic soils could be encountered in these areas. Any structures in or adjacent to these areas should follow the mitigation discussed below. Mitigation: Foundations must have a minimum 30-inch depth for frost protection. Subsurface perimeter drains are recommended for any below grade usable areas below grade. Buildings should maintain a minimum separation of 3 feet between the lowest foundation grade and the maximum anticipated groundwater level. Shallow groundwater areas can be mitigated with the installation of drains. Typical drain options/details are presented in Figures 9 through 12. Any grading in these areas should be done to direct surface flows around structures to avoid areas of ponded water. Structures should not block drainages. All organic material should be completely removed prior to any fill placement. Basement feasibility should be determined on an individual lot basis following additional investigations prior to construction.

Potentially Seasonal Shallow Groundwater Area – Constraint

In these areas, we would anticipate the potential for periodically high subsurface moisture conditions, frost heave potential and highly organic soils. The majority of these areas lie within defined drainages which can likely be avoided by the proposed development or regraded. The same mitigation recommendations for the seasonal shallow groundwater areas apply to the potentially seasonal shallow groundwater areas.

Debris Fans/Debris Flow Susceptibility – Hazard

The site is not mapped within any area susceptible to debris flows according to the *Debris Flow Susceptibility Map of El Paso County, Colorado*, by McCoy, Morgan, and Berry (Reference 11).

Faults – Hazard

The closest fault is the Ute Pass Fault, located approximately 19 miles west of the site. No faults are mapped in the site itself. Previously, Colorado was mapped entirely within Seismic Zone 1, a very low seismic risk. Additionally, the International Residential Code (IRC), 2003, currently places this area in Seismic Design Category B, also a low seismic risk. According to a report by the Colorado Geological Survey by Kirkman and Rogers, Bulletin 43 (1981) (Reference 12), this area should be designed for Zone 2 due to more recent data on the potential for movement in this area and any resultant earthquakes.

Radon – Hazard

Radon is a colorless, tasteless radioactive gas with a United States Environmental Protection Agency (EPA) specified action level of 4.0 picocuries per liter (pCi/L) of air. Radon gas has a very short half-life of 3.8 days. Radon levels for the area have been reported by the Colorado Geologic Survey in the open file, Report No. 91-4 (Reference 13). Average Radon levels for the 80908-zip code is 3.40 pCi/l. Exhibit 3 presents the radon levels in this area:

Exhibit 2: Radon Levels

Average Radon Levels for the 80908 Zip Code	
0 < 4 pCi/L	50.00%
4 < 10 pCi/L	50.00%
10 < 20 pCi/L	0.00%
> 20 pCi/L	0.00%

Mitigation:

The potential for high radon levels is present for the site. Build-up of radon gas can usually be mitigated by providing increased ventilation of basement and crawlspace and sealing joints. Specific requirements for mitigation should be based on site specific testing.

6.1 Relevance of Geologic Conditions to Land Use Planning

We understand that the development will be single family rural residential. The lots will be serviced by individual water wells and OWTS. An existing residence is located on Lot 6 which will remain. It is our opinion that the existing geologic and engineering geologic conditions will impose some minor constraints on the proposed development and construction. The most significant problems affecting development will be those associated with shallow bedrock, seasonal shallow and potentially seasonally shallow groundwater areas, and radon, these constraints/hazards can be

satisfactorily mitigated through proper engineering design and construction practices or avoidance.

The upper materials are typically at medium dense to dense states. The granular soils encountered in the upper soil profiles of the test borings should provide good support for foundations. Loose soils if encountered at foundation depth will require mitigation. Foundations anticipated for the site are standard spread footings possibly in conjunction with overexcavation in areas of expansive soils or loose soils. Excavation is anticipated to be moderate with rubber-tired equipment for the site sand materials. The sandstone will be difficult to excavate likely requiring track mounted equipment for the dense sandstone. Expansive layers may also be encountered in the soil and bedrock on this site. Areas of expansive soils encountered on site are sporadic; therefore, they have not been indicated on the maps. Expansive soils, if encountered, will require special foundation design and/or overexcavation. These soils will not prohibit development.

Areas of seasonal and potentially seasonal high groundwater areas and ponded water were encountered on site. Foundations should be a minimum of 3 feet above the lowest foundation/building grade and the maximum anticipated groundwater level. Building in areas of shallow water will require the installation of drains. Typical drain details are presented in Figures 10 through 13. Specific drain recommendations should be made for each lot after additional investigation. Any grading in these areas should be done to direct surface flows around construction to avoid areas of ponded water. Structures should not block drainages. The site does not lie within any floodplain zones according to the FEMA Map No. 08041CO535G, dated December 7, 2108 (Figure 9, Reference 9). Exact locations of floodplain and specific drainage studies are beyond the scope of this report.

Shallow groundwater conditions were encountered along or near existing drainages or low-lying areas, and the pond in the eastern portion of the site. Drainages on the site generally flow in a southerly and southeasterly directions. Areas along and near the drainages on the site have been mapped as psw – potential seasonally shallow groundwater, or sw – seasonally shallow groundwater areas and are shown on the Geology/Engineering Geology Map, Figure 6.

In summary, development of the site can be achieved if the items mentioned above are mitigated. These items can be mitigated through proper design and construction or through avoidance. Investigation on each lot is recommended prior to construction.

7 ECONOMIC MINERAL RESOURCES

Evaluation of Mineral and Mineral Fuel Potential (Reference 16), the area of the site has been mapped as “Fair” for industrial minerals. However, considering the silty nature of much of these materials and abundance of similar materials through the region and the close proximity to developed land, they would be considered to have little significance as an economic resource.

According to *the Evaluation of Mineral and Mineral Fuel Potential of El Paso County State Mineral Lands* (Reference 16), the site is mapped within the Denver Basin Coal Region. However, the area of the site has been mapped as “Poor” for coal resources. No active or inactive mines have been mapped in the area of the site. No metallic mineral resources have been mapped on-site (Reference 16).

The site has been mapped as “Fair” for oil and gas resources (Reference 16). No oil or gas fields have been discovered in the area of the site. The sedimentary rocks in the area may lack the geologic structure for trapping oil or gas; therefore, it may not be considered a significant resource. Hydraulic fracturing is a new method that is being used to extract oil and gas from rocks. It utilizes pressurized fluid to extract oil and gas from rocks that would not normally be productive. The area of the site has not been explored to determine if the rocks underlying the site would be commercially viable utilizing hydraulic fracturing. The practice of hydraulic fracturing has come under review due to concerns about environmental impacts, health and safety.

8 EROSION CONTROL

The soil types observed on the site are mildly to highly susceptible to wind erosion, and moderately to highly susceptible to water erosion. A minor wind erosion and dust problem may be created for a short time during and immediately after construction. Should the problem be considered severe enough during this time, watering of the cut areas or the use of chemical palliative may be required to control dust. However, once construction has been completed and vegetation re-established, the potential for wind erosion should be considerably reduced.

With regard to water erosion, loosely compacted soils will be the most susceptible to water erosion, residually weathered soils become increasingly less susceptible to water erosion. For the typical soils observed on-site, allowable velocities on unvegetated and unlined earth channels would be on the order of 3 to 4 feet/second, depending upon the sediment load carried by the water. Permissible velocities may be increased through the use of vegetation to something on

the order of 4 to 7 feet/second, depending upon the type of vegetation established. Should the anticipated velocities exceed these values, some form of channel lining material may be required to reduce erosion potential. These might consist of some of the synthetic channel lining materials on the market or conventional riprap. In cases where ditch-lining materials are still insufficient to control erosion, small check dams or sediment traps may be required. The check dams will serve to reduce flow velocities, as well as provide small traps for containing sediment. The determination of the amount, location and placement of ditch linings, check dams and of the special erosion control features should be performed by or in conjunction with the drainage engineer who is more familiar with the flow quantities and velocities.

Cut and fill slope areas will be subjected primarily to sheetwash and rill erosion. Unchecked rill erosion can eventually lead to concentrated flows of water and gully erosion. The best means to combat this type of erosion is, where possible, the adequate re-vegetation of cut and fill slopes. Cut and fill slopes having gradients more than three (3) horizontal to one (1) vertical become increasingly more difficult to revegetate successfully. Therefore, recommendations pertaining to the vegetation of the cut and fill slopes may require input from a qualified landscape architect and/or the Soil Conservation Service.

9 CLOSURE

It is our opinion that the existing geologic engineering and geologic conditions will impose some constraints on development and construction of the site. The majority of these conditions can be mitigated through proper engineering design and construction practices. The proposed development and use are consistent with anticipated geologic and engineering geologic conditions.

It should be pointed out that because of the nature of data obtained by random sampling of such variable and non-homogeneous materials as soil and rock, it is important that we be informed of any differences observed between surface and subsurface conditions encountered in construction and those assumed in the body of this report. Individual investigations for building sites will be required prior to construction. Construction and design personnel should be made familiar with the contents of this report. Reporting such discrepancies to Entech Engineering, Inc. soon after they are discovered would be greatly appreciated and could possibly help avoid construction and development problems.



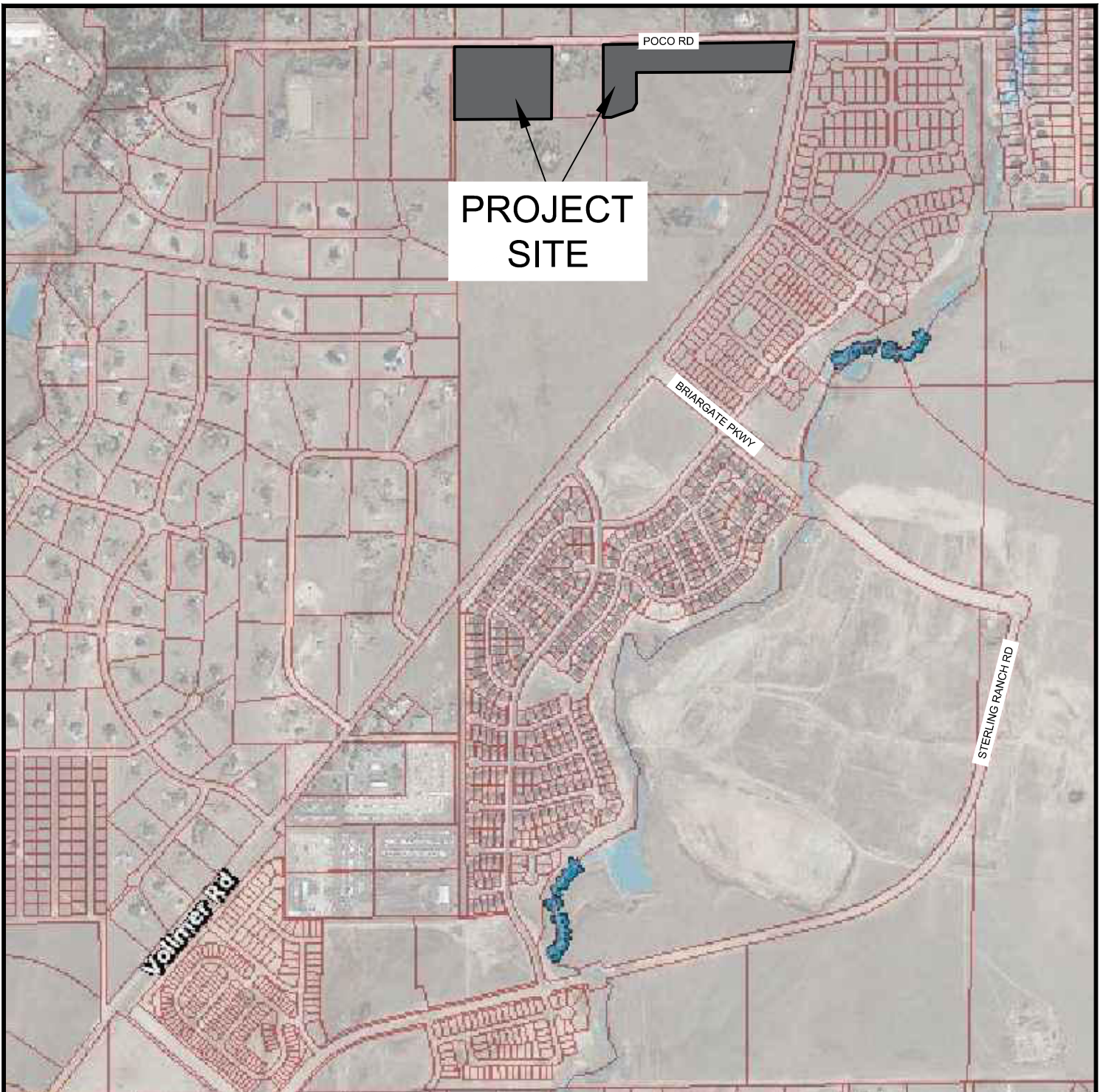
This report has been prepared for Classic SRJ Land for application to the proposed project in accordance with generally accepted geologic soil and engineering practices. No other warranty expressed or implied is made.

We trust that this report has provided you with all the information that you required. Should you require additional information, please do not hesitate to contact Entech Engineering, Inc.

10 REFERENCES

1. Entech Engineering, Inc., revised date July 18, 2024. *Soils and Geology Study, Retreat at PrairieRidge, Filings 1, 2, and 3 – Preliminary Plan, Poco Road and Vollmer Road, El Paso County, Colorado*. Entech Job No. 212381.
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FIGURES

