October 8, 2018
Revised: March 30, 2021
Revised: August 5, 2021

Per DCM V1 CH 11.3.3
A geotechnical analysis and report prepared by a Colorado Professional Engineer with recommendations for the foundation preparation and embankment construction shall be submitted to the City/County Engineer with the complete design analysis for all permanent detention facilities.

Richmond American Homes
4350 South Monaco Street
Denver, Colorado 80237

Attention: Mathew Jenkins

Subject: Geologic Hazard Evaluation and Preliminary Geotechnical Investigation
Haven Valley (formerly Patriot Village)
Alturas Drive and Cable Lane
Security-Widefield, Colorado
CTL|T Project No. CS18980-115

This letter presents the results of our Geologic Hazard Evaluation and Preliminary Geotechnical Investigation for Haven Valley. The site is located south of the intersection of Alturas Drive and Cable Lane in Security-Widefield, Colorado (Fig. 1).

The purpose of our investigation was to evaluate the subsurface conditions within the parcel to provide initial geotechnical and geological information for use in development planning. This letter contains descriptions of subsoil and groundwater conditions found in our exploratory borings and preliminary discussions of residential construction concepts as influenced by geologic and geotechnical considerations. The report was prepared based on conditions found in our borings, results of laboratory tests, engineering analysis of field and laboratory data, and our experience. Site grading plans were not provided to us during the time of the investigation. Additional investigations will be required to develop design-level criteria. The scope was described in our proposal dated September 21, 2018 (CTL|T Proposal No. CS-18-0143). The report was revised to include a Geologic Hazard Evaluation, to identify potential geologic hazards and determine the impact on the proposed development and adjacent sites.

PROPOSED CONSTRUCTION

We understand Richmond plans to construct two-story, 25-foot-wide homes (the 25’ collection) at this site, although some lots along the south appear to be larger and could have a larger single-family product planned. Structures are expected to have a structural floor system with a crawl space and no basements. Attached garages are anticipated.

Grading plans prepared by Drexel Barrell & Co., dated April 29, 2021 appear to show cuts and fills of less than about 5 feet. Landscape walls with heights of up to 4 feet

are shown at various locations to help adjust grades at the site. Drainage flows down to a detention basin on the southeast corner of the adjacent parcel.

SITE CONDITIONS

The site is located southeast of Cable Lane and Alturas Drive .in Security-Widefield, Colorado. The approximately 11.76-acre site gently slopes down to the south, along the eastern side of the site, and southeast through most of the site. Elevations from the Springs view webpage indicate elevations of about 5850 in the northeast and about 5820 in the southwest, which results in slopes of about 4 to 7 percent. Small contouring features were installed across the slopes to control surface water. The ground surface is covered in grasses and weeds, with deciduous trees along the north side, in the southwest corner, and at other scattered locations on the site.

The site is bordered to the north by a church. A second church and solar field are located to the west. Residential developments are located to the south and east. Canal 4 runs down to the southeast on the north side of Cable Lane.

INVESTIGATION

Subsurface conditions in the area of the subject lots were investigated by our firm by drilling ten exploratory borings spread across the site, to depths between 20 and 30 feet. The approximate locations of the borings are shown in Fig. 1.

Our representative observed drilling operations, logged the soils found in the borings, and obtained samples for laboratory testing. Graphical logs of the borings, including the results of field penetration resistance tests, and some laboratory test data are presented in Figs. 2 and 3.

Soil samples obtained during drilling were visually classified and laboratory testing was assigned to representative samples. Gradation test results are presented in Appendix A. Laboratory test data are summarized in Table A-I.

Fill

Approximately 6 feet of silty to very silty sand fill was encountered from the ground surface in three of the borings (TH-3, TH-4, and TH-9). Field penetration resistance test results indicated the sand fill was medium dense. One sample of the fill contained 36 percent silt and clay-sized particles (passing the No. 200 sieve).

Based on historic aerial photographs, we believe there have been structures present on the site previously. No documentation regarding the construction of the fill, such as the results of field density testing, was available for our review at the time of this study. Because of the lack of documentation regarding the placement and compaction of the existing fill, we must consider this material to be of suspect quality and unsuitable to underlie the proposed structures, in its current condition.

See PDF pages 66 and 67 of the drainage report for my comments regarding groundwater in the EDB.

Natural Sand Soils

Natural, slightly silty to silty sand was encountered at the ground surface in seven of the borings and below the fill in three of the borings. The sand was loose to dense. Eleven samples of the sand tested in our laboratory contained 6 to 21 percent silt and clay-sized particles (passing the No. 200 sieve).

Groundwater

At the time of drilling, groundwater was encountered in nine of the borings at depths of 11 to 22 feet below the existing ground surface. The shallower depths were measured in borings TH-6 and TH-9, at the southwest corner of the site. When water levels were checked again six days after the completion of drilling operations, groundwater was not present in any of the test holes. Between 2 and 16 feet of caving had occurred in the test holes when measured six days after the completion of drilling. The groundwater elevation should be expected to rise (typically less than about 5 feet) during the traditionally wetter months of late spring and early summer, and as a result of landscaping irrigation that is associated with residential development.

SITE GEOLOGY

The surficial geology at the site was evaluated by reviewing published geologic maps. The Geologic Map of the Elsmere Quadrangle published by the Colorado Geological Survey in (Madole and Thorson, 2002) covers the project site.

Geologic Map

The site is mapped as late Pleistocene-age eolian sand (wind-deposited sediment) consisting of very pale-brown, pale-brown, and light yellowish-brown sand with silt deposited as sand sheets, overlying the Dawson Formation. The Dawson Formation typically consists of sandstone interbedded with claystone in this area. Our subsurface investigation and observations generally confirm the mapping, although bedrock was not encountered to the depths explored of 20 and 30 feet. No significant geologic features were identified at the site. A map of the site specific surficial geologic conditions is shown on Figure 1.

Response to Near-surface Processes

The site is susceptible to the effects of wind and water erosion. Water flowing across the site in an uncontrolled manner will likely result in considerable erosion, particularly where the water flow is concentrated. The surficial sandy soils are relatively

stable and resistant to wind erosion where vegetation is established. Disturbance of the vegetative cover and long-term exposure of these deposits to the erosive power of wind and water increases the potential for erosion. Maintaining vegetative cover and utilizing surface drainage collection and distribution systems will reduce the potential for erosion from wind and water. No additional concerns related to near surface processes were identified.

