ALTA/NSPS LAND TITLE SURVEY

TRACT G, FLATIRON MEADOWS SUBDIVISION, MASTER PLAT
LOCATED IN A PORTION OF THE SOUTH HALF OF SECTION 23,
TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

ALTA / NSPS TABLE "A" ITEMS

PURSUANT TO OUR CLIENTS REQUEST, THE FOLLOWING ITEMS FROM "TABLE A - OPTIONAL SURVEY RESPONSIBILITIES AND SPECIFICATIONS' FOR ALTA/NSPS LAND TITLE SURVEYS, WERE ADDRESSED AND, IF APPLICABLE, ARE SHOWN ON OUR SURVEY: 1,2,3,4,5,6,8,9,10,11(a)(b),13,14,15,16,17,18

A-1: MONUMENTS FOUND OR SET SHOWN HEREON.

A-2: AT THE TIME OF THE SURVEY, NO POSTED ADDRESS OBSERVED IN THE FIELD, LISTED ADDRESS WITHIN THE TITLE COMMITMENT FOR INFORMATIONAL PURPOSES ONLY: 0 NORTH 111TH STREET, ERIE, CO 80516

A-3: ACCORDING TO FEMA INSURANCE RATE MAP 08013C0437J, EFFECTIVE DATE OF DECEMBER 18, 2012, THE SUBJECT PROPERTY APPEARS TO LIE ENTIRELY IN ZONE X-UNSHADED, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

A-4: TOTAL AREA OR SURVEYED LAND: 67,863.75 SQUARE FEET (1.56 ACRES).

A-5: TOPOGRAPHY COLLECTED WITH CONVENTIONAL GPS SURVEY AND PHOTOGRAMMETRY TECHNIQUES, WITH A 1 FT CONTOUR INTERVAL, NAVD88 VERTICAL DATUM.

A-6: THE UNDERLYING ZONING IS SUBURBAN RESIDENTIAL (SR), WITH A PUD OVERLAY. INFORMATION PROVIDED BY STRATEGIC SITE DESIGN (3/21/2024). FRONT SETBACKS=25', INTERIOR LOT LINE=10', REAR=25', MAX HEIGHT=35', MIN. LOT WIDTH=75', MIN. LOT AREA=SR:10,000SQ.FT., MF: 5,000SQ.FT.p/DU

A-8: SUBSTANTIAL FEATURES SHOWN HEREON.

A-9: AT THE TIME OF THE SURVEY, NO IDENTIFIABLE PARKING SPACES OBSERVED.

A-10: AT THE TIME OF THE SURVEY, NO PARTY WALLS OBSERVED.

A-11: ALL LOCATIONS OF UTILITIES SHOWN HEREON ARE FROM VISIBLE SURFACE EVIDENCE ONLY.

A-13: NAMES OF ADJOINING LAND OWNERS SHOWN HEREON.

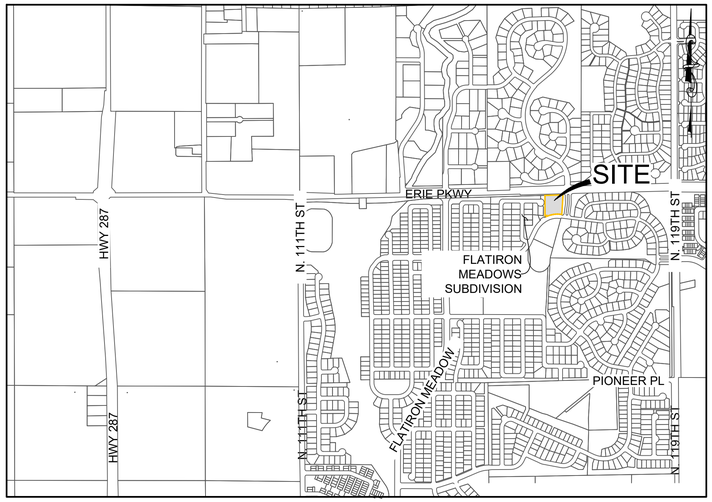
A-14: NEAREST INTERSECTING STREETS ARE ERIE PARKWAY AND MEADOW SWEET LANE, AND ADJOIN THE SUBJECT PROPERTY.

A-15: RECTIFIED ORTHOPHOTOGRAPHY WAS USED TO DERIVE SOME ADJACENT STRUCTURES, ABOVE GROUND FEATURES AND TOPOGRAPHY. ORTHROPHOTOGRAPHY WAS NOT USED TO DETERMINE ANY BOUNDARIES OF THIS SURVEY.