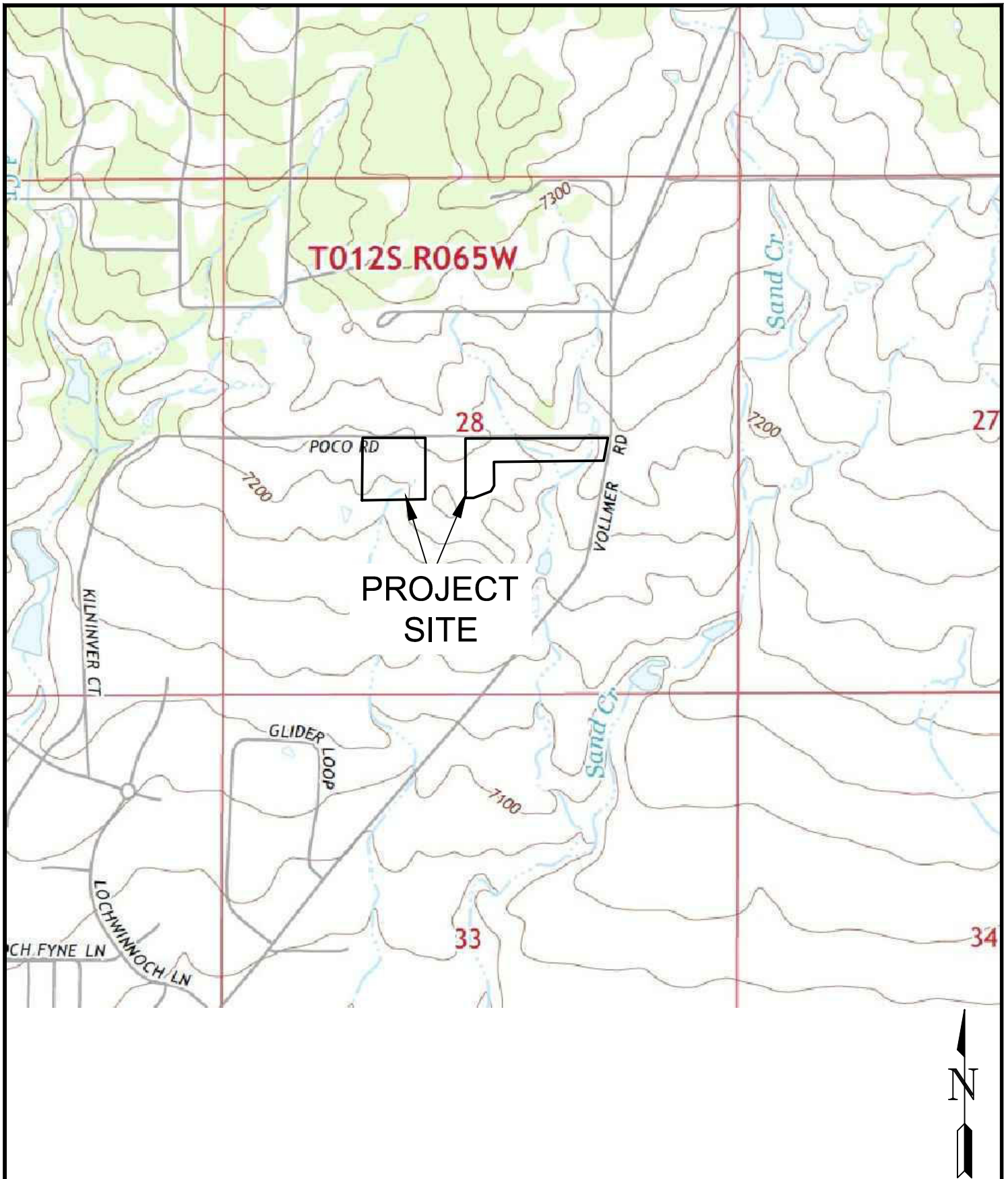


VICINITY MAP

RETREAT AT PRAIRIERIDGE FILING NO. 3
CLASSIC SRJ LAND

JOB NO.
241933

FIG. 1

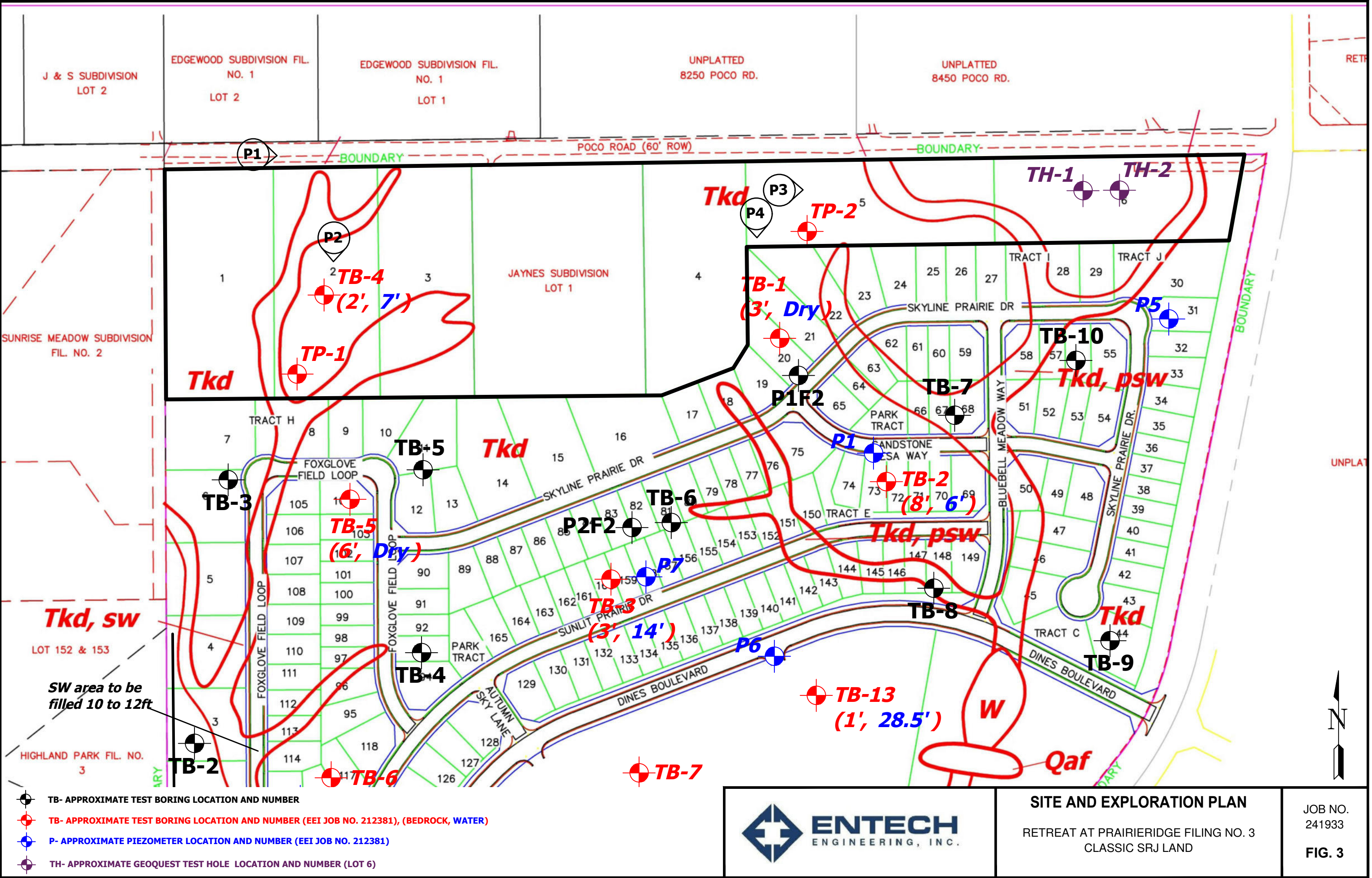


USGS TOPOGRAPHY MAP

RETREAT AT PRAIRIERIDGE FILING NO. 3
CLASSIC SRJ LAND

JOB NO.
241933

FIG. 2



SITE AND EXPLORATION PLAN
RETREAT AT PRAIRIERIDGE FILING NO. 3
CLASSIC SRJ LAND

JOB NO.
241933
FIG. 3

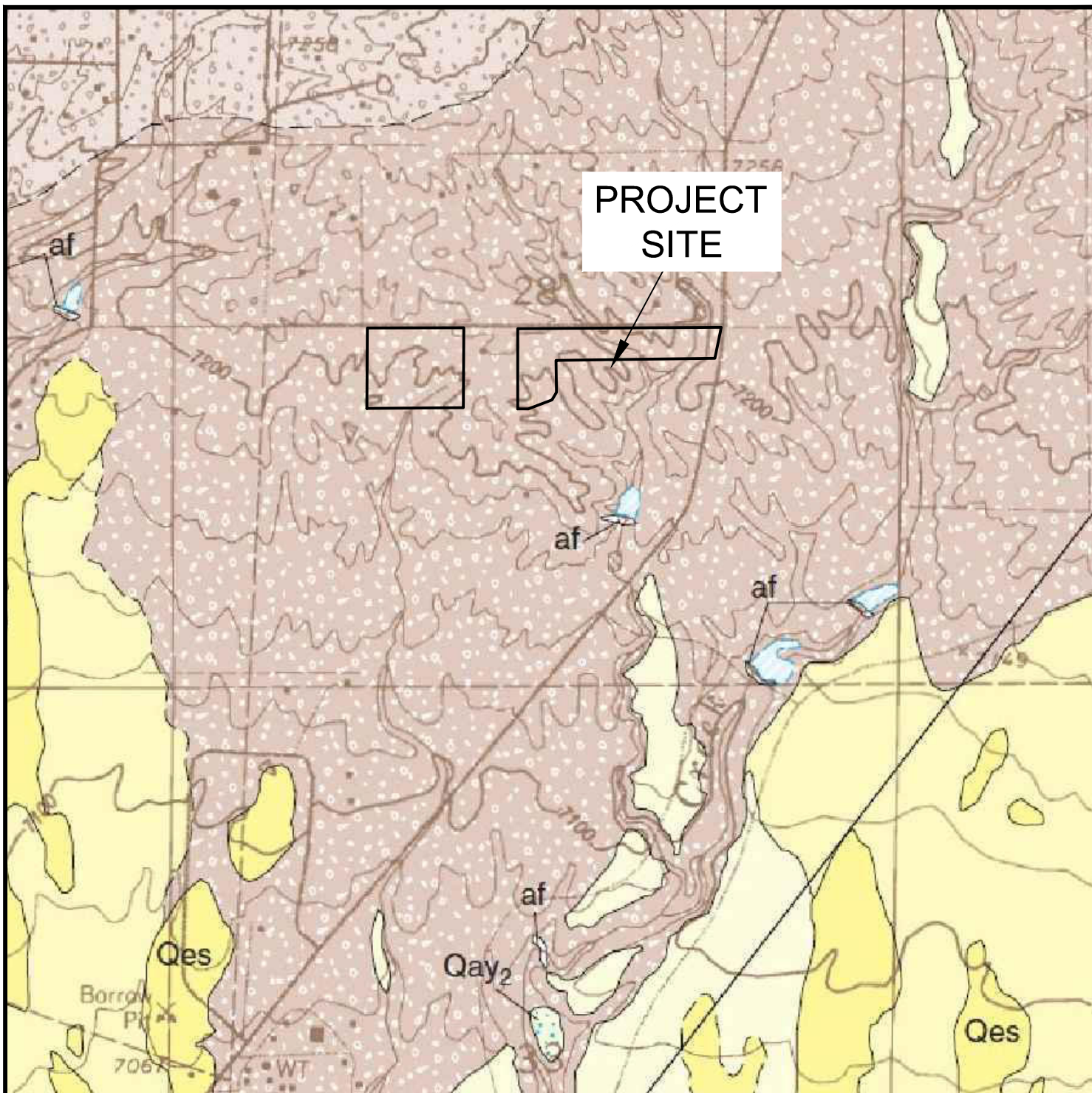


USDA SOIL MAP

RETREAT AT PRAIRIERIDGE FILING NO. 3
CLASSIC SRJ LAND

JOB NO.
241933

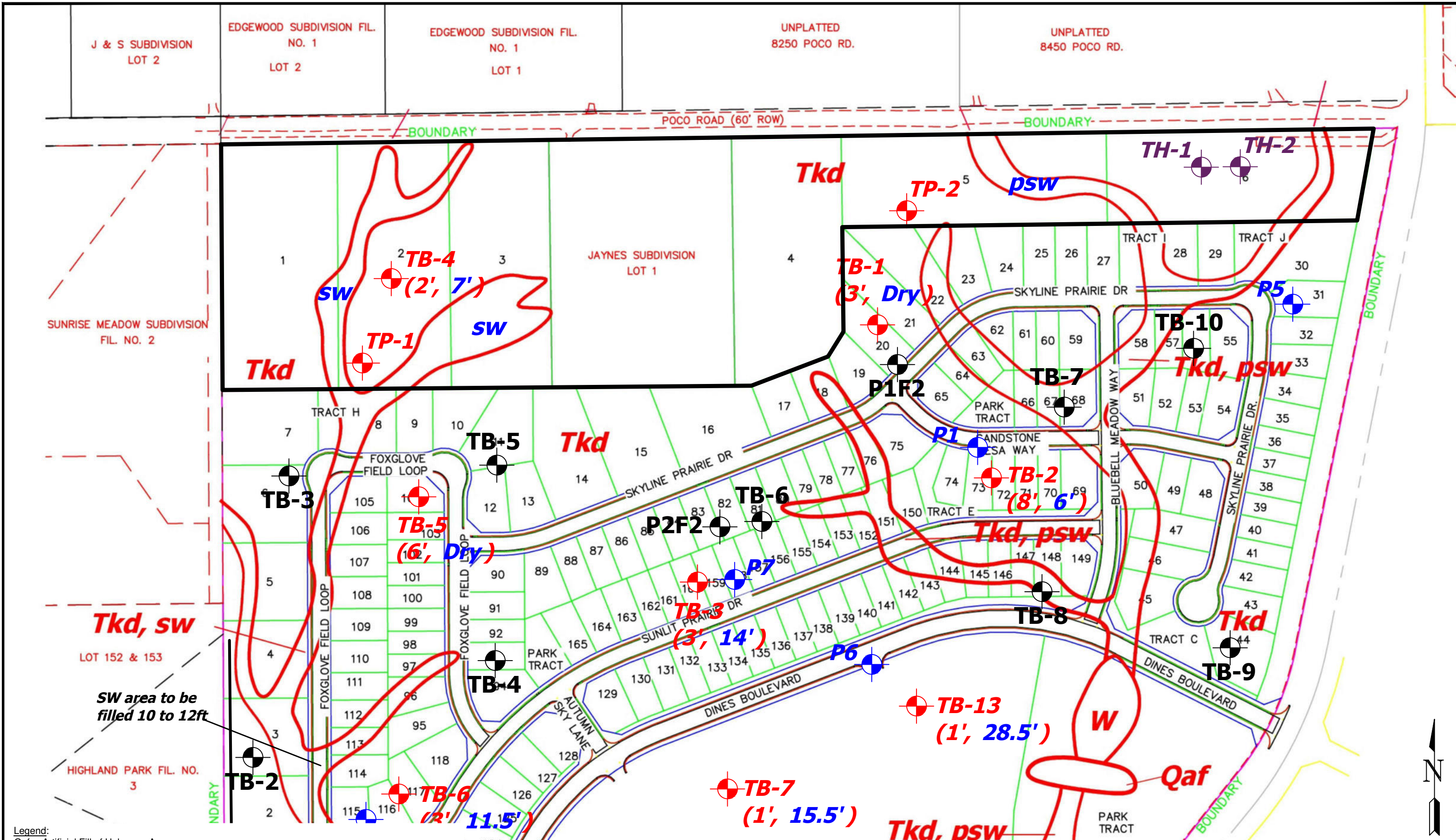
FIG. 4



**GEOLOGIC MAP OF THE
FALCON NW QUADRANGLE**
RETREAT AT PRAIRIERIGE FILING NO. 3
CLASSIC SRJ LAND

JOB NO.
241933

FIG. 5



Legend:

Qaf - Artificial Fill of Holocene Age:
man-placed fill deposits associated with existing earthen dam

Tkd - Dawson Formation of Tertiary to Cretaceous Age:
variable layer of sheetwash and residual soils overlying aroskic sandstone with interbedded siltstone and claystone

psw - potential seasonally shallow groundwater area
sw - seasonally shallow groundwater area