Mineral Resources

We reviewed the Coal Resources and Development Map (Colorado Geological Survey, Map Series 9) prepared by Jones, Shultz and Murray (1978), as well as a report of Aggregate Resource Evaluation for El Paso County, prepared by Empire Laboratories (April 9, 1991). Based on information contained in the mapping available in our office and the subsurface information obtained by our drilling, we do not believe there are mineral resources that would be considered commercially feasible to extract.

GEOLOGIC HAZARDS AND ENGINEERING CONSTRAINTS

The proposed development appears compatible with the site geology and topography. We did not identify geologic hazards that we believe preclude development of the project. Conditions we identified that may pose hazards or constraints to development include existing undocumented fill. Regional geologic conditions that impact the site include and seismicity and radioactivity. We believe these conditions can be mitigated with engineering design and construction methods commonly employed in this area. These conditions are discussed in greater detail in the sections that follow.

Expansive Soils and Bedrock

One of the more significant geologic hazards in Colorado is the presence of swelling clays in bedrock and surficial deposits. Moisture changes to bedrock or surficial deposits containing swelling clays can result in volumetric expansion and collapse of those units. Changes in soil moisture content can result from precipitation, irrigation, pipeline leakage, surface drainage, perched groundwater, drought, or other factors. Swelling of expansive soil and bedrock may cause excessive cracking and heaving of structures with shallow foundations, concrete slabs-on-grade, or pavements supported on these materials.

Based on our experience, the estimated potential ground heave will be less than 0.5 inches, as the sands are not generally expansive. A depth of wetting of 24 and 26 feet was considered for the heave evaluation. Research suggests there is about a 90 percent probability that wetting will be less than 24 feet[1] and 95 percent for less than 26 feet.

[1] "Method for Evaluation of Depth of Wetting in Residential Area," Walsh, Colby, Houston and Houston, ASCE, February 2009.

Collapsible Soils

Eolian soils are occasionally susceptible to collapse. Soil collapse (or hydro-collapse) is a phenomenon where soils undergo a significant decrease in volume upon an increase in moisture content, with or without an increase in external loads. Buildings, structures, and other improvements may be subject to excessive settlement-related distress when collapsible soils are present. The results of the subsurface evaluation and laboratory testing indicate the collapse potential of the eolian deposits is low.

Undocumented Fill

The site has been previously disturbed, and there were structures located at the northeast corner of the site. Aerial photos indicate the structures were razed between 2006 and 2011. We encountered fill in three of the borings. Two of these borings were near the previous structures and one boring was near the southwest corner of the site. The approximate extents of undocumented fill are shown on Figure 1. The remainder of the site has likely been surficially disturbed and there is evidence of contouring to control surface water. Undocumented fill should be removed and re-worked or replaced, according to the recommendations set forth in the **SITE GRADING** section of this report. Design-level geotechnical studies should be undertaken to confirm the presence of fill and depths of fill and to provide recommendations for reworking. If documentation of the fill, such as density test records are found, we should review them to determine if they are adequate for the proposed construction.

Shallow Bedrock

Based on our investigation shallow bedrock is not a concern at the site.

The geo hazard note on the plat should reference this, "see page 5-9 for more information about undocumented fill and special precautions to take"

ow Groundwater

Groundwater was measured in nine of the borings at depths of 11 to 22 feet the existing ground surface. Based on the grades at the site, we do not anticipate dwater will be a concern for crawl space level construction.

s Flow and Debris Fans

The geologic mapping does not indicate the presence of debris flows, or debris fans on this property.

Rockfall

The project is not located within areas mapped as rockfall susceptible, as mapped in the Colorado Geological Survey Open-File Report 06-3 (2006) by Jonathan L. White and T.C. Wait, and does not appear susceptible per our observations.

Subsidence and Abandoned Mining Activity

The site is not included in the “Colorado Springs Subsidence Investigation” completed by Dames & Moore of the State of Colorado, Division of Mine Reclamation,

dated April 1985. We understand the investigation reported areas that have been or could potentially be affected by mine subsidence activity. The subject site was not located within the investigated area. We observed no evidence of subsurface mining at the site. Based upon the results of the State's investigation, the project site is not underlain by underground mine workings.

Flooding

Information presented on "Flood Insurance Rate Map" (FIRM), Map Number 08041C0763G, with an effective date of December 7, 2018, indicates the project site is in Zone X, an area of minimal flood hazard. The project Civil Engineer should address localized flood potential.

Faults

The geologic mapping does not indicate the presence of faulting on the project site. The nearest fault is the Rampart Range fault approximately 10 miles west of the site.

Steeply Dipping Bedrock

We reviewed mapping of "Areas Susceptible to Differential Heave in Expansive, Steeply Dipping Bedrock, City of Colorado Springs, Colorado" (1999) by John W. Himmelreich, Jr., and David C. Noe published by the Colorado Geologic Survey. Mapping the site is well outside of areas mapped as having steeply dipping bedrock.

Elevated Radioactivity and Radon

We believe no unusual hazard exists from naturally occurring sources of radioactivity on the site. However, the materials found in this area are often associated with the production of radon gas and concentrations in excess of those currently accepted by the EPA can occur. Passive and active mitigation procedures are commonly employed in this region to effectively reduce the buildup of radon gas. Measures that can be taken after a structure is enclosed during construction include installing a blower connected to the foundation drain and sealing the joints and cracks in concrete floors and foundation walls. If the occurrence of radon is a concern, we recommend structures be tested after they are enclosed. Commonly utilized mitigation techniques may minimize risk. The EPA provides information concerning building techniques to address radon in homes.

SITE GRADING

this should be added within the geo hazrad note as well

Reconstruction of undocumented fill will be necessary for construction of this project. In addition, cuts and fills are expected for streets and the lots, as well as for stormwater detention measures. Cuts and fills are typically expected to be less than about 5 feet. We recommend grading plans consider cut and fill slopes no steeper than 3:1 (horizontal to vertical). These slope ratios should be applicable to all soil materials where cuts and fills are less than 10 feet in height. These ratios also consider that no seepage of ground water occurs.

We believe grading can be accomplished using conventional construction techniques and heavy-duty equipment. Deep cuts may encounter groundwater that will require dewatering.

Vegetation and organic topsoil should be removed from the ground surface of areas to be filled. We anticipate most stripping will require about 4 to 6-inch cuts or less. Soft or loose soils should be stabilized or removed to stable material prior to placement of fill. Organic soils should be wasted in landscape areas. If insufficient landscape areas are planned, topsoil can be mixed with clean fill soils at a ratio of 15:1 (fill:topsoil) and placed as fill deep below pavements.