A-16: AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE SURFACE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS WITHIN RECENT MONTHS

A-17: NO CHANGES IS STREET RIGHT OF WAY LINES WAS PROVIDED OR OBSERVED.

A-18: OFFSITE APPURTENANT EASEMENTS OBSERVED AND DERIVED FROM RECORDS ARE SHOWN HEREON.



VICINITY MAP
SCALE: 1" = 2000'

LAND DESCRIPTION, SCHEDULE A, STEWART TITLE GUARANTY COMPANY, COMMITMENT NUMBER 2256251:

TRACT G,
FLATIRON MEADOWS SUBDIVISION- MASTER PLAT,
COUNTY OF BOULDER, STATE OF COLORADO

MISCELLANEOUS NOTES:

1. THERE IS DIRECT ACCESS TO THE SUBJECT PROPERTY VIA THE FOLLOWING PUBLIC RIGHT-OF-WAYS: ERIE PARKWAY AND MEADOW SWEET LANE
2. THE LOCATIONS OF ALL UTILITIES SHOWN ON THE SURVEY ARE FROM VISIBLE SURFACE EVIDENCE ONLY
3. AT THE TIME OF SURVEY, NO POSTED ADDRESS OBSERVED
4. THE PROPERTY SURVEYED AND SHOWN HEREON IS THE SAME PROPERTY DESCRIBED IN SCHEDULE A OF THE STEWART TITLE GUARANTY COMPANY TITLE COMMITMENT NUMBER 2256251, WITH AN EFFECTIVE DATE OF FEBRUARY 8,2024
5. NOTICE: ACCORDING TO COLORADO LAW, YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN
6. THE BASIS FOR ALL BEARINGS SHOWN HEREON IS THE EAST/WEST MID-SECTION LINE OF SECTION 23, TOWNSHIP 1 NORTH, RANGE 69 WEST, AS MEASURED FROM THE CENTER CORNER TO THE EAST ON-QUARTER CORNER OF SAID SECTION 23, BEING N88°27'32"E

SCHEDULE B, PART II-EXCEPTIONS:

STEWART TITLE GUARANTEE COMPANY
ALTA COMMITMENT FOR TITLE INSURANCE
COMMITMENT NUMBER: 2256251

THIS ALTA/NSPS LAND TITLE SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY GEO-VISTA TO DETERMINE OWNERSHIP OF THE PROPERTIES SHOWN, VERIFY THE COMPATIBILITY OF THIS DESCRIPTION WITH THAT OF ADJACENT PROPERTIES, OR VERIFY EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHT-OF-WAY OR TITLE OF RECORD, GEO-VISTA RELIED UPON TITLE COMMITMENT 2256251 PREPARED BY STEWART TITLE GUARANTEE COMPANY, COMMITMENT DATE FEBRUARY 8, 2024 AT 8:00PM. THE FOLLOWING COMMENTS ARE IN REGARDS TO SAID TITLE COMMITMENT. **NUMBERS CORRESPOND WITH SURVEY-RELATED SCHEDULE B EXCEPTION ITEMS CONTAINED IN THE ABOVE REFERENCED TITLE COMMITMENT.**

9. ALL COAL AS RESERVED BY THE UNION PACIFIC RAILROAD COMPANY AND THE RIGHT OF INGRESS AND EGRESS FOR THE PURPOSE OF MINING AS SET FORTH IN INSTRUMENT RECORDED FEBRUARY 25, 1891 IN BOOK 138 AT PAGE 317 AS RECEPTION NO. 12115. RELINQUISHMENT AND QUITCLAIM RECORDED JULY 10, 2007 AS RECEPTION NO. 2867978. **(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

10. OIL AND GAS LEASE RECORDED NOVEMBER 28, 1973 ON FILM 1059 AS RECEPTION NO. 311444, AMENDMENT OF OIL AND GAS LEASE RECORDED JANUARY 24, 2007 AS RECEPTION NO. 2831791. ASSIGNMENTS RECORDED JANUARY 31, 2001 AS RECEPTION NO. 2114771 AND RECORDED DECEMBER 21, 2009 AS RECEPTION NO. 2048862. **(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

11. INCLUSION OF SUBJECT PROPERTY IN THE ERIE WATER AND SANITATION BY ORDER RECORDED DECEMBER 22, 1983 ON FILM 1919AS RECEPTION NO. 1375530. **(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