GEOLOGY / ENGINEERING MAP

RETREAT AT PRAIRIERIDGE FILING NO. 3
CLASSIC SRJ LAND

JOB NO.
241933

FIG. 6

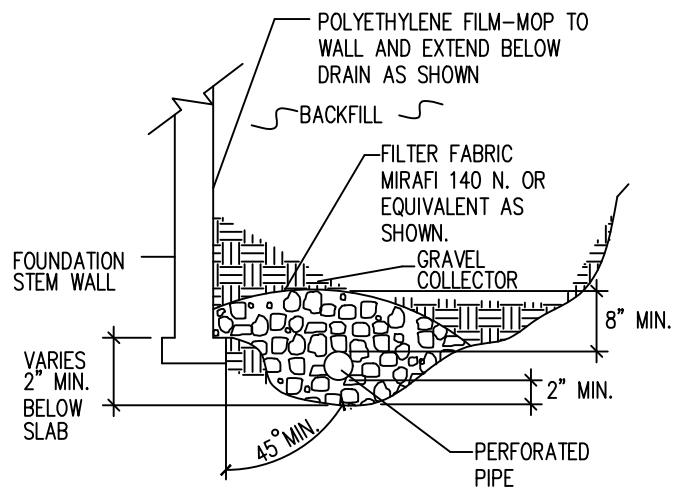


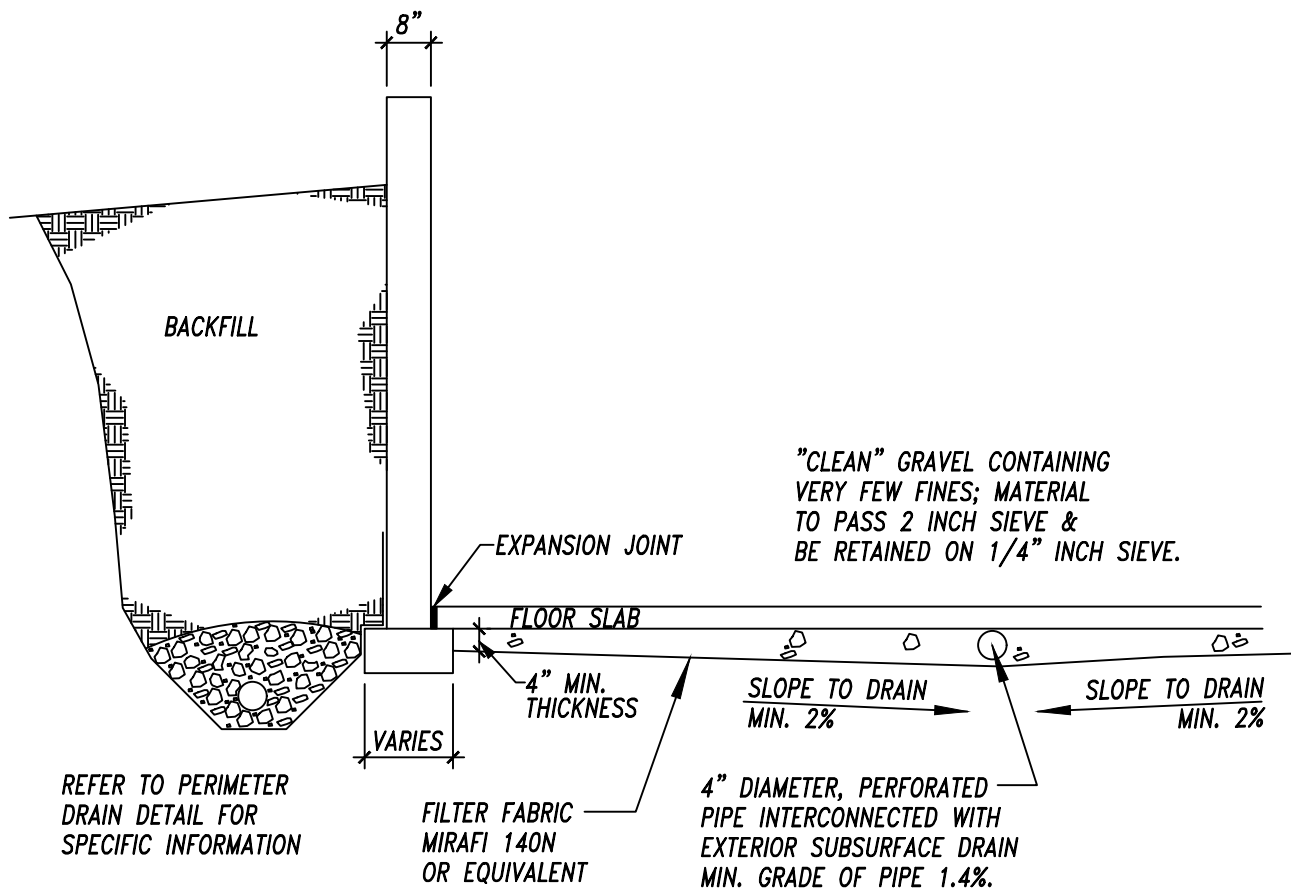
USFWS WETLANDS MAP

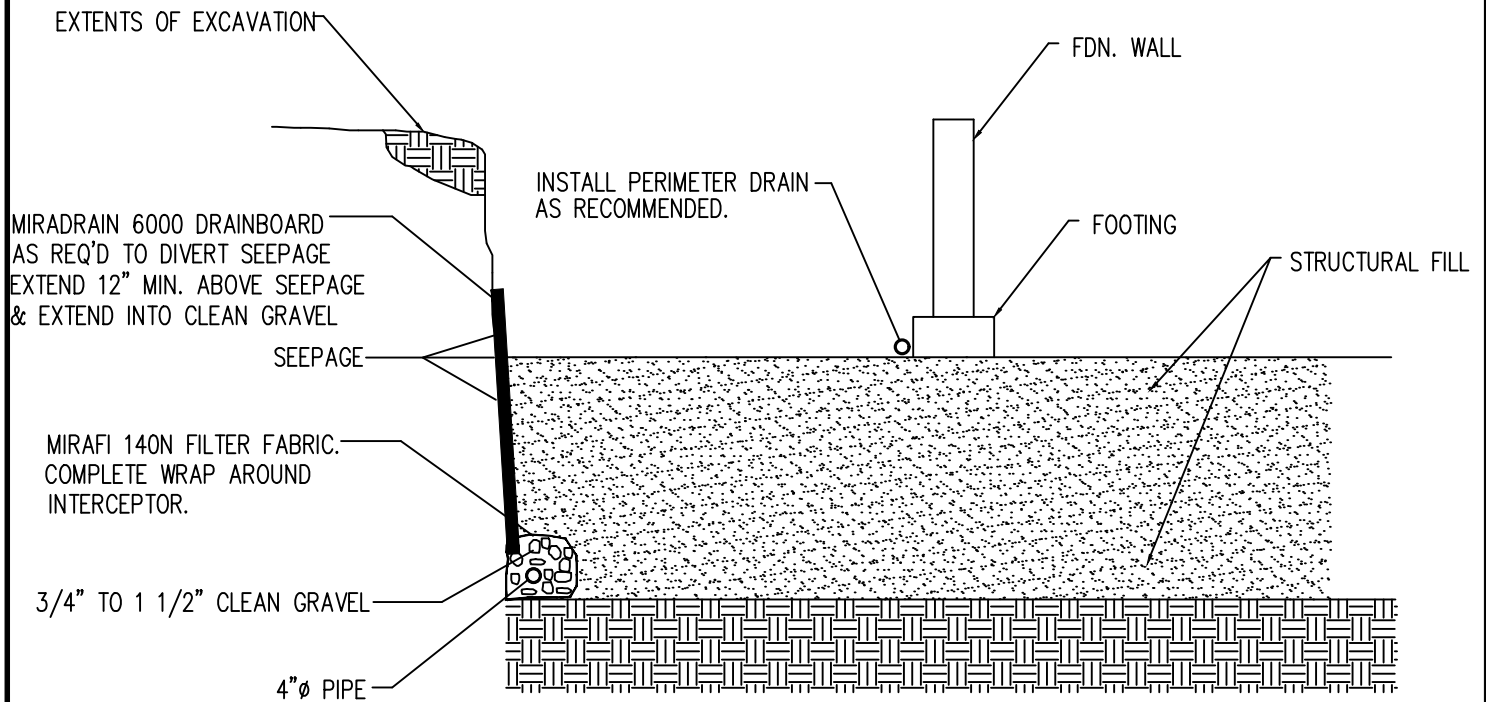
RETREAT AT PRAIRIERIDGE FILING NO. 3
CLASSIC SRJ LAND

JOB NO.
241933

FIG. 8







NOTE:
EXTEND INTERCEPTOR DRAIN TO UNDERDRAIN OR TO SUMP.
BENCH DRAIN INTO NATIVE SOILS 12 INCHES MINIMUM.

INTERCEPTOR DRAIN DETAIL

N.T.S.

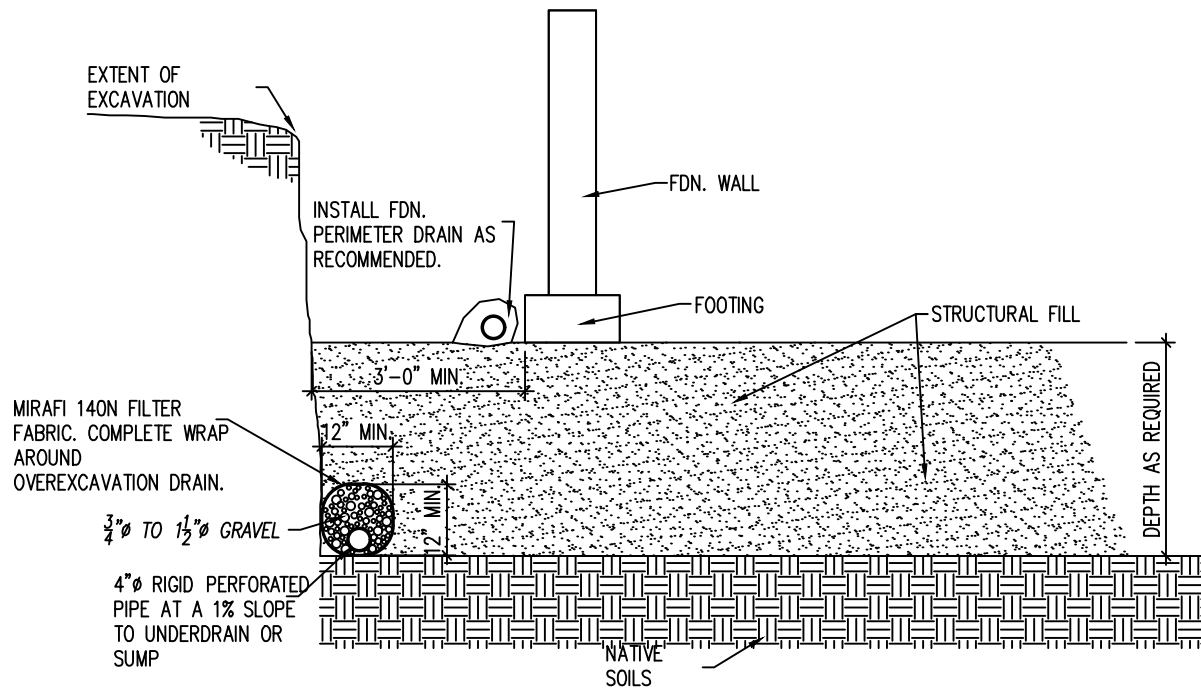


INTERCEPTOR DRAIN DETAIL

RETREAT AT PRAIRIERIDGE FILING NO. 3
CLASSIC SRJ LAND

JOB NO.
241933

FIG. 11



OVEREXCAVATION DRAIN DETAIL

N.T.S.

NOTE:

EXTEND DRAIN TO SUMP AS REQ'D.



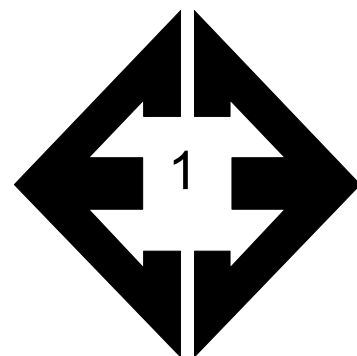
OVEREXCAVATION DRAIN

RETREAT AT PRAIRIERIDGE FILING NO. 3
CLASSIC SRJ LAND

JOB NO.
241933

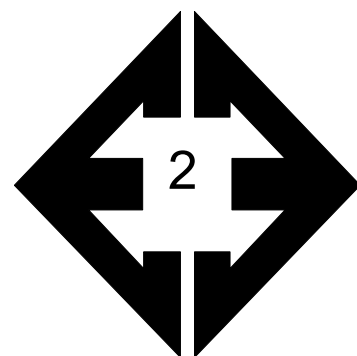
FIG. 12

APPENDIX A: Site Photographs



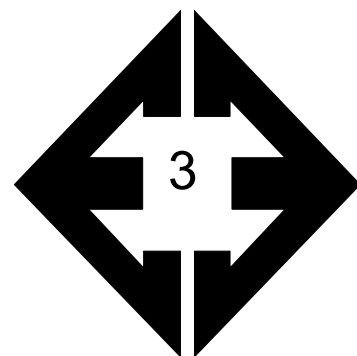
**Looking east from the
northwestern side of
Filing No. 3.**

November 18, 2024



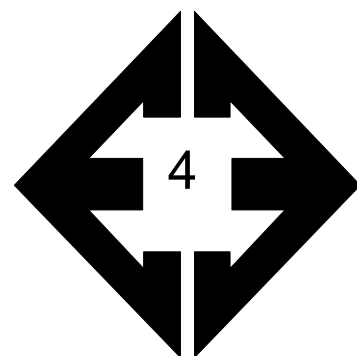
**Looking south from
the central portion of
Lot 2.**

November 18, 2024



**Looking east from the
central portion of Lot
5.**

November 18, 2024



**Looking southeast
from proposed Lot 5.**

November 18, 2024

APPENDIX B: Test Boring Logs

TABLE B-1
DEPTH TO GROUNDWATER AND BEDROCK

TEST BORING	DEPTH TO GROUNDWATER (ft.)	DEPTH TO BEDROCK (ft.)
1	>20	3
2	6	8
3	14	3
4	7	2
5	>20	6
6	11.5	3
7	15.5	1
8	>20	1
9	14	8
10	12	3
11	15	6
12	>20	8
13	>30	1
P-1	>12.5	6
P-2	11.5	1
P-3	8.6	9
P-4	7.2	7
P-5	>15	SURFACE
P-6	29.8	SURFACE
P-7	19.3	SURFACE
P-8	14	8

TEST BORING 1
DATE DRILLED 9/2/2021
REMARKS

TEST BORING 2
DATE DRILLED 9/2/2021
REMARKS

DRY TO 20', 10/6/21

SAND, SILTY, BROWN, DENSE, MOIST

SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED. (SAND, SILTY, VERY DENSE, MOIST)

CLAYEY LENS

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			43	5.4	1
5			<u>50</u> 9"	9.6	2
10			<u>50</u> 8"	10.0	2
15			<u>50</u> 5"	7.9	2
20			<u>50</u> 7"	8.4	2

WATER @ 6', 10/6/21

SAND, SILTY, TAN, MEDIUM DENSE, DRY to MOIST

SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST)

SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, CLAYEY, VERY DENSE, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			13	2.0	1
5			26	6.3	1
10			<u>50</u> 8"	6.5	2
15			<u>50</u> 10"	8.1	2
20			<u>50</u> 4"	8.9	2



TEST BORING LOGS
RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381

FIG. B-1

TEST BORING 3
DATE DRILLED 9/2/2021
REMARKS

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
WATER @ 14', 10/6/21						
SAND, SILTY, BROWN, DENSE, MOIST				43	6.5	1
				50	5.7	2
	5			8"		
SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST)				50	8.5	2
	10			7"		
	15			50	11.9	2
				8"		
SILTSTONE, VERY WEAK, BLUE-GRAY, HIGHLY WEATHERED, (SILT, SANDY, HARD, MOIST)	20			50	15.0	3
				8"		

TEST BORING 4
DATE DRILLED 9/2/2021
REMARKS

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
WATER @ 7', 10/6/21						
SAND, SILTY, BROWN						1
				50	5.6	2
				9"		
SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST)	5			50	9.6	2
				8"		
	10			50	12.1	2
				7"		
	15			50	7.3	2
				4"		
	20			50	10.6	2
				7"		



TEST BORING LOGS
RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381

FIG. B-2

TEST BORING 5
DATE DRILLED 9/2/2021
REMARKS

DRY TO 20', 10/6/21

SAND, SILTY, TAN, MEDIUM
DENSE, DRY

SANDSTONE, VERY WEAK, TAN,
HIGHLY WEATHERED, (SAND,
SILTY, VERY DENSE, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			13	2.5	1
5			21	2.2	1
10			50 9"	6.6	2
15			50 6"	8.0	2
20			50 7"	7.6	2

TEST BORING 6
DATE DRILLED 9/2/2021
REMARKS

WATER @ 11.5', 10/6/21

SAND, SILTY, BROWN, DENSE,
MOIST

SANDSTONE, VERY WEAK, TAN,
HIGHLY WEATHERED, (SAND,
SILTY, VERY DENSE, MOIST)

CLAYSTONE, VERY WEAK, BLUE-
GRAY, HIGHLY WEATHERED,
(CLAY, SANDY, HARD, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			43	4.6	1
5			50 9"	7.3	2
10			50 10"	10.7	2
15			50 7"	14.6	3
20			50 7"	14.4	3



TEST BORING LOGS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381

FIG. B-3

TEST BORING 7
DATE DRILLED 9/2/2021
REMARKS

WATER @ 15.5', 10/6/21

SAND, SILTY, BROWN
SANDSTONE, VERY WEAK, TAN,
HIGHLY WEATHERED, (SAND,
SILTY, VERY DENSE, MOIST)

CLAYSTONE, VERY EWAK, GRAY,
HIGHLY WEATHERED, (CLAY,
SANDY, HARD, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
1					1
2			50 8"	3.8	2
5			50 9"	9.1	2
10			50 8"	9.6	2
15			50 8"	11.5	2
20			50 6"	13.7	3

TEST BORING 8
DATE DRILLED 9/2/2021
REMARKS

DRY TO 20', 10/6/21

SAND, SILTY, BROWN
SANDSTONE, VERY WEAK, TAN,
HIGHLY WEATHERED, (SAND,
SILTY, VERY DENSE, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
1					1
2			50	11.1	2
5			50 9"	8.5	2
10			50 8"	10.1	2
15			50 6"	9.3	2
20			50 7"	11.9	2



TEST BORING LOGS
RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381

FIG. B-4

TEST BORING 9
DATE DRILLED 9/2/2021
REMARKS

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
WATER @ 14', 10/6/21						
SAND, SILTY, TAN, MEDIUM DENSE, MOIST				13	4.2	1
	5			12	6.1	1
SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST)	10			50 8"	11.1	2
	15			50 8"	9.5	2
	20			50 6"	11.9	2

TEST BORING 10
DATE DRILLED 9/2/2021
REMARKS

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
WATER @ 12', 10/6/21						
SAND, SILTY, TAN, MEDIUM DENSE, MOIST				18	3.5	1
	5			50 8"	8.5	2
SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, WITH SILT, VERY DENSE, MOIST)						
	10			50 8"	10.1	2
	15			50 6"	12.0	2
	20			50 8"	14.9	2



TEST BORING LOGS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381

FIG. B-5

TEST BORING	12
DATE DRILLED	9/2/2021
REMARKS	

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type	REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
WATER @ 15', 10/6/21							DRY TO 20', 10/6/21						
SAND, WITH SILT, TAN, MEDIUM DENSE to DENSE, DRY to MOIST	5			10	1.6	1	SAND, SILTY, BROWN, MEDIUM DENSE, MOIST	5			17	4.0	1
				37	3.5	1	CLAYEY LENS				26	12.6	1
SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST)	10			50 5"	8.5	2	SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST)	10			50 9"	9.9	2
	15			50 6"	12.7	2		15			50 7"	8.9	2
WEATHERED CLAYSTONE, VERY WEAK, GRAY, HIGHLY WEATHERED. (CLAY, SANDY,	20			34	11.4	3		20			50 6"	10.6	2