Where new fill is needed to raise site grades, replace excavated undocumented fill, or to establish earthen embankments for the proposed stormwater detention, the on-site soils may be reused as compacted fill provided debris, vegetation, organics, and other deleterious materials are substantially removed prior to placement. If import fill is required, it should ideally be comprised of materials similar to the on-site soils. A sample of the import to be evaluated prior to delivery to the site.

Areas to receive new fill should be scarified to a depth of about 8 inches prior to fill placement, moisture conditioned to near optimum moisture content and densely compacted. Subsequent fill materials should be placed in thin (8 inches or less) loose lifts. Granular fill materials should be moisture conditioned to within 2 percent of optimum moisture content and compacted to at least 95 percent of a modified Proctor dry density (ASTM D 1557). Fill consisting of cohesive materials (if encountered) should be moisture conditioned to between 1 and 4 percent over optimum moisture content and compacted to at least 95 percent of the standard Proctor dry density (ASTM D 698) where buildings are planned. Moisture contents within 2 percent of optimum are appropriate in other areas of the site. Placement and compaction of fill and backfill should be observed and tested by a representative of our firm during construction.

Excavations should be braced or sloped to maintain stability and meet applicable local, state, and federal safety regulations. Based on the Occupational Safety and Health Administration (OSHA) Standards, we believe most of the soil on this site can be classified as Type C soils. Type C soils require maximum slope inclination of 1.5:1 (horizontal to vertical). Where ground water seepage occurs, flatter slopes will likely be required. The contractor should identify soils and bedrock encountered in trench excavations and refer to OSHA standards to determine appropriate slopes. Excavations deeper than 20 feet should be designed by a professional engineer.

PAVEMENTS

Subgrade soils may include silty to clayey sand. The sands should generally provide good pavement support characteristics. A subgrade investigation and pavement design should be performed after overlot grading is complete.

RESIDENTIAL CONSTRUCTION CONSIDERATIONS

Building Foundations

Based on estimated depths of cut and fill of about 5 feet or less and data from our exploratory borings, we anticipate natural sand as well as fill placed during grading, will be present near foundation elevations. Existing fills should be reprocessed either during overlot grading or prior to foundation construction on an individual lot basis. We anticipate up to about 20 to 25 percent of the site might require removal of the existing fill, based on our borings.

Relatively loose materials were also encountered in five of the ten borings. We anticipate these soils may result in somewhat lower bearing capacities for a portion of the lots, or that a relatively thin layer of fill may be used to improve bearing capacities.

Foundation selection will be dependent upon final site grades and site-specific soil conditions. Footings constructed on the sand and grading fill will likely be appropriate for the lots. A more detailed site-specific investigation will be necessary to develop specific foundation recommendations and design pressures after site grading is completed.

Floor Systems

Based on conditions encountered in our borings, we judge the slab performance risk will be low for the site in current conditions. We recommend structurally supported floor systems be used in all non-basement finished living areas.

Basements and Below-Grade Areas

We understand no basements are planned. Foundation drains should be anticipated around crawlspace areas. Foundation drains should be connected to underdrain systems and/or to sumps where water can be removed by pumping. Foundation walls should be designed to resist lateral earth pressures.

Surface Drainage

The performance of this development will be influenced by surface drainage. When developing an overall drainage scheme, consideration should be given to drainage around each structure. Grades should be planned such that surface runoff is directed away from foundations and is not allowed to pond adjacent to or between structures or over pavements. Minimum slopes of 5 percent should be maintained. Roof downspouts and other water collection systems should discharge well beyond the structures. Proper control of surface runoff is also important to prevent the erosion of surface soils. Sheet flow should not be directed over unprotected slopes. Water should not be allowed to pond at the crest of slopes. Permanent overlot slopes should be seeded or mulched to reduce the potential for erosion. Backfill soils behind the curb and gutter adjacent to streets and in utility trenches within individual lots should be compacted. If surface drainage between preliminary development and construction

phases is neglected, performance of pavements, flatwork, and foundations may be poor.

Concrete

Concrete in contact with soil can be subject to sulfate attack. We measured water-soluble sulfate concentrations of less than 0.1 percent in two soil samples obtained during this study. For this level of sulfate concentration, ACI 332-08 Code Requirements for Residential Concrete indicates there are no special requirements for sulfate resistance.

In our experience, superficial damage may occur to the exposed surfaces of highly permeable concrete, even though sulfate levels are relatively low. To control this risk and to resist freeze-thaw deterioration, the water-to-cementitious materials ratio should not exceed 0.50 for concrete in contact with soils that are likely to stay moist due to surface drainage or high water tables. Concrete should be air entrained where exposed to freeze/thaw conditions. We recommend all foundation walls and grade beams in contact with the subsoils (including the inside and out-side faces of garage and crawl space grade beams) be damp-proofed.

RECOMMENDED FUTURE INVESTIGATIONS

We recommend the following future investigations be performed for this development:

1. Review of changes to the site grading or development plans by our firm to evaluate possible geotechnical concerns.

2. Site specific, design-level geotechnical investigation(s) to provide design criteria for foundations and floor systems for proposed residential structures.

3. Subgrade investigation and pavement designs after grading.

4. Construction testing and observation during site development and residential building construction.

LIMITATIONS

Our boring locations were selected to provide a general characterization of subsurface conditions beneath the investigated development for a due diligence assessment. Conditions between borings will vary. Individual site-specific investigations will be necessary on each lot to provide design-level criteria.

We believe this investigation was conducted in a manner consistent with that level of care and skill ordinarily used by geotechnical engineers practicing under similar conditions. No warranty, express or implied, is made.

If we can be of further service in discussing either the contents of this letter or the analysis of the influence of subsurface conditions on the design of the proposed residences, please call.

Sincerely,

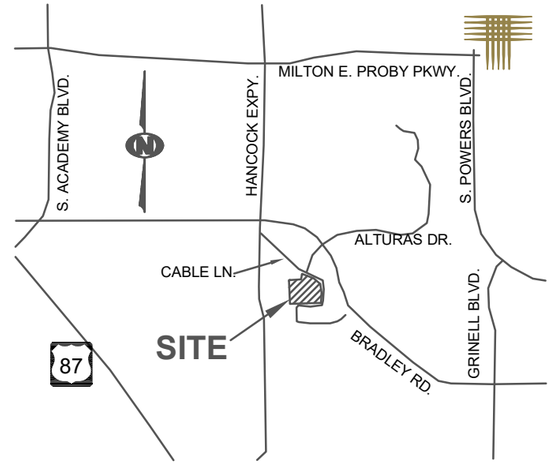
CTL | THOMPSON, INC.