12. ANNEXATION ORDINANCE RECORDED SEPTEMBER 3, 1993 AS RECEPTION NO. 01333940. AFFIDAVIT RECORDED SEPTEMBER 3, 1993 AS RECEPTION NO. 01333941. ANNEXATION MAP RECORDED SEPTEMBER 3, 1993 AS RECEPTION NO. 1333942. **(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

13. INCLUSION OF SUBJECT PROPERTY IN THE NORTHERN COLORADO WATER CONSERVANCY DISTRICT BY ORDER RECORDED FEBRUARY 14, 1994 ON FILM 1941 AS RECEPTION NO. 1394497 AND ORDER RECORDED JANUARY 21, 1997 ON FILM 2181 AS RECEPTION NO. 1871966. **(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

14. SERVICE LINE AGREEMENT RECORDED OCTOBER 3, 1994 ON FILM 2011 AS RECEPTION NO. 1467268.**(MAY AFFECT THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS, BLANK IN NATURE)**

15. ANY ASSESSMENT OR LIEN OF THE NORTHERN COLORADO WATER CONSERVANCY DISTRICT AS DISCLOSED BY ORDER RECORDED JANUARY 21, 1997 AS RECEPTION NO. 1671966. **(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

16. STIPULATION RECORDED OCTOBER 17, 1997 AS RECEPTION NO. 1739983.**(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

17. NOTICE OF OIL AND GAS INTERESTS AND SURFACE USE RECORDED JANUARY 23, 2001 AS RECEPTION NO. 2112344. **(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

18. SURFACE USE AGREEMENT RECORDED JANUARY 25, 2007 AS RECEPTION NO. 2832176. **(MAY AFFECT THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

19. SURFACE USE AGREEMENT RECORDED FEBRUARY 27, 2007 AS RECEPTION NO. 3458517 (WELD COUNTY). **(MAY AFFECT THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

SCHEDULE B, PART II-EXCEPTIONS (CONTINUED):

20. SURFACE USE AGREEMENT RECORDED MARCH 30, 2007 AS RECEPTION NO. 2846129. **(MAY AFFECT THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

21. SURFACE USE AGREEMENT RECORDED APRIL L9, 2007 AS RECEPTION NO. 2848104. **(MAY AFFECT THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

22. ORDINANCE NO. 18-2007 REGARDING REZONING RECORDED JULY 24, 2007 AS RECEPTION NO. 2871224 AND ORDINANCE NO. 19-2007 REGARDING REZONING RECORDED JULY 24, 2007 AS RECEPTION NO. 2871225 AND RE-RECORDED SEPTEMBER 17, 2007 AS RECEPTION NO. 2883461. **(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

23. RESERVATIONS AS DESCRIBED IN SPECIAL WARRANTY DEED RECORDED AUGUST 2, 2007 AS RECEPTION NO. 2873129, AND ANY INTERESTS THEREIN OR RIGHTS THEREUNDER.NOTE: THE COMPANY MAKES NO REPRESENTATION AS TO THE PRESENT OWNERSHIP OF THIS INTEREST. **(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

25. REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT RECORDED OCTOBER 23, 2007 AS RECEPTION NO. 2890878. **(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

26. ALL MATTERS SHOWN ON THE PLAT OF FLATIRON MEADOWS SUBDIVISION - MASTER PLAT RECORDED MARCH 31, 2009 IN PLAT BOOK R713 AT PAGE 35 AS RECEPTION NO. 2988916. **(AFFECTS THE SUBJECT PROPERTY, SHOWN HEREON)**

27. FLATIRON MEADOWS MASTER DEVELOPMENT AGREEMENT RECORDED MARCH 31, 2009 AS RECEPTION NO. 2988917. **(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

28. GRANT OF PERMANENT AVIGATION EASEMENT AGREEMENT RECORDED MARCH 31, 2009 AS RECEPTION NO. 2988918. **(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

29. RIGHT-OF-WAY GRANT RECORDED APRIL 9, 2010 AS RECEPTION NO. 03068423. **(AFFECTS THE SUBJECT PROPERTY, SHOWN HEREON)**

30. MASTER DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR FLATIRON MEADOWS MASTERS ASSOCIATION, INC. RECORDED JUNE 18, 2012 AS RECEPTION NO. 03229945, ASSIGNMENT & ASSUMPTION OF DECLARANT RIGHTS RECORDED NOVEMBER 2, 2015 AS RECEPTION NO. 03483083, SUPPLEMENTAL THERETO