RETREAT AT PRAIRIERIDGE ELITE PROPERTIES

FIG. B-6

TEST BORING 13
 DATE DRILLED 9/28/2023
 REMARKS

DRY TO 28.5', 10/10/23

SAND, SILTY, BROWN

SANDSTONE, VERY WEAK,
 BROWN to TAN, HIGHLY
 WEATHERD (SAND, SILTY, VERY
 DENSE, MOIST)

CLAYSTONE, VERY WEAK, OLIVE,
 HIGHLY WEATHERED (CLAY,
 SANDY, HARD, MOIST)
 SANDSTONE, WEAK, LIGHT
 BROWN, HIGHLY WEATHERED
 (SAND, SILTY, VERY DENSE,
 MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
					1
					2
5			50 11"	6.4	2
			50 10"	11.1	2
10			50 7"	5.6	2
15			50 11"	9.7	2
20			50 8"	15.6	3
25			50 6"	7.5	2
30			50 5"	6.5	2



TEST BORING LOGS

RETREAT AT PRAIRIERIDGE
 ELITE PROPERTIES

JOB NO.
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FIG. B-7

TEST BORING P-1
 DATE DRILLED 8/22/2023
 REMARKS

TEST BORING P-2
 DATE DRILLED 8/22/2023
 REMARKS

DRY TO 12.5', 8/23/23

SAND, WITH SILT, TAN, MEDIUM
 DENSE, DRY

SANDSTONE, VERY WEAK, TAN,
 HIGHLY WEATHERED, (SAND,
 SILTY, VERY DENSE, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
5			16	2.8	1
10			50 9"	3.7	2
15					
20					

WATER @ 12', 8/23/23

SAND, SILTY, BROWN
 SANDSTONE, VERY WEAK,
 BROWN, HIGHLY WEATHERED,
 (SAND, SILTY, VERY DENSE,



Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
5			50 11"	7.0	2
10			50 9"	5.5	2
15					
20					



TEST BORING LOGS
 POCO ROAD AND VOLLMER ROAD
 ELITE PROPERTIES

JOB NO.
 212381

FIG. B-8

TEST BORING P-3
 DATE DRILLED 8/22/2023
 REMARKS

TEST BORING P-4
 DATE DRILLED 8/22/2023
 REMARKS

WATER @ 7', 8/23/23

SAND, CLAYEY, OLIVE, MEDIUM
 DENSE, MOIST

SANDSTONE, VERY WEAK, GRAY,
 HIGHLY WEATHERED, (SAND,
 SILTY, VERY DENSE, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
5			15	13.4	1
10			50 7"	8.2	2
15					
20					

WATER @ 5.5', 8/23/23

SAND, CLAYEY, OLIVE, LOOSE,
 MOIST

SANDSTONE, VERY WEAK, OLIVE,
 HIGHLY WEATHERED, (SAND,
 SILTY, VERY DENSE, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
5			9	10.6	1
10			50 8"	9.3	2
15					
20					



TEST BORING LOGS
 POCO ROAD AND VOLLMER ROAD
 ELITE PROPERTIES

JOB NO.
 212381

FIG. B-9

TEST BORING P-5
 DATE DRILLED 10/24/2023
 REMARKS

DRY TO 15', 10/24/23

SANDSTONE, VERY WEAK, TAN,
 RESIDUAL SOIL (SAND, WITH SILT,
 VERY DENSE, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
5			50 10"	3.4	2
			50 11"	7.8	2
10			50 6"	11.3	2
15			50 6"	8.5	2
20					

TEST BORING P-6
 DATE DRILLED 10/24/2023
 REMARKS

DRY TO 35', 10/24/23

SANDSTONE, VERY WEAK, TAN,
 RESIDUAL SOIL (SAND, SILTY, VERY
 DENSE, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
5			50 10"	7.8	2
			50 8"	9.9	2
10			50 6"	9.4	2
15			50 7"	9.6	2
20			50 8"	9.9	2
25			50 8"	12.2	2
30			50 9"	11.7	2
35			50 8"	15.9	2



TEST BORING LOGS
 POCO ROAD AND VOLLMER ROAD
 ELITE PROPERTIES

JOB NO.
 212381

FIG. B-10

TEST BORING P-7
 DATE DRILLED 10/24/2023
 REMARKS

DRY TO 25', 10/24/23

SANDSTONE, VERY WEAK, TAN,
 RESIDUAL SOIL (SAND, SILTY,
 VERY DENSE, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
5			$\frac{50}{9''}$	6.8	2
			$\frac{50}{8''}$	13.3	2
10			$\frac{50}{7''}$	11.4	2
15			$\frac{50}{8''}$	12.7	2
20			$\frac{50}{5''}$	12.1	2
25			$\frac{50}{7''}$	12.6	2

TEST BORING P-8
 DATE DRILLED 10/24/2023
 REMARKS

DRY TO 20', 10/24/23

SAND, GRAVELLY, SILTY, BROWN,
 DENSE, MOIST

CLAYSTONE, WEAK, BROWN,
 HIGHLY WEATHERED (CLAY,
 SANDY, HARD, MOIST)
 SANDSTONE, VERY WEAK,
 BROWN, HIGHLY WEATHERED
 (SAND, SILTY, VERY DENSE,

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
5			30	8.8	1
			45	9.2	1
10			37	14.7	3
15			$\frac{50}{6''}$	8.6	2
20			$\frac{50}{7''}$	13.5	2



TEST BORING LOGS
 POCO ROAD AND VOLLMER ROAD
 ELITE PROPERTIES

JOB NO.
 212381
FIG. B-11

APPENDIX C: Laboratory Testing Results

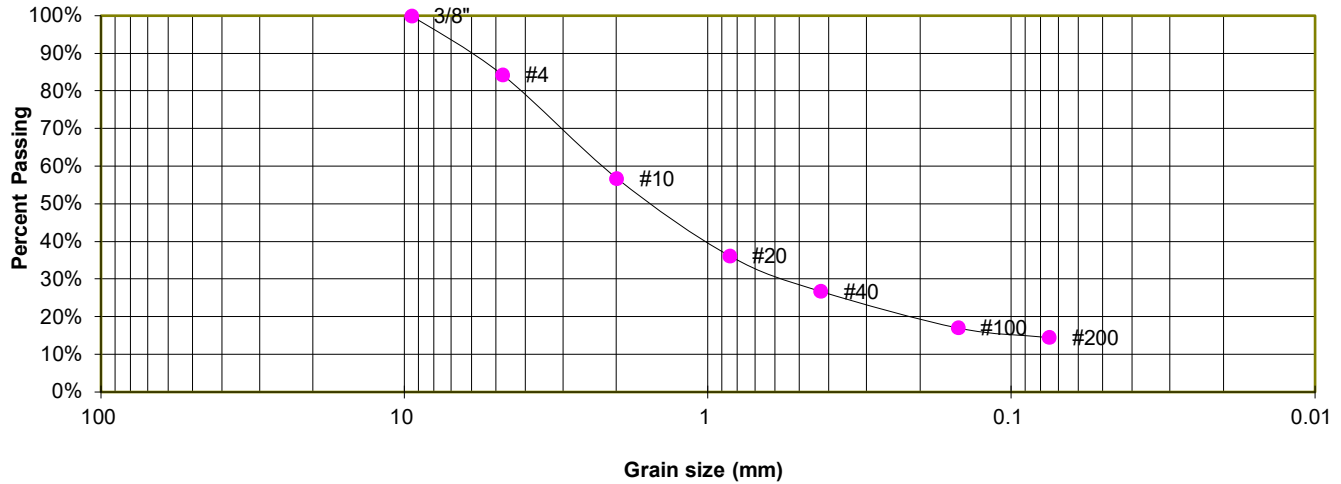
TABLE C-1
SUMMARY OF LABORATORY TEST RESULTS

SOIL TYPE	TEST BORING NO.	DEPTH (FT)	WATER (%)	DRY DENSITY (PCF)	PASSING NO. 200 SIEVE (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTIC INDEX	SULFATE (WT %)	FHA SWELL (PSF)	SWELL/ CONSOL (%)	USCS	SOIL DESCRIPTION
1	1	2-3			14.6	NV	NP	NP	<0.01			SM	SAND, SILTY
1	5	5			15.2							SM	SAND, SILTY
1	6	2-3			15.8							SM	SAND, SILTY
1	9	5			15.8							SM	SAND, SILTY
1	11	2-3			7.9							SW-SM	SAND, WITH SILT
1	12	5	16.9	112.5	30.1						1.9	SC	SAND, CLAYEY
1	P-1	2-3			5.0							SW-SM	SAND, WITH SILT
1	P-3	1-2			37.1							SC	SAND, CLAYEY
1	P-4	2-3			29.6							SC	SAND, CLAYEY
2	P-5	2-3			10.3	NV	NP	NP	<0.01			SW-SM	SANDSTONE (SAND, WITH SILT)
2	P-6	30			26.4							SM	SANDSTONE (SAND, SILTY)
2	P-7	20			19.0	NV	NP	NP	<0.01			SM	SANDSTONE (SAND, SILTY)
2	2	10			10.5	NV	NP	NP	<0.01			SW-SM	SANDSTONE, (SAND, WITH SILT)
2	4	5			16.3							SM	SANDSTONE, (SAND, SILTY)
2	P-2	2-3			13.9							SM	SANDSTONE, (SAND, SILTY)
2	7	10			20.1							SM	SANDSTONE, (SAND, SILTY)
2	8	2-3			24.1							SM	SANDSTONE, (SAND, SILTY)
2	10	10			11.9							SW-SM	SANDSTONE, (SAND, WITH SILT)
3	13	5			30.4							SM	SANDSTONE (SAND, SILTY)
3	13	20	16.9	102.0	74.6						0.0	CL	CLAYSTONE (CLAY, SANDY)
3	P-8	10	22.3	101.7	52.9				0.01		2.0	CL	CLAYSTONE (CLAY, SANDY)
3	3	20	16.0	114.6	57.9	38	26	12	0.00		2.8	ML	SILTSTONE, (SILT, SANDY)
3	6	20	14.7	118.7	83.7						1.8	CL	CLAYSTONE, (CLAY, SANDY)

TEST BORING 1
DEPTH (FT) 2-3

SOIL DESCRIPTION SAND, SILTY
SOIL TYPE 1

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	84.3%
10	56.8%
20	36.2%
40	26.8%
100	17.1%
200	14.6%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM



LABORATORY TEST RESULTS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

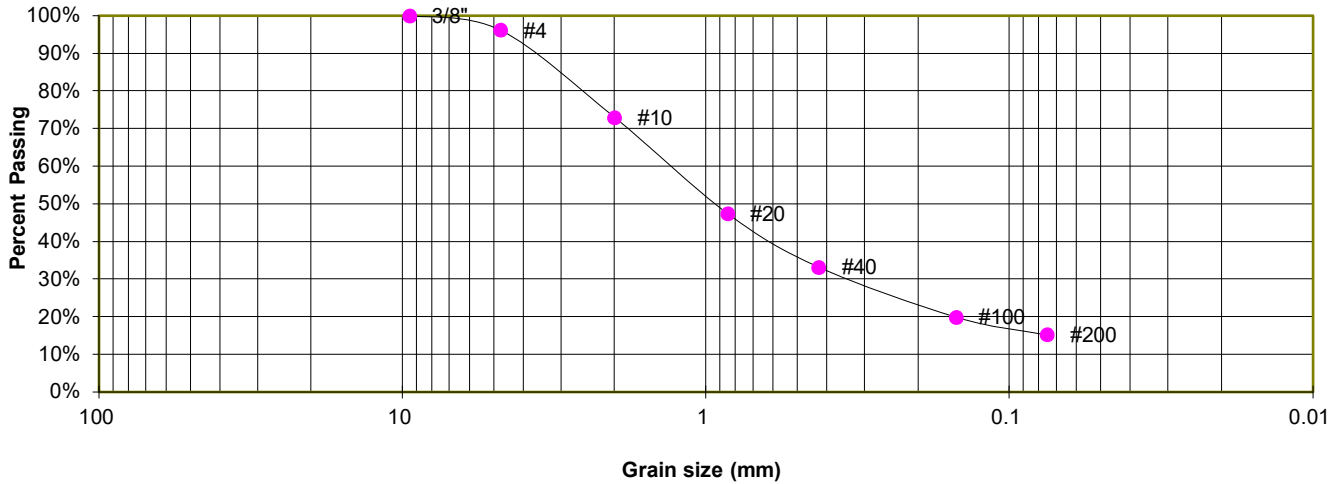
JOB NO.
212381

FIG. C-1

TEST BORING 5
DEPTH (FT) 5

SOIL DESCRIPTION SAND, SILTY
SOIL TYPE 1

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	96.2%
10	72.9%
20	47.5%
40	33.2%
100	19.9%
200	15.2%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM



LABORATORY TEST RESULTS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

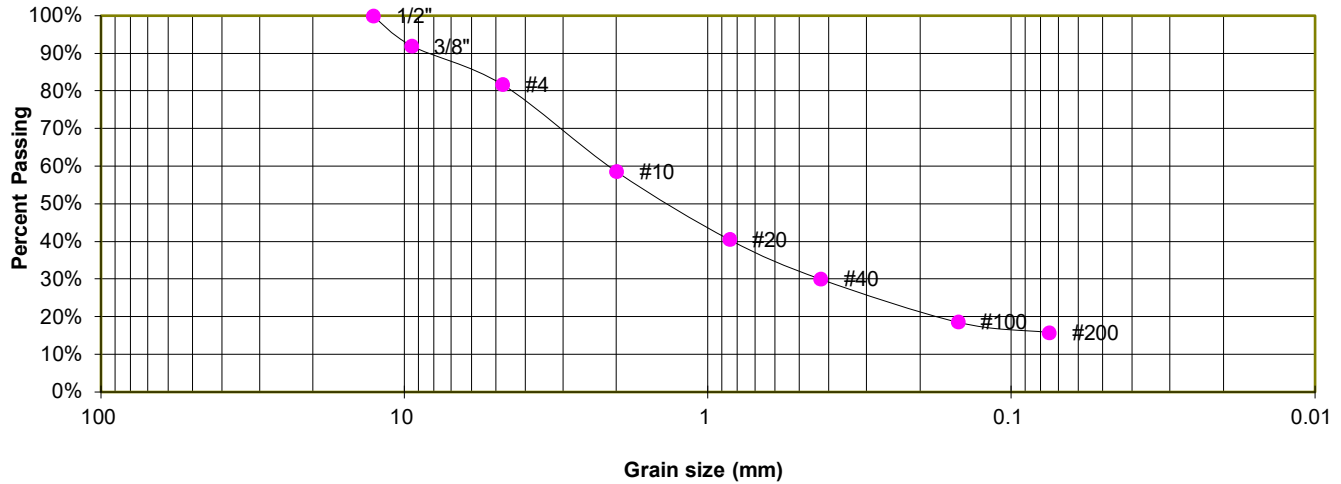
JOB NO.
212381

FIG. C-2

TEST BORING 6
DEPTH (FT) 2-3

SOIL DESCRIPTION SAND, SILTY
SOIL TYPE 1

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	92.0%
4	81.7%
10	58.6%
20	40.6%
40	30.0%
100	18.6%
200	15.8%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM



LABORATORY TEST RESULTS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

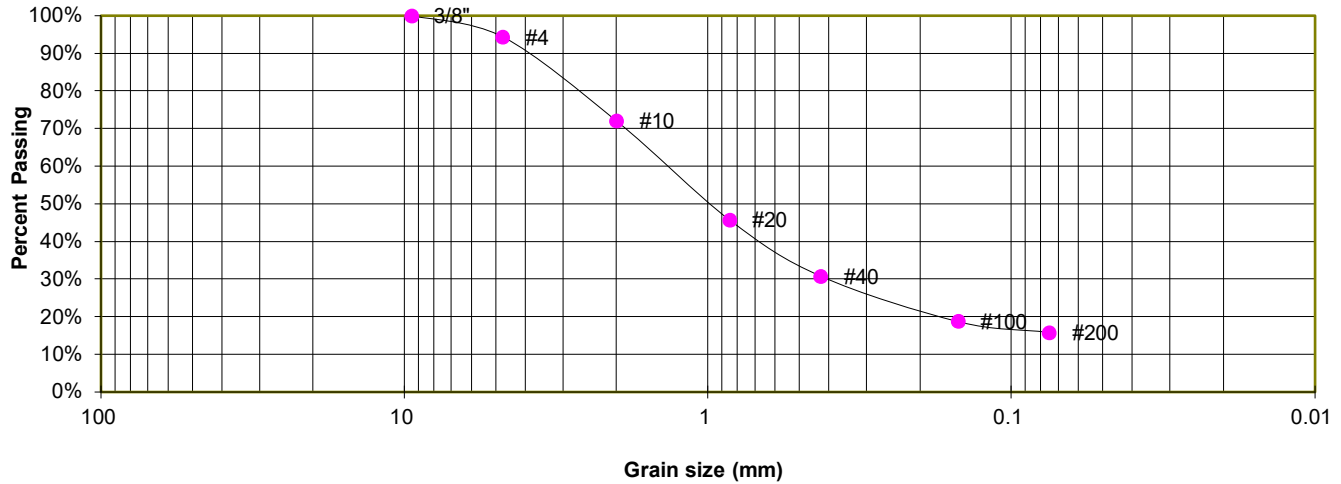
JOB NO.
212381

FIG. C-3

TEST BORING 9
DEPTH (FT) 5

SOIL DESCRIPTION SAND, SILTY
SOIL TYPE 1

Sieve Analysis Grain Size Distribution



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	94.4%
10	72.0%
20	45.8%
40	30.8%
100	18.8%
200	15.8%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM



LABORATORY TEST RESULTS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

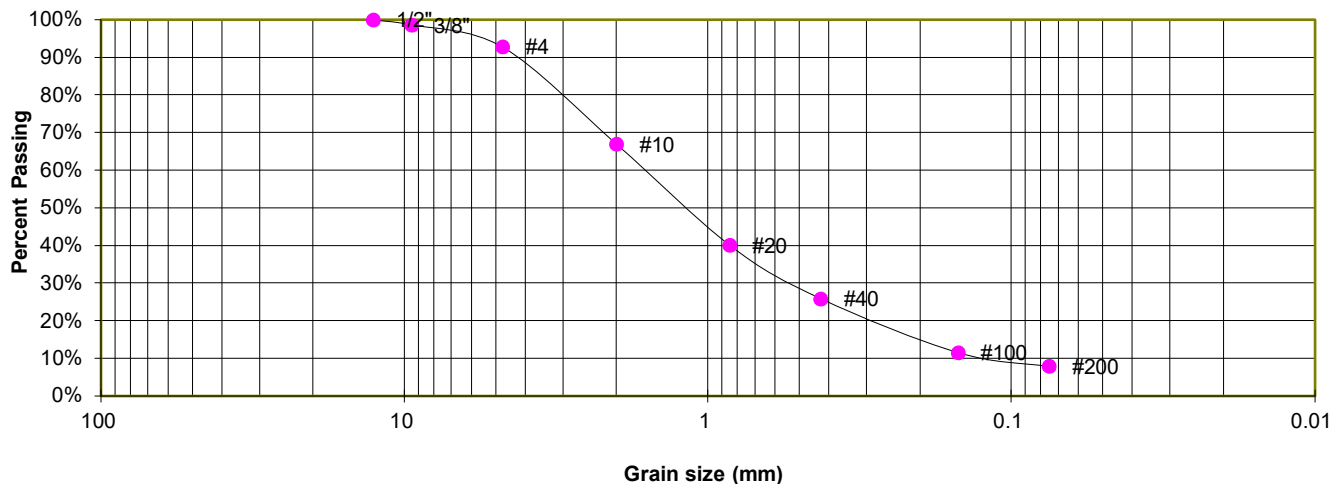
JOB NO.
212381

FIG. C-4

TEST BORING	11
DEPTH (FT)	2-3

SOIL DESCRIPTION SAND, WITH SILT
SOIL TYPE 1

Sieve Analysis Grain Size Distribution



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	98.6%
4	92.8%
10	67.0%
20	40.1%
40	25.9%
100	11.6%
200	7.9%

5

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW-SM



LABORATORY TEST RESULTS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

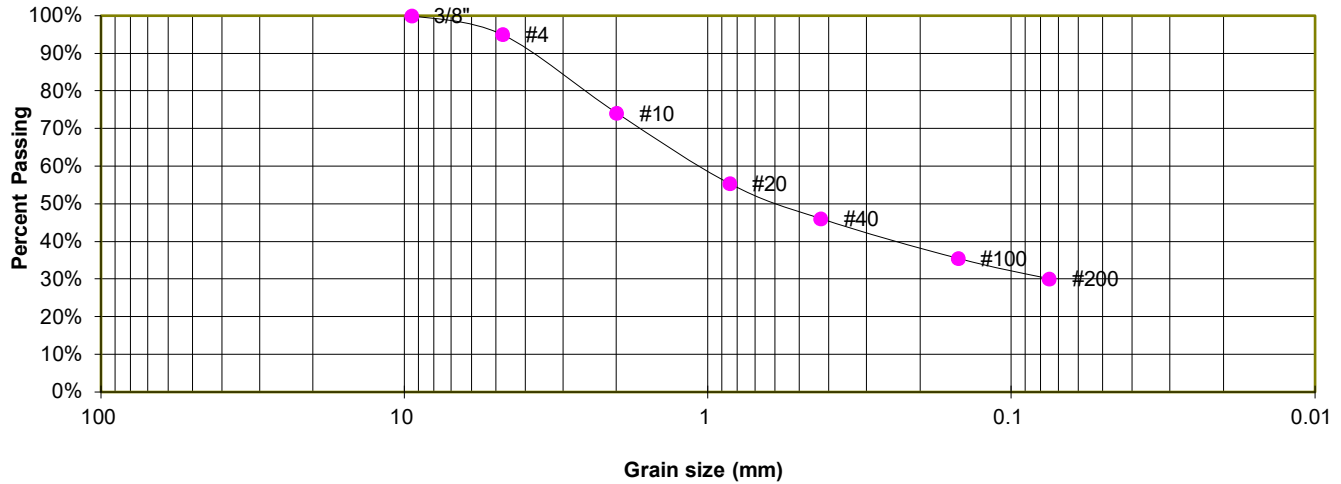
JOB NO.
212381

FIG. C-5

TEST BORING 12
DEPTH (FT) 5

SOIL DESCRIPTION SAND, CLAYEY
SOIL TYPE 1

Sieve Analysis Grain Size Distribution



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	95.0%
10	74.1%
20	55.4%
40	46.1%
100	35.6%
200	30.1%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC



LABORATORY TEST RESULTS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

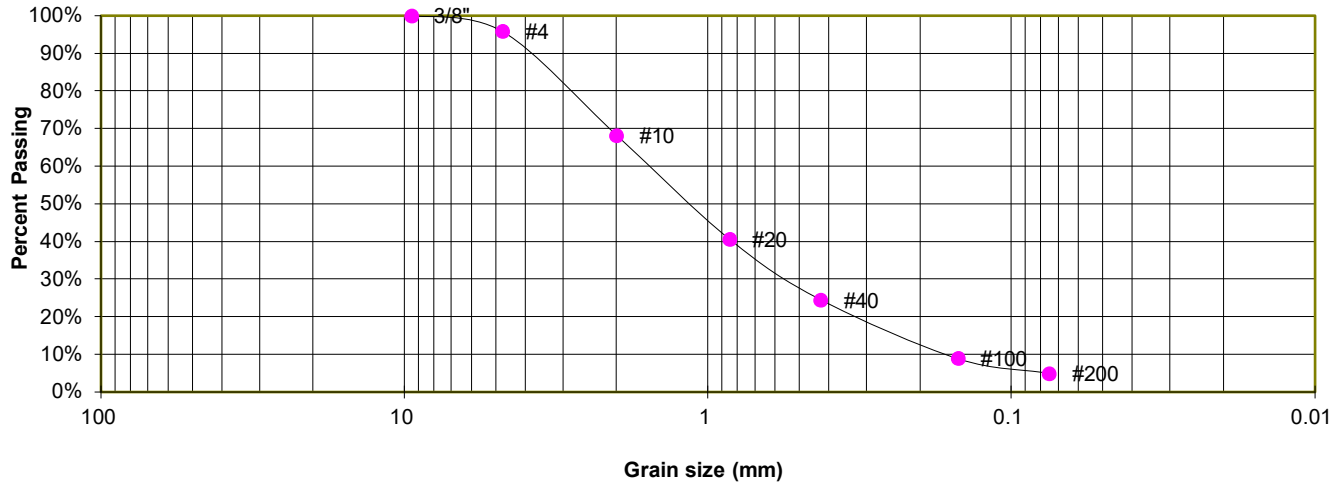
JOB NO.
212381

FIG. C-6

TEST BORING P-1
DEPTH (FT) 2-3

SOIL DESCRIPTION SAND, WITH SILT
SOIL TYPE 1

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	95.8%
10	68.2%
20	40.6%
40	24.5%
100	8.9%
200	5.0%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW-SM



LABORATORY TEST RESULTS

POCO ROAD AND VOLLMER ROAD
ELITE PROPERTIES

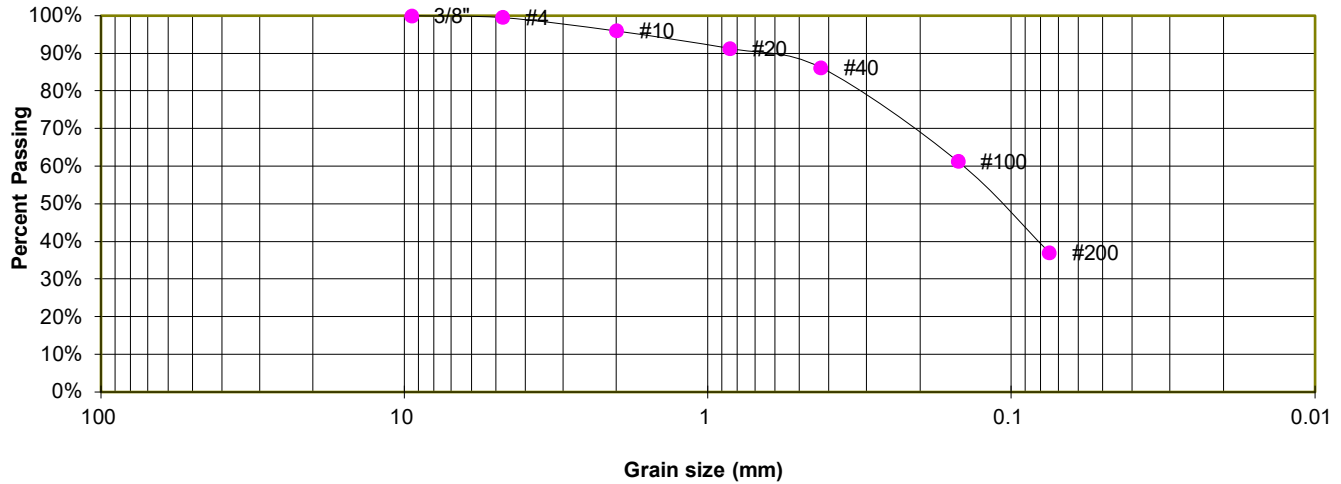
JOB NO.
212381

FIG. C-7

TEST BORING P-3
DEPTH (FT) 1-2

SOIL DESCRIPTION SAND, CLAYEY
SOIL TYPE 1

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	99.6%
10	96.0%
20	91.3%
40	86.2%
100	61.4%
200	37.1%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC



LABORATORY TEST RESULTS

POCO ROAD AND VOLLMER ROAD
ELITE PROPERTIES

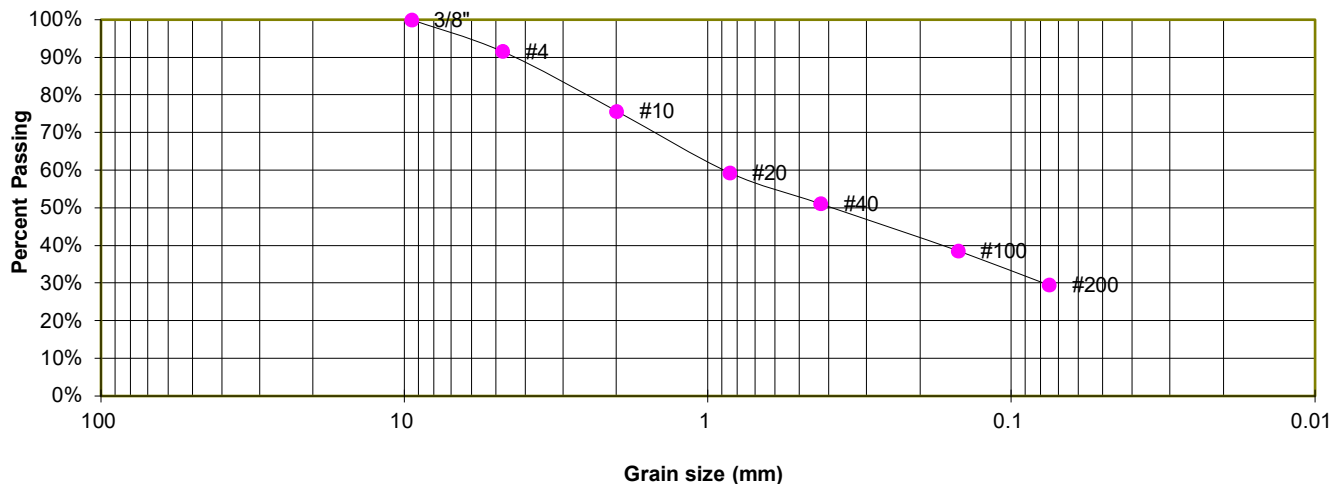
JOB NO.
212381

FIG. C-8

TEST BORING P-4
DEPTH (FT) 2-3

SOIL DESCRIPTION SAND, CLAYEY
SOIL TYPE 1

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	91.6%
10	75.7%
20	59.3%
40	51.2%
100	38.6%
200	29.6%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC



LABORATORY TEST RESULTS

POCO ROAD AND VOLLMER ROAD
ELITE PROPERTIES

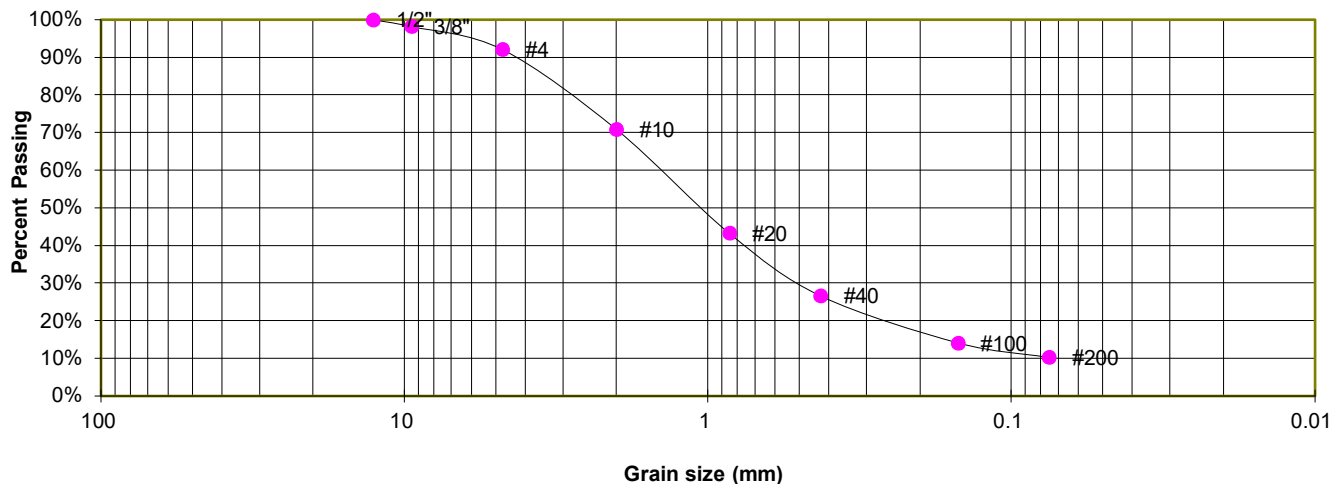
JOB NO.
212381

FIG. C-9

TEST BORING P-5
DEPTH (FT) 2-3

SOIL DESCRIPTION SANDSTONE (SAND, WITH SILT)
SOIL TYPE 2

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	98.2%
4	92.1%
10	70.8%
20	43.3%
40	26.6%
100	14.1%
200	10.3%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW-SM