Timothy A. Mitchell, P.E.
Division Manager

MBR:TAM:JMJ:tam

Timothy Mitchell
Aug 5 2021 8:00 PM

Via Email: Matthew.Jenkins@mdch.com

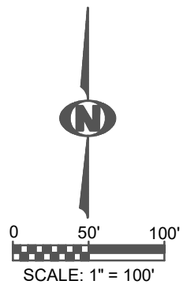


VICINITY MAP

(NOT TO SCALE)

LEGEND:

TH-1 ●	APPROXIMATE LOCATION OF EXPLORATORY BORING.
———	APPROXIMATE GEOLOGIC BOUNDARY.
Af	AREA WHERE MANMADE FILL MAY BE PRESENT.
Qes/Da	AREA WHERE EOLIAN SAND MAY BE PRESENT WITH SURFICIAL DISTURBANCE.
▨	INDICATES LOTS WHERE MITIGATION OF EXISTING FILL MAY BE REQUIRED, BASED ON CURRENT DATA.

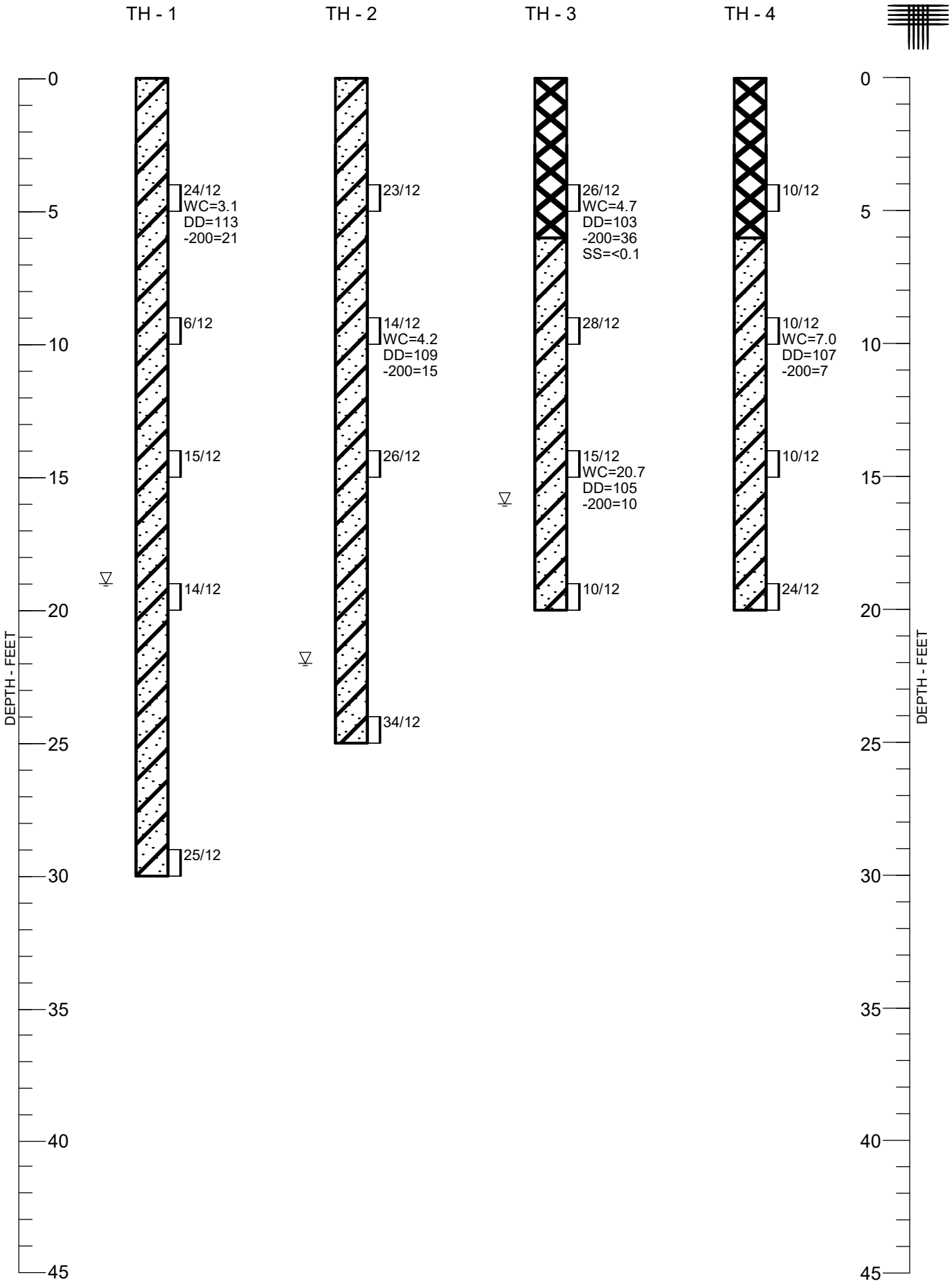


SCALE: 1" = 100'