LABORATORY TEST RESULTS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

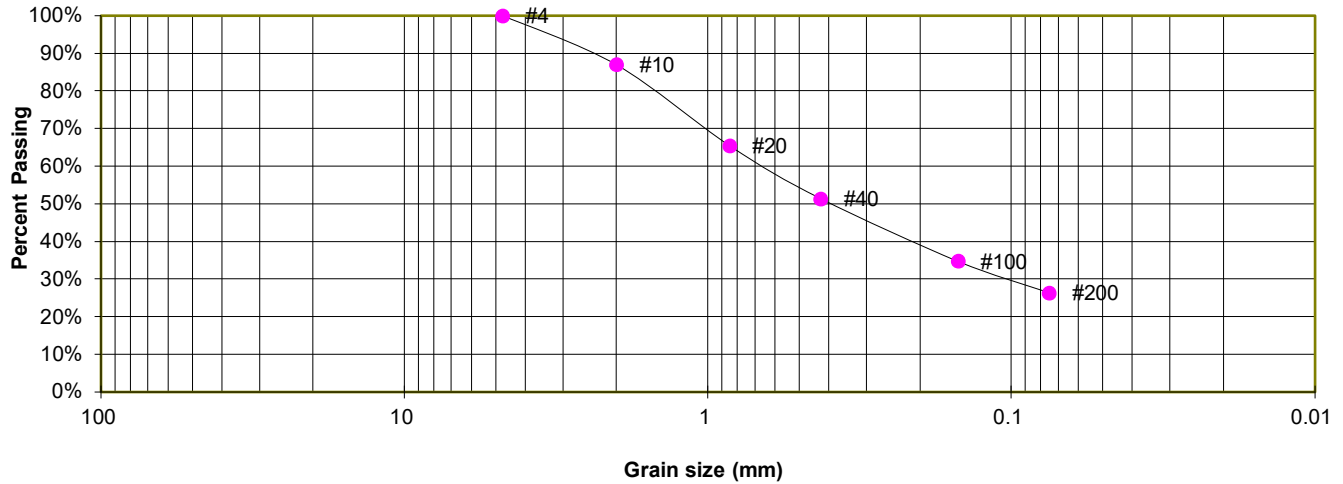
JOB NO.
212381

FIG. C-10

TEST BORING P-6
DEPTH (FT) 30

SOIL DESCRIPTION SANDSTONE (SAND, SILTY)
SOIL TYPE 2

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	87.0%
20	65.5%
40	51.4%
100	34.8%
200	26.4%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM



LABORATORY TEST RESULTS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

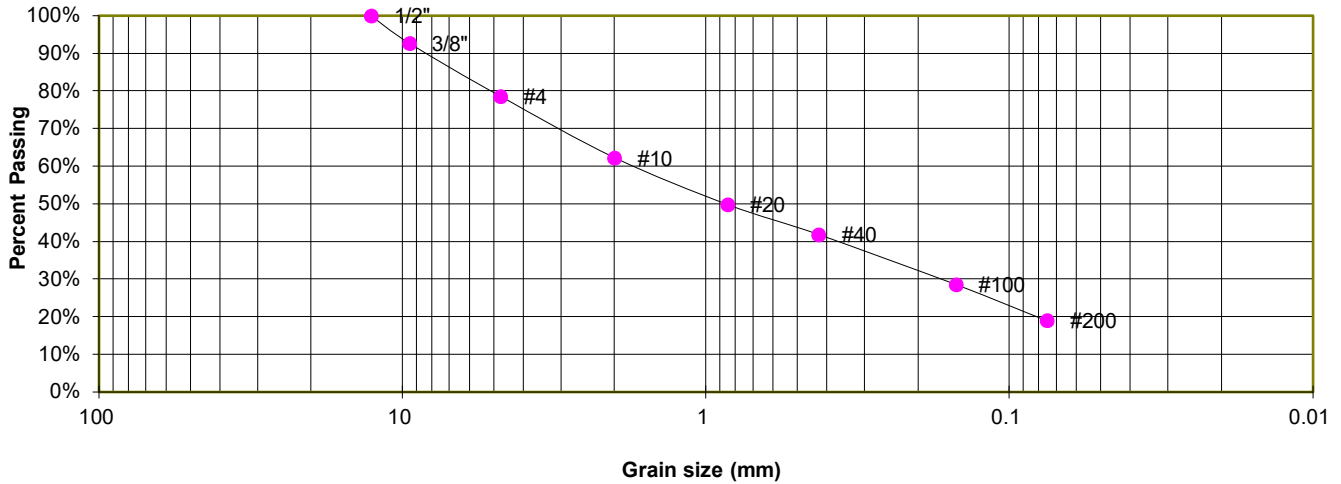
JOB NO.
212381

FIG. C-11

TEST BORING P-7
DEPTH (FT) 20

SOIL DESCRIPTION SANDSTONE (SAND, SILTY)
SOIL TYPE 2

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	92.7%
4	78.6%
10	62.2%
20	49.9%
40	41.9%
100	28.6%
200	19.0%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM



LABORATORY TEST RESULTS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

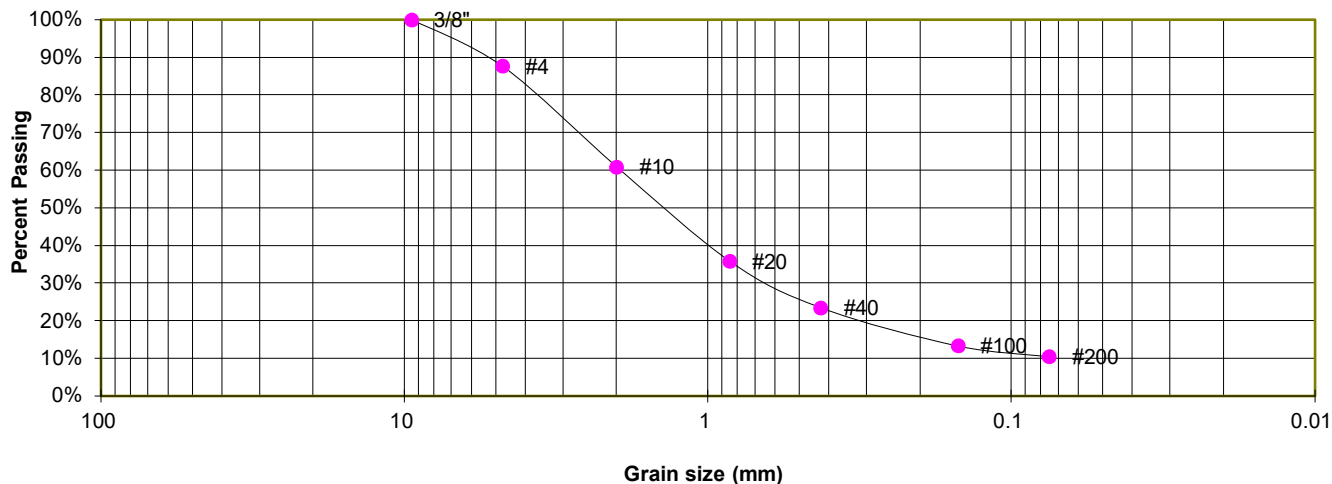
JOB NO.
212381

FIG. C-12

TEST BORING	2
DEPTH (FT)	10

SOIL DESCRIPTION SANDSTONE, (SAND, WITH SILT)
SOIL TYPE 2

Sieve Analysis Grain Size Distribution



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	87.6%
10	60.9%
20	35.9%
40	23.4%
100	13.4%
200	10.5%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW-SM



LABORATORY TEST RESULTS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

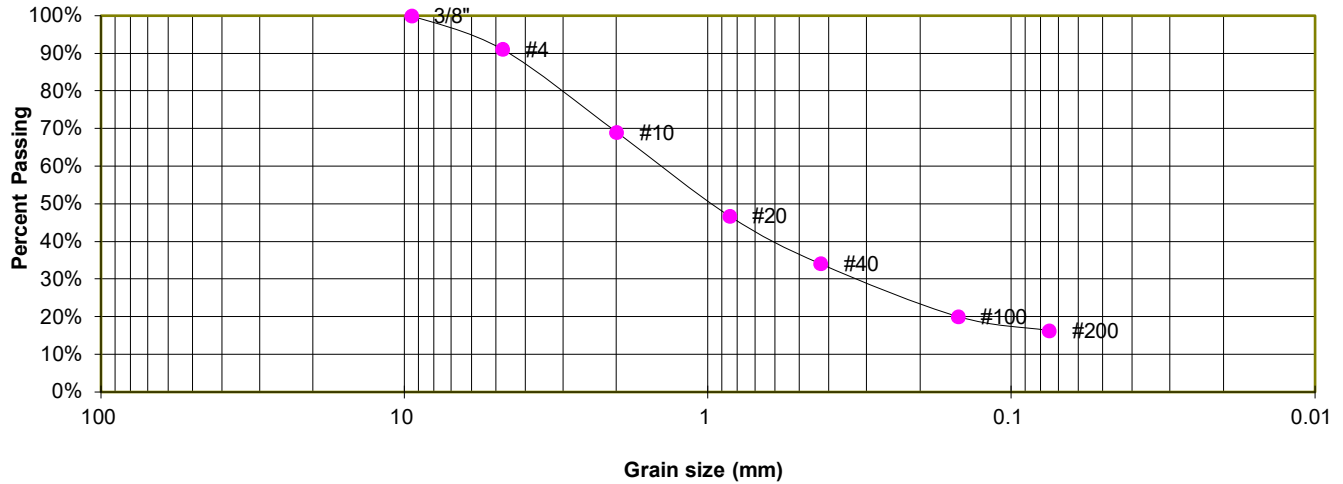
JOB NO.
212381

FIG. C-13

TEST BORING 4
DEPTH (FT) 5

SOIL DESCRIPTION SANDSTONE, (SAND, SILTY)
SOIL TYPE 2

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	91.1%
10	69.0%
20	46.8%
40	34.1%
100	20.1%
200	16.3%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM



LABORATORY TEST RESULTS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

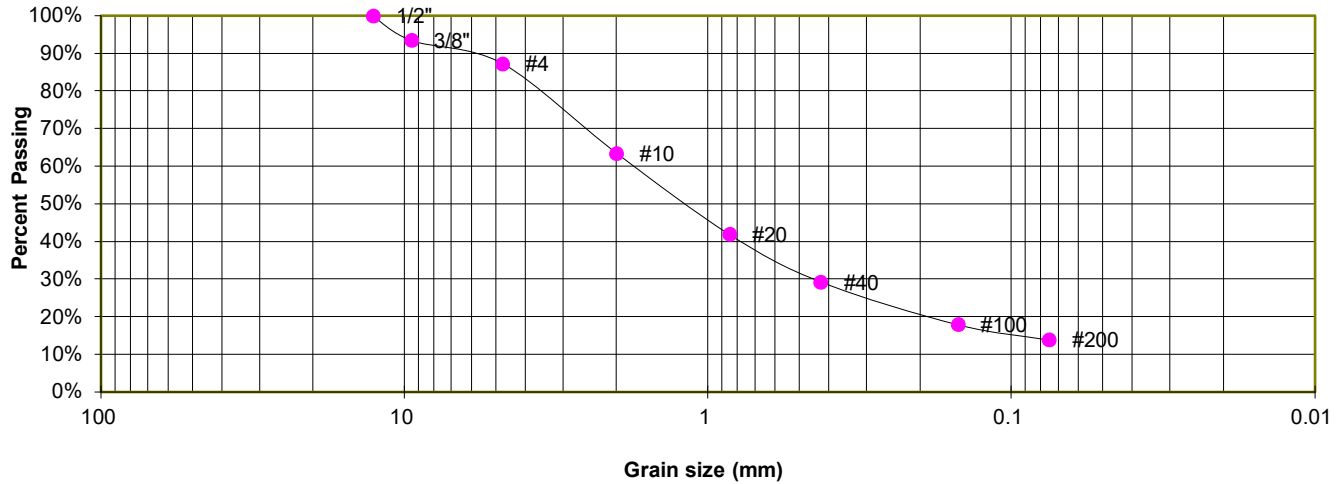
JOB NO.
212381

FIG. C-14

TEST BORING P-2
DEPTH (FT) 2-3

SOIL DESCRIPTION SANDSTONE, (SAND, SILTY)
SOIL TYPE 2

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	93.5%
4	87.3%
10	63.5%
20	41.9%
40	29.3%
100	18.0%
200	13.9%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM



LABORATORY TEST RESULTS

POCO ROAD AND VOLLMER ROAD
ELITE PROPERTIES

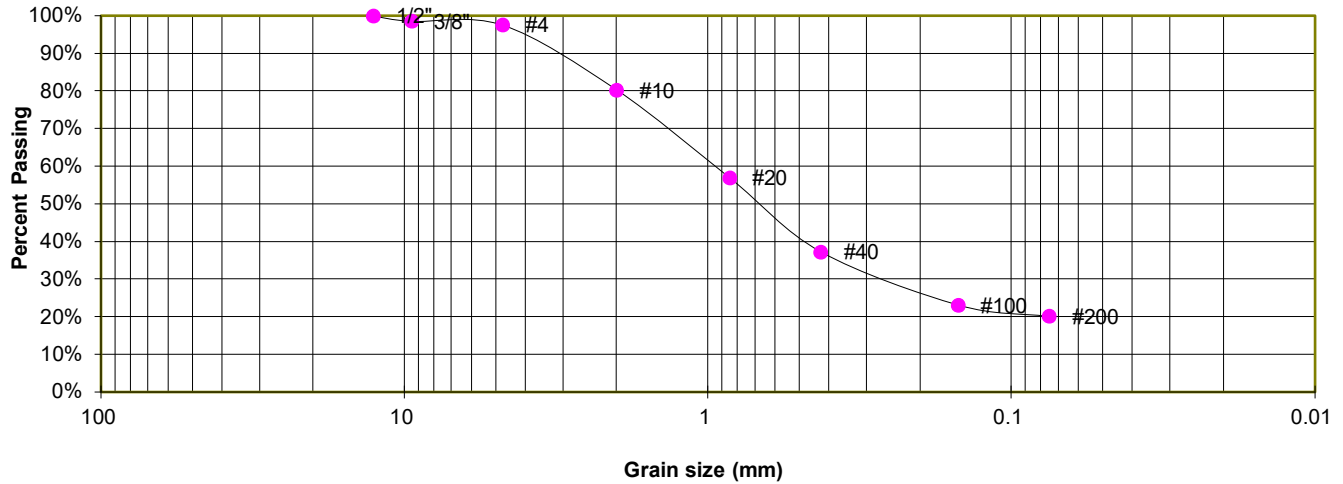
JOB NO.
212381

FIG. C-15

TEST BORING 7
DEPTH (FT) 10

SOIL DESCRIPTION SANDSTONE, (SAND, SILTY)
SOIL TYPE 2

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	98.6%
4	97.6%
10	80.3%
20	57.0%
40	37.3%
100	23.2%
200	20.1%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM



LABORATORY TEST RESULTS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

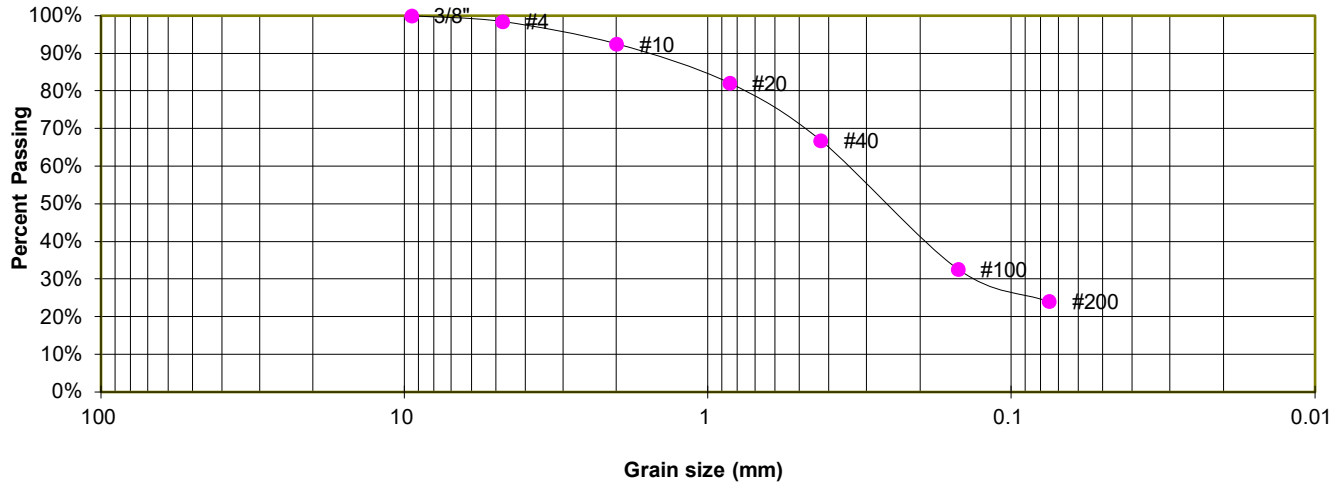
JOB NO.
212381

FIG. C-16

TEST BORING 8
DEPTH (FT) 2-3

SOIL DESCRIPTION SANDSTONE, (SAND, SILTY)
SOIL TYPE 2

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	98.5%
10	92.5%
20	82.1%
40	66.8%
100	32.6%
200	24.1%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM



LABORATORY TEST RESULTS

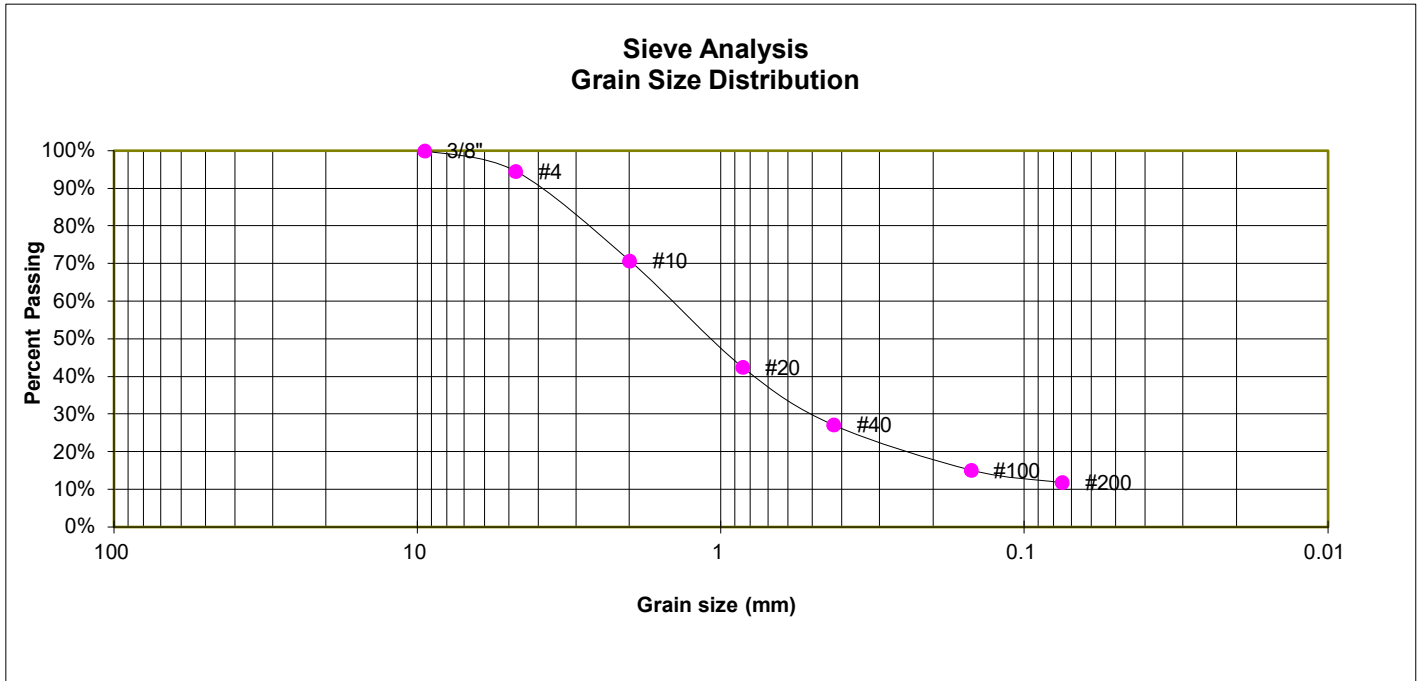
RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381

FIG. C-17

TEST BORING	10
DEPTH (FT)	10

SOIL DESCRIPTION SANDSTONE, (SAND, WITH SILT)
SOIL TYPE 2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	94.6%
10	70.8%
20	42.5%
40	27.2%
100	15.2%
200	11.9%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW-SM



LABORATORY TEST RESULTS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

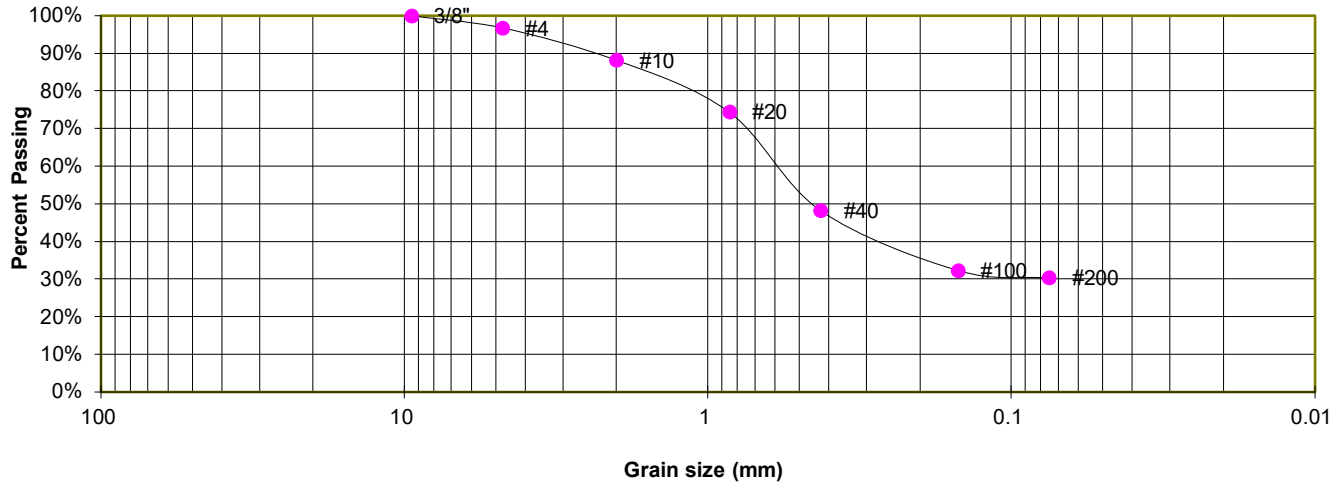
JOB NO.
212381

FIG. C-18

TEST BORING 13
DEPTH (FT) 5

SOIL DESCRIPTION SANDSTONE (SAND, SILTY)
SOIL TYPE 3

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	96.7%
10	88.2%
20	74.4%
40	48.2%
100	32.3%
200	30.4%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM



LABORATORY TEST RESULTS

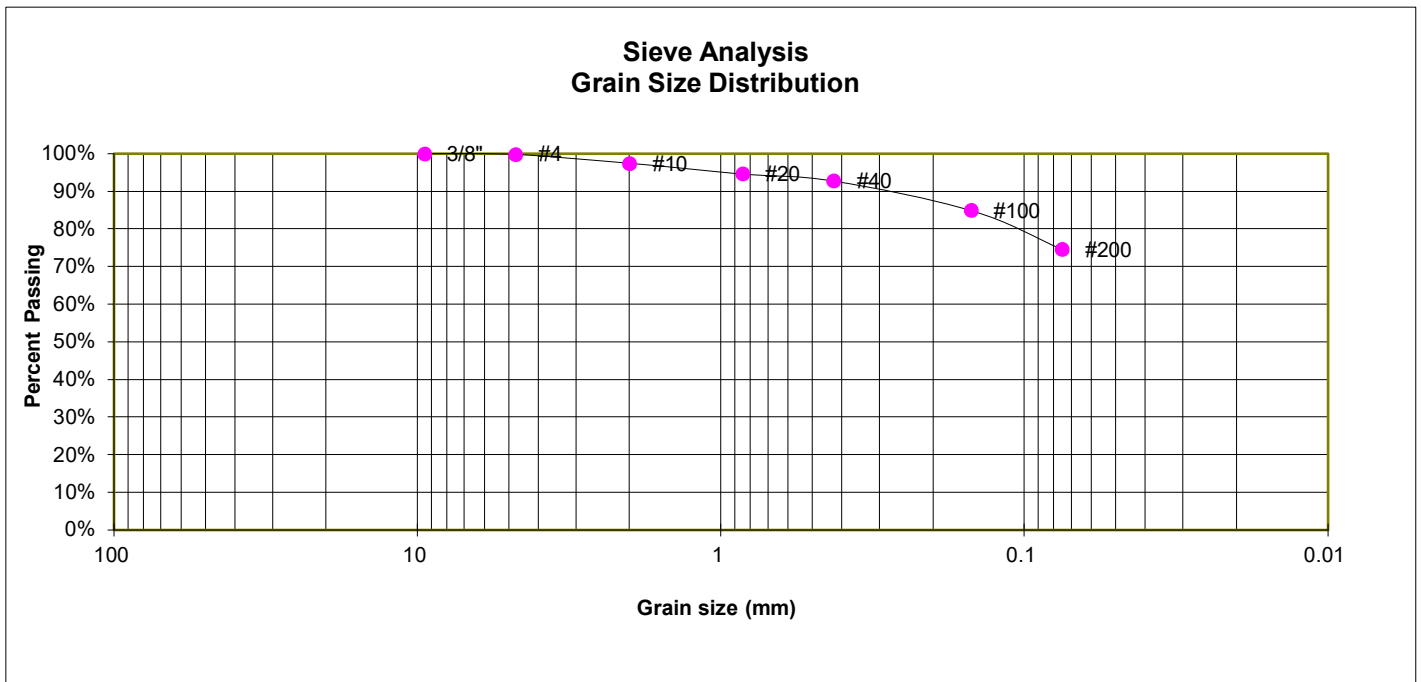
RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381

FIG. C-19

TEST BORING 13
DEPTH (FT) 20

SOIL DESCRIPTION CLAYSTONE (CLAY, SANDY)
SOIL TYPE 3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	99.9%
10	97.4%
20	94.6%
40	92.8%
100	85.0%
200	74.6%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

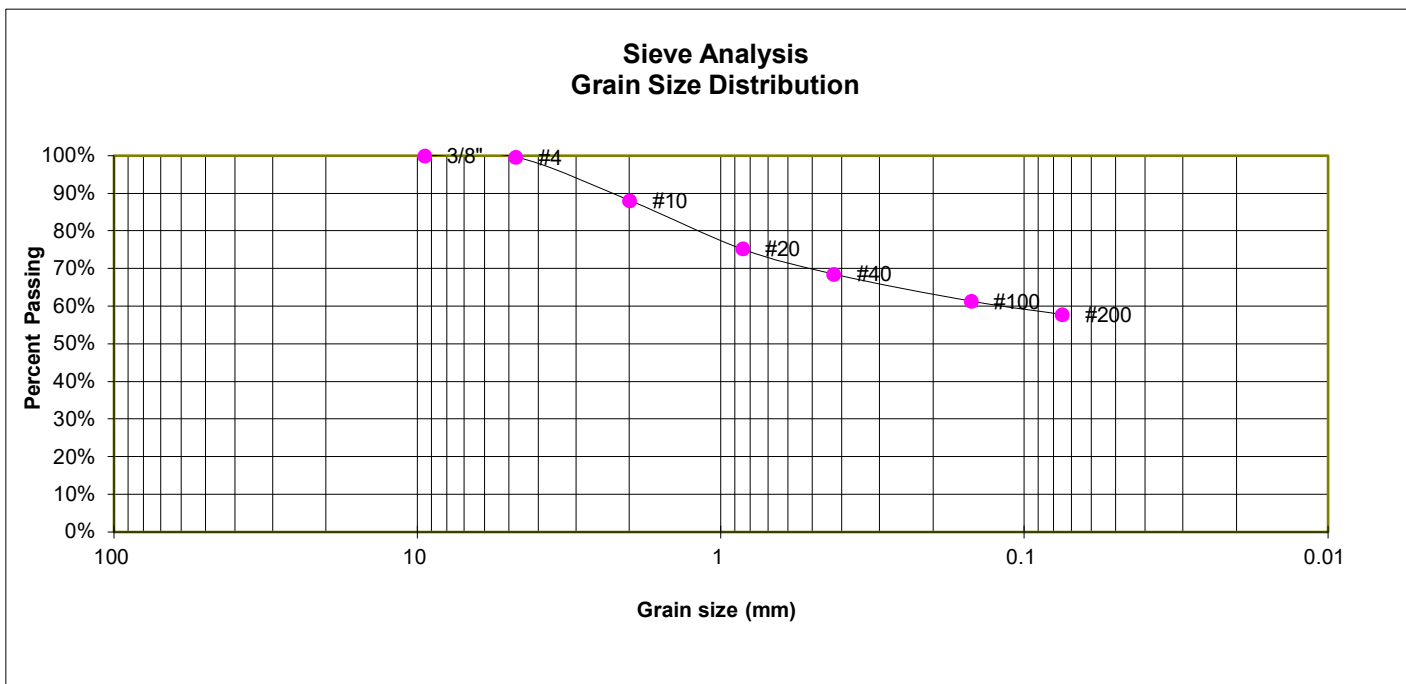
RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381

FIG. C-20

TEST BORING	3
DEPTH (FT)	20

SOIL DESCRIPTION SILTSTONE, (SILT, SANDY)
SOIL TYPE 3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	99.7%
10	88.1%
20	75.3%
40	68.6%
100	61.4%
200	57.9%

ATTERBERG LIMITS

Plastic Limit	26
Liquid Limit	38
Plastic Index	12

SOIL CLASSIFICATION

USCS CLASSIFICATION: ML



LABORATORY TEST RESULTS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

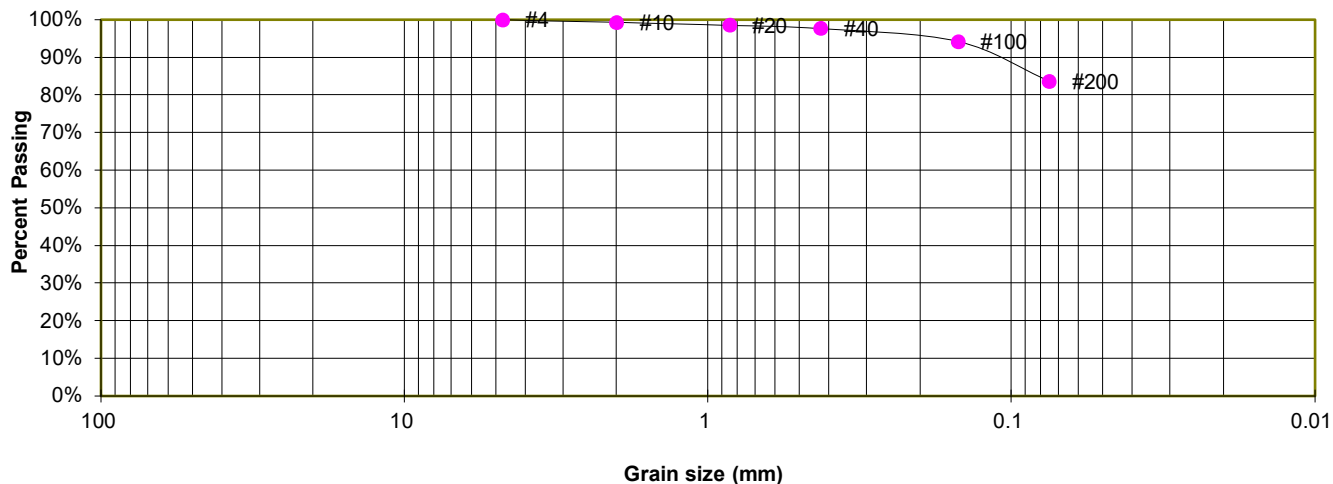
JOB NO.
212381

FIG. C-21

TEST BORING 6
DEPTH (FT) 20

SOIL DESCRIPTION CLAYSTONE, (CLAY, SANDY)
SOIL TYPE 3

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.3%
20	98.5%
40	97.7%
100	94.2%
200	83.7%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

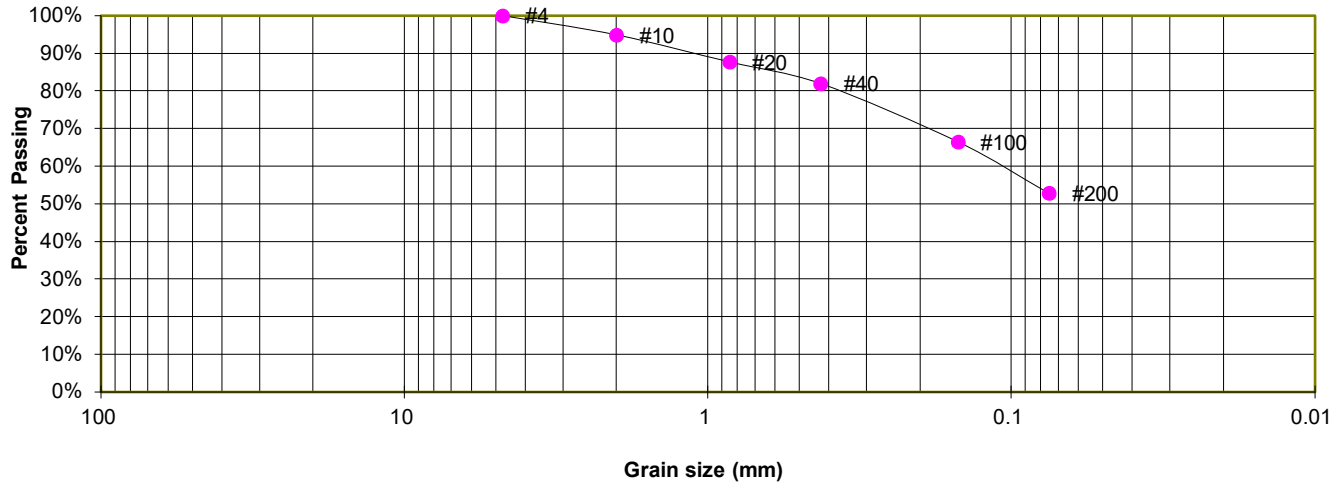
JOB NO.
212381

FIG. C-22

TEST BORING P-8
DEPTH (FT) 10

SOIL DESCRIPTION CLAYSTONE (CLAY, SANDY)
SOIL TYPE 3

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	94.9%
20	87.7%
40	82.0%
100	66.5%
200	52.9%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