RICHMOND AMERICAN HOMES
HAVEN VALLEY
CTL|T PROJECT NO. CS18980-115

Location of Exploratory Borings

FIG. 1



RICHMOND AMERICAN HOMES
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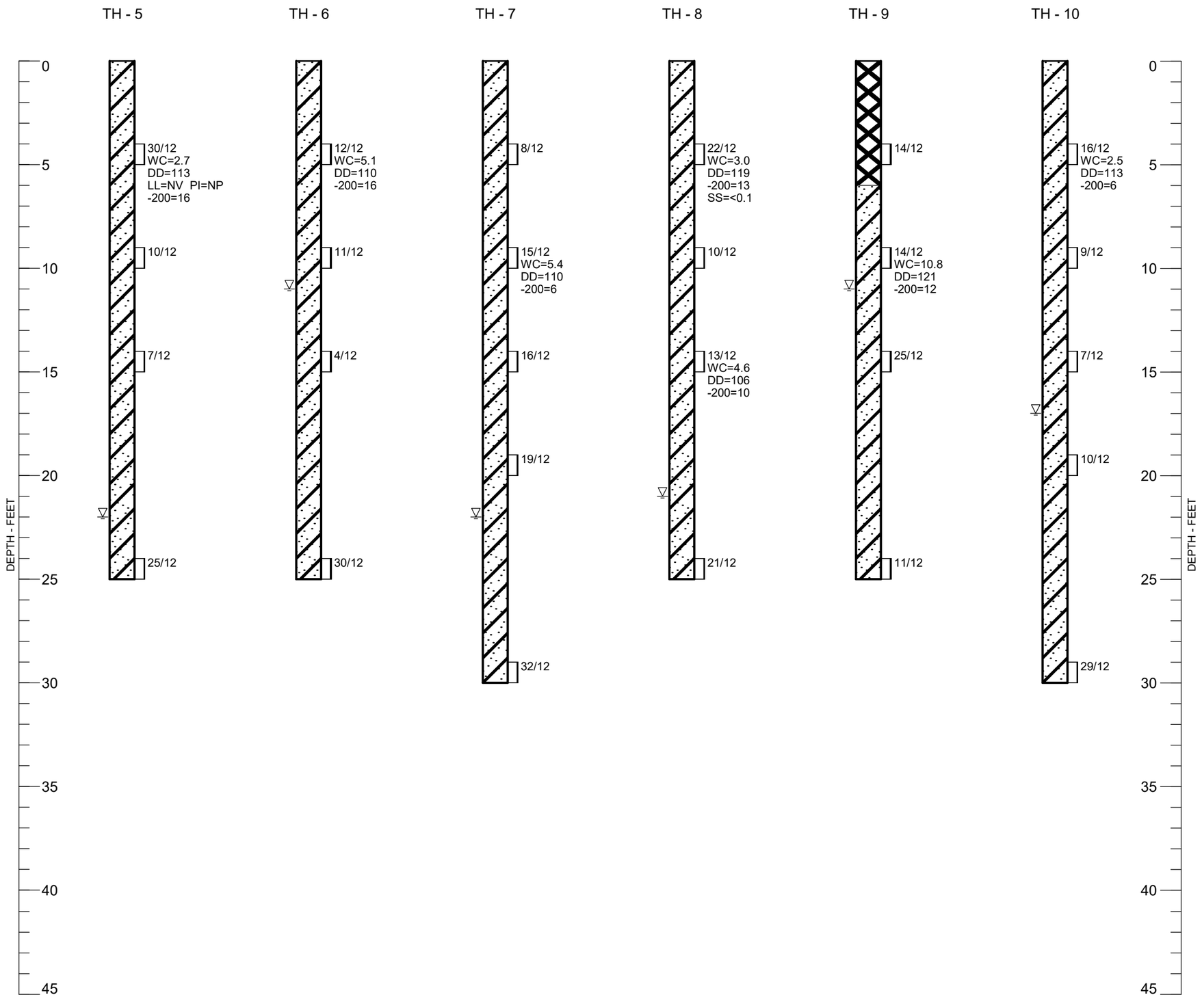
Summary Logs of Exploratory Borings

FIG. 2



LEGEND:

FILL, SAND, SILTY TO VERY SILTY, MEDIUM DENSE, MOIST, MEDIUM BROWN.

SAND, SLIGHTLY SILTY TO SILTY, LOOSE TO DENSE, MOIST TO VERY MOIST, LIGHT BROWN, BROWN. (SP-SM, SM)

DRIVE SAMPLE. THE SYMBOL 24/12 INDICATES 24 BLOWS OF A 140-POUND HAMMER FALLING 30 INCHES WERE REQUIRED TO DRIVE A 2.5-INCH O.D. SAMPLER 12 INCHES.

GROUNDWATER LEVEL MEASURED AT TIME OF DRILLING.

NOTES:

1. THE BORINGS WERE DRILLED SEPTEMBER 18, 2018 USING A 4-INCH DIAMETER, CONTINUOUS-FLIGHT AUGER AND A CME-45, TRUCK-MOUNTED DRILL RIG.
2. THESE LOGS ARE SUBJECT TO THE EXPLANATIONS, LIMITATIONS, AND CONCLUSIONS AS CONTAINED IN THIS REPORT.
3. WC - INDICATES MOISTURE CONTENT. (%)
   DD - INDICATES DRY DENSITY. (PCF)
   LL - INDICATES LIQUID LIMIT. (%)
   (NV : NO VALUE)
   PI - INDICATES PLASTICITY INDEX. (%)
   (NP : NON-PLASTIC)
   -200 - INDICATES PASSING NO. 200 SIEVE. (%)
   SS - INDICATES WATER-SOLUBLE SULFATE CONTENT. (%)

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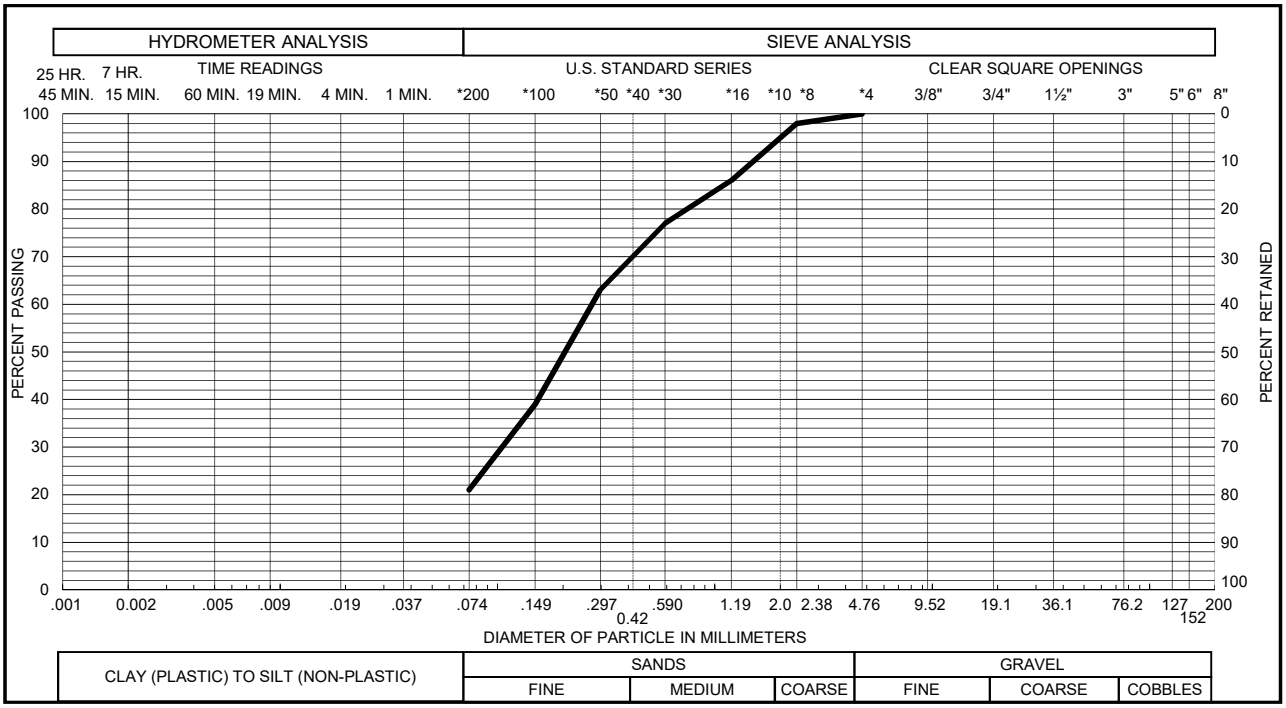
Summary Logs of Exploratory Borings