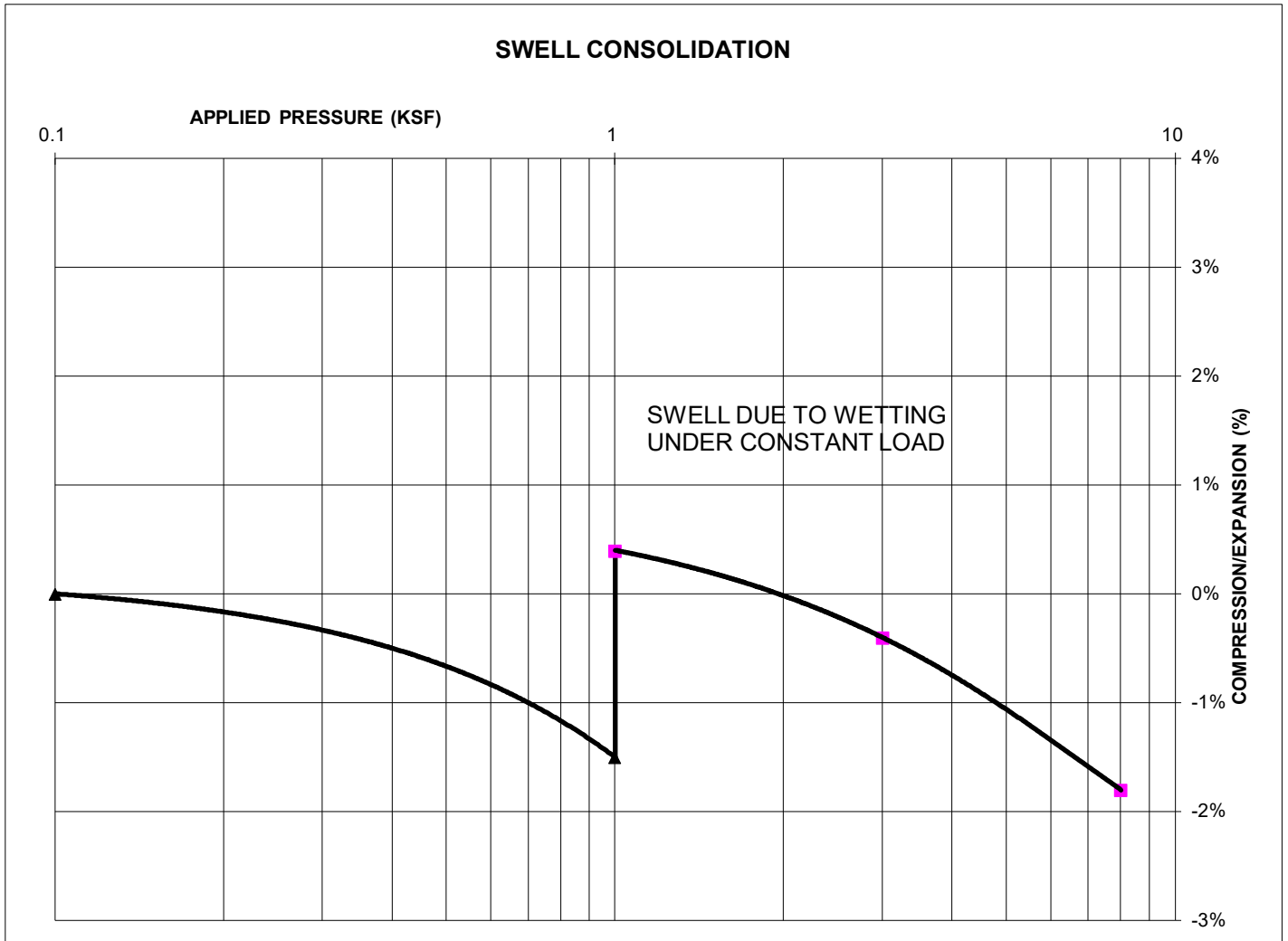
RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381

FIG. C-23

TEST BORING 12
DEPTH (FT) 5

SOIL DESCRIPTION SAND, SILTY
SOIL TYPE 1



SWELL/CONSOLIDATION TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 112
NATURAL MOISTURE CONTENT: 16.9%
SWELL/CONSOLIDATION (%): 1.9%



**SWELL/CONSOLIDATION
TEST RESULTS**

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381

FIG. C-24

TEST BORING 3
DEPTH (FT) 20

SOIL DESCRIPTION SILTSTONE, (SILT, SANDY)
SOIL TYPE 3



SWELL/CONSOLIDATION TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 115
NATURAL MOISTURE CONTENT: 16.0%
SWELL/CONSOLIDATION (%): 2.8%



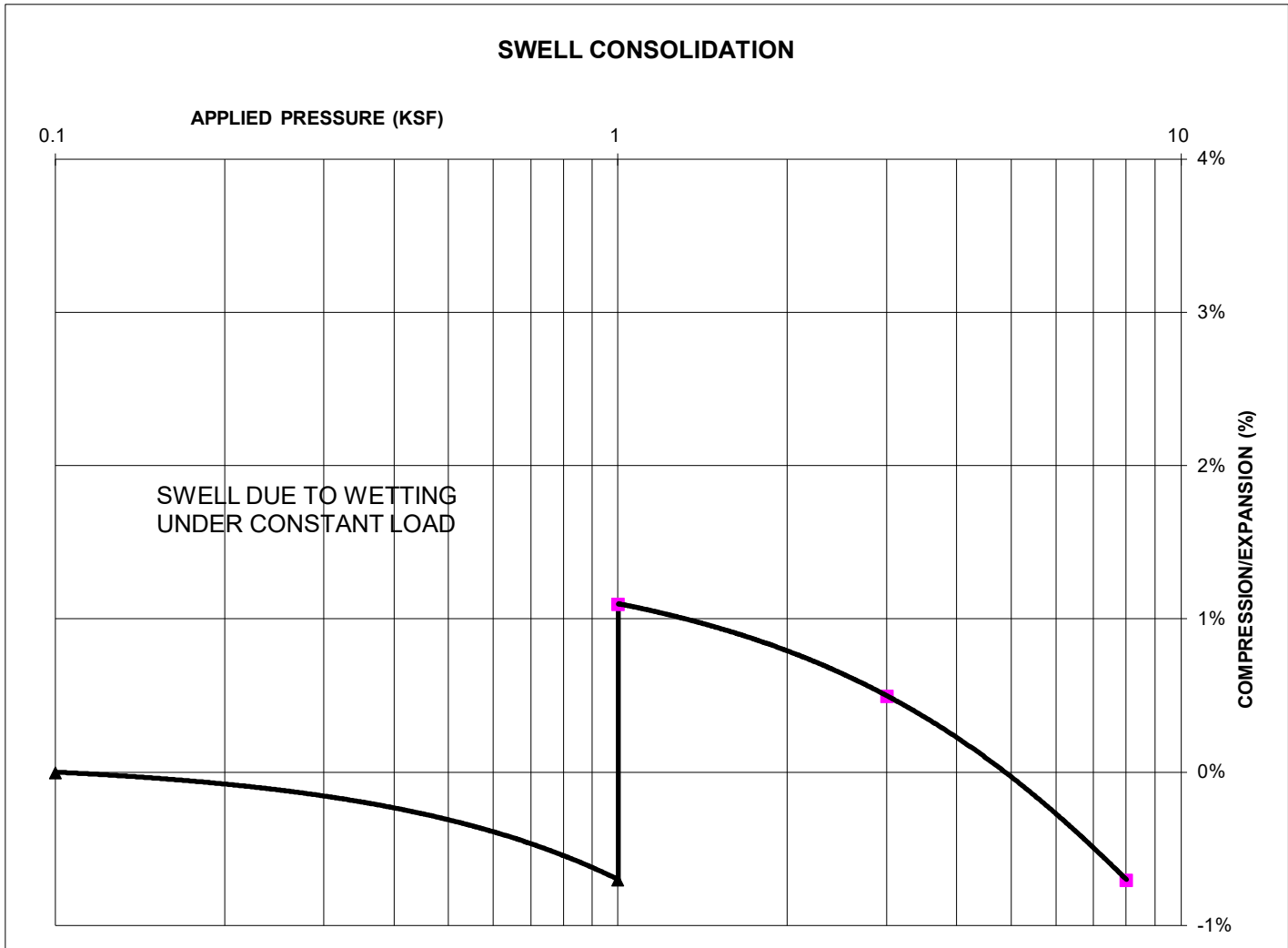
**SWELL/CONSOLIDATION
TEST RESULTS**

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381

FIG. C-25

TEST BORING	6	SOIL DESCRIPTION	CLAYSTONE, (CLAY, SANDY)
DEPTH (FT)	20	SOIL TYPE	3



SWELL/CONSOLIDATION TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 119
NATURAL MOISTURE CONTENT: 14.7%
SWELL/CONSOLIDATION (%): 1.8%



**SWELL/CONSOLIDATION
TEST RESULTS**

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381

FIG. C-26

TEST BORING 13
DEPTH (FT) 20

SOIL DESCRIPTION CLAYSTONE (CLAY, SANDY)
SOIL TYPE 3



SWELL/CONSOLIDATION TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 102
NATURAL MOISTURE CONTENT: 16.9%
SWELL/CONSOLIDATION (%): 0.0%



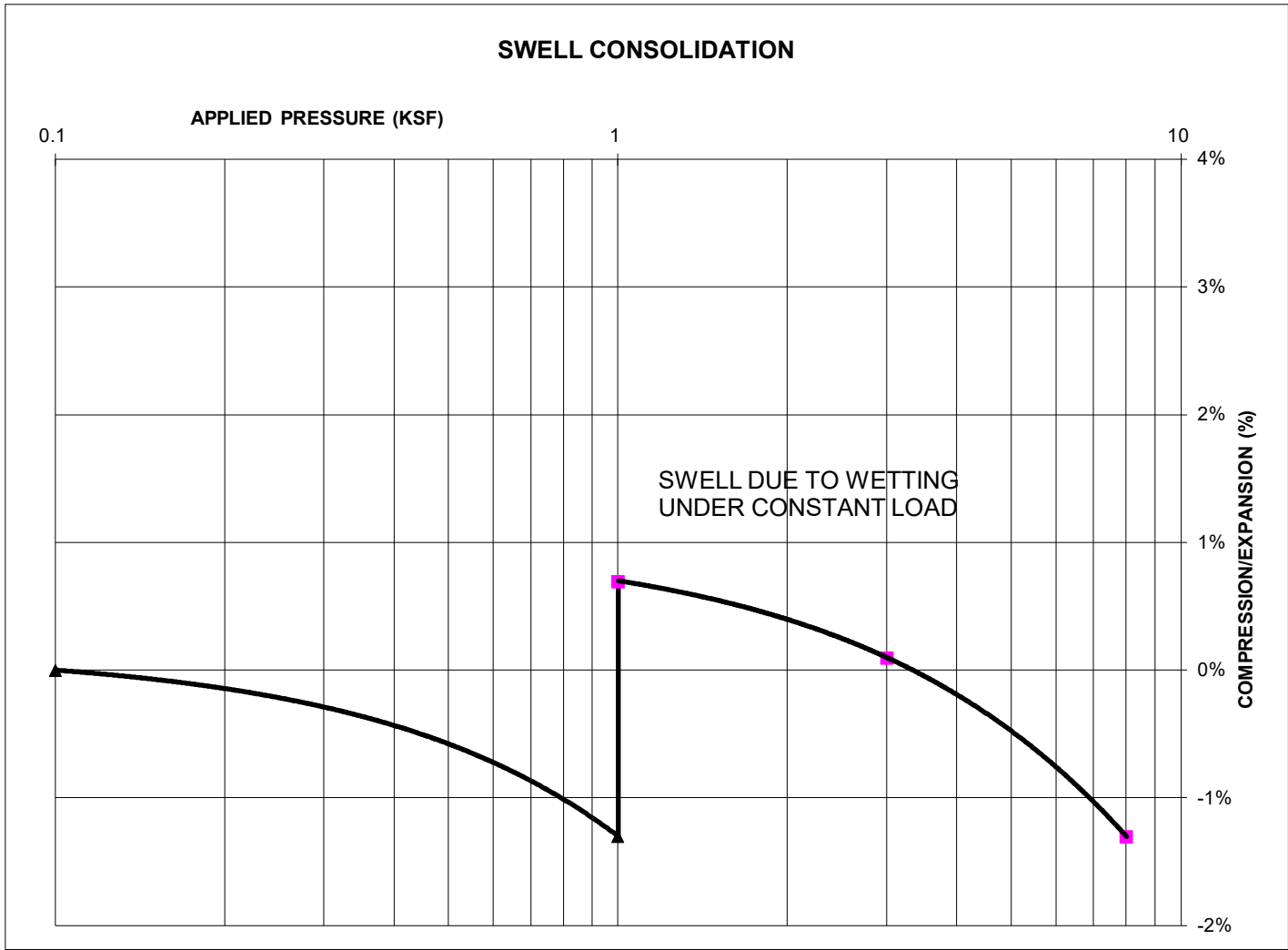
**SWELL/CONSOLIDATION
TEST RESULTS**

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381

FIG. C-27

TEST BORING	P-8	SOIL DESCRIPTION	CLAYSTONE (CLAY, SANDY)
DEPTH (FT)	10	SOIL TYPE	3



SWELL/CONSOLIDATION TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 102
NATURAL MOISTURE CONTENT: 22.3%
SWELL/CONSOLIDATION (%): 2.0%



**SWELL/CONSOLIDATION
TEST RESULTS**
RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381
FIG. C-28



**APPENDIX D: Geoquest, LLC. Soil Boring Logs, 8225 Poco
Road, Geoquest Job No. 09-0441 (Lot 6)**



DRILL LOGS

JOB#: 09-0441

TEST BORING
NO.: TH-1

DATE: 11/25/09

0"-3" TOPSOIL

3"-3' SAND

fine to coarse grained

moderate density

moderate moisture
content

low clay content

non plastic

light brown color

3'-15' SANDSTONE

fine to coarse grained

very high density

moderate moisture
content

low clay content

cemented

light brown color

DEPTH (in ft.)

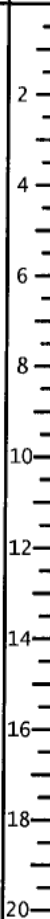
SYMBOL

SAMPLES

BLOW COUNT

WATER %

SOIL TYPE



47
9"

10.8

SW

32
6"

9.7

JOB#:

TEST BORING
NO.: TH-2

DATE:

0"-3" TOPSOIL

3"-2' SAND

fine to coarse grained

moderate density

moderate moisture
content

low clay content

non plastic

light brown color

2'-15' SANDSTONE

fine to coarse grained

very high density

moderate moisture
content

low clay content

cemented

light brown color

DEPTH (in ft.)

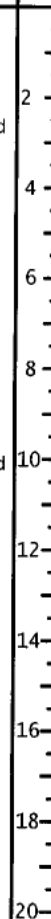
SYMBOL

SAMPLES

BLOW COUNT

WATER %

SOIL TYPE



60
12"

9.9

GRAB
12"

11.2

GEOQUEST LLC,

SITE MAP

Lot #1,
Jaynes Subdivision,
8225 Poco Road,
El Paso County,
Colorado
Job #09-0441

POCO ROAD

•—TH-1 •—TH-2



0 25 50 75
GRAPHIC SCALE IN FEET
SCALE: 1" = 75'

APPENDIX E: USDA Soil Survey Descriptions

El Paso County Area, Colorado

71—Pring coarse sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 369k

Elevation: 6,800 to 7,600 feet

Farmland classification: Not prime farmland

Map Unit Composition

Pring and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pring

Setting

Landform: Hills

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Arkosic alluvium derived from sedimentary rock

Typical profile

A - 0 to 14 inches: coarse sandy loam

C - 14 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): High
(2.00 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: R048AY222CO - Loamy Park

Hydric soil rating: No

Minor Components

Pleasant

Percent of map unit:

Landform: Depressions

Hydric soil rating: Yes



Other soils

Percent of map unit:

Hydric soil rating: No

Data Source Information

Soil Survey Area: El Paso County Area, Colorado

Survey Area Data: Version 19, Aug 31, 2021