FIG. 3

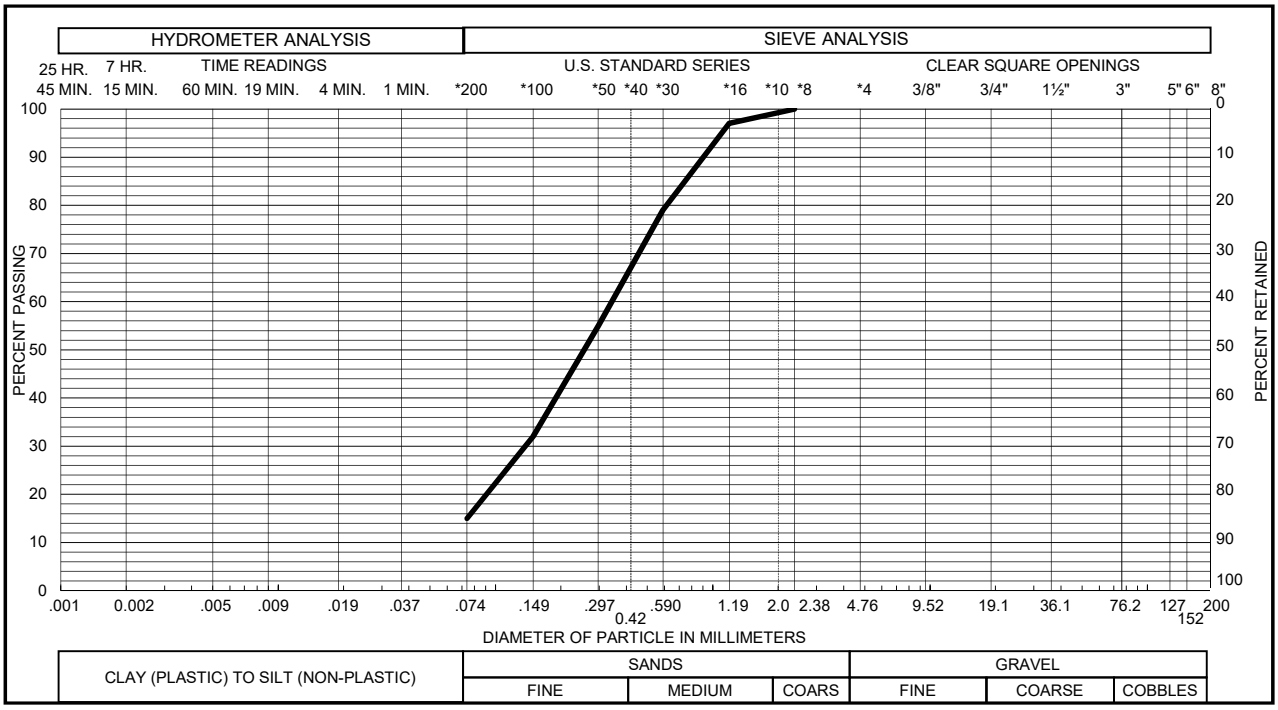
APPENDIX A

LABORATORY TEST RESULTS
TABLE A-1 – SUMMARY OF LABORATORY TESTING



Sample of SAND, SILTY (SM)
From TH - 1 AT 4 FEET

GRAVEL	0 %	SAND	79 %
SILT & CLAY	21 %	LIQUID LIMIT	%
PLASTICITY INDEX			%



Sample of SAND, SILTY (SM)
From TH - 2 AT 9 FEET

GRAVEL	0 %	SAND	85 %
SILT & CLAY	15 %	LIQUID LIMIT	%
PLASTICITY INDEX			%

RICHMOND AMERICAN HOMES
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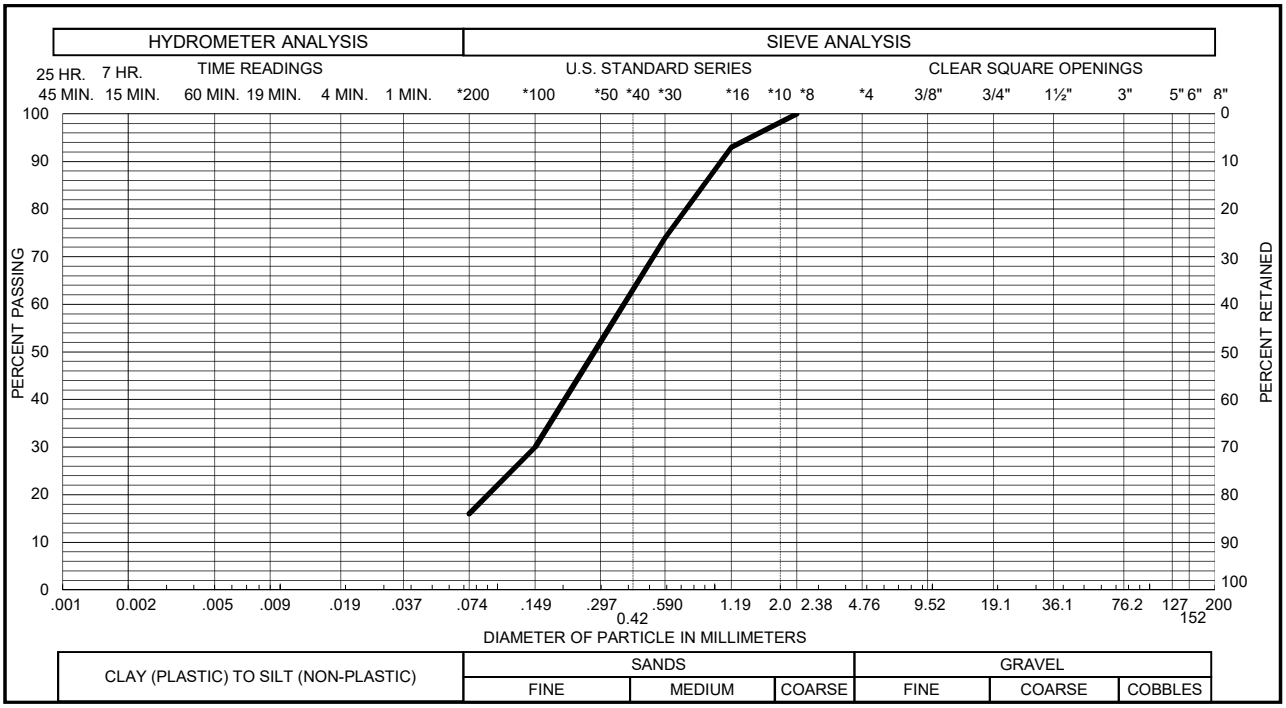
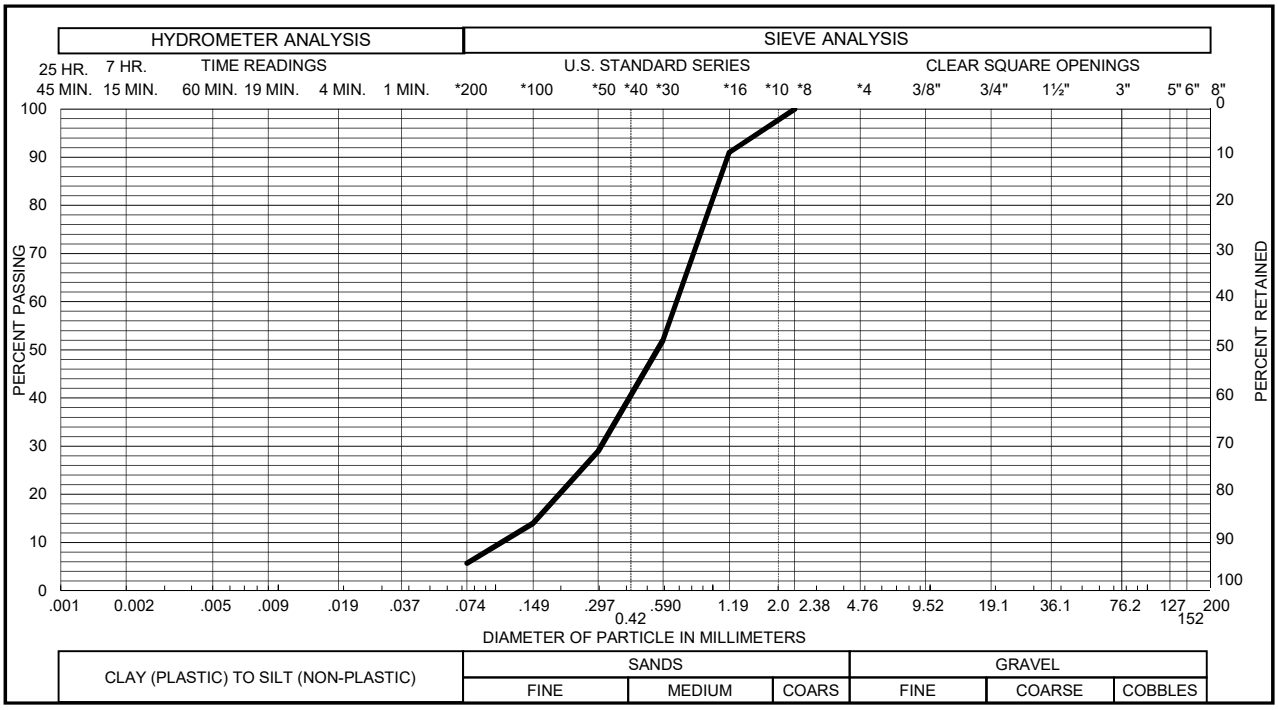
Gradation Test Results

FIG. A-1



Sample of SAND, SILTY (SM)
From TH - 5 AT 4 FEET

GRAVEL	0 %	SAND	84 %
SILT & CLAY	16 %	LIQUID LIMIT	NV %
PLASTICITY INDEX			NP %



Sample of SAND, SLIGHTLY SILTY (SP-SM)
From TH - 7 AT 9 FEET

GRAVEL	0 %	SAND	94 %
SILT & CLAY	6 %	LIQUID LIMIT	%
PLASTICITY INDEX			%

RICHMOND AMERICAN HOMES
HAVEN VALLEY
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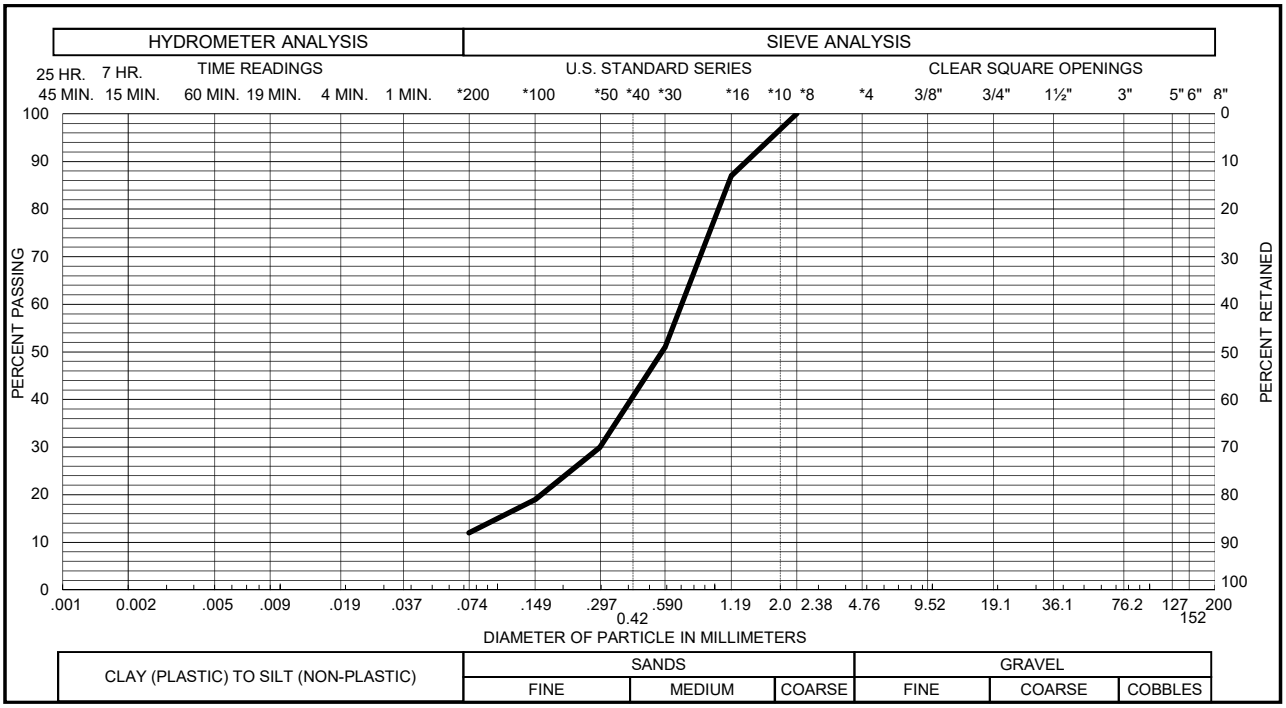
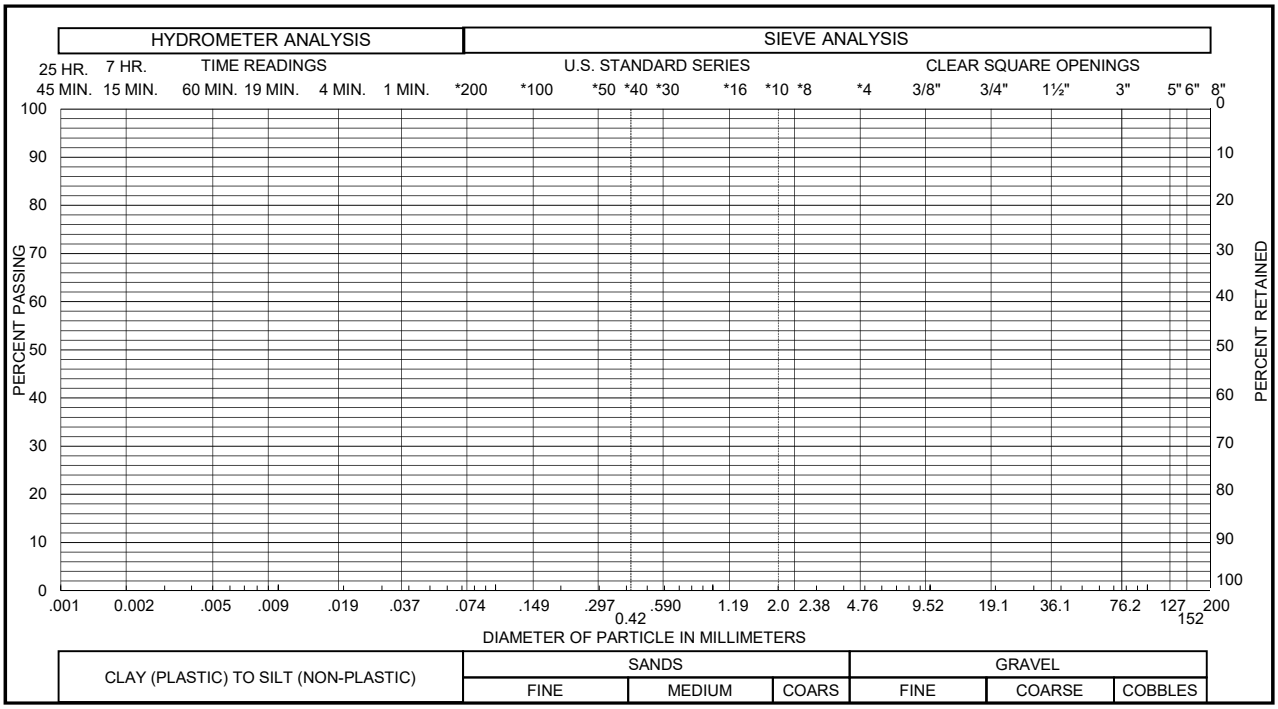
Gradation Test Results

FIG. A-2



Sample of SAND, SLIGHTLY SILTY (SP-SM)
From TH - 9 AT 9 FEET

GRAVEL	0 %	SAND	88 %
SILT & CLAY	12 %	LIQUID LIMIT	%
PLASTICITY INDEX			%



Sample of
From

GRAVEL	%	SAND	%
SILT & CLAY	%	LIQUID LIMIT	%
PLASTICITY INDEX			%

RICHMOND AMERICAN HOMES
HAVEN VALLEY
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Gradation Test Results

FIG. A-3

TABLE A-1

SUMMARY OF LABORATORY TESTING
CTL|T PROJECT NO. CS18980-115

BORING	DEPTH (FEET)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	ATTERBERG LIMITS		SWELL TEST RESULTS*			PASSING NO. 200 SIEVE (%)	WATER SOLUBLE SULFATES (%)	DESCRIPTION
				LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SWELL (%)	APPLIED PRESSURE (PSF)	SWELL PRESSURE (PSF)			
TH-1	4	3.1	113						21		SAND, SILTY (SM)
TH-2	9	4.2	109						15		SAND, SILTY (SM)
TH-3	4	4.7	103						36	<0.1	FILL, SAND, VERY SILTY
TH-3	14	20.7	105						10		SAND, SLIGHTLY SILTY (SP-SM)
TH-4	9	7.0	107						7		SAND, SLIGHTLY SILTY (SP-SM)
TH-5	4	2.7	113	NV	NP				16		SAND, SILTY (SM)
TH-6	4	5.1	110						16		SAND, SILTY (SM)
TH-7	9	5.4	110						6		SAND, SLIGHTLY SILTY (SP-SM)
TH-8	4	3.0	119						13	<0.1	SAND, SILTY (SM)
TH-8	14	4.6	106						10		SAND, SLIGHTLY SILTY (SP-SM)
TH-9	9	10.8	121						12		SAND, SLIGHTLY SILTY (SP-SM)
TH-10	4	2.5	113						6		SAND, SLIGHTLY SILTY (SP-SM)

* SWELL MEASURED UNDER ESTIMATED IN-SITU OVERBURDEN PRESSURE.
NEGATIVE VALUE INDICATES COMPRESSION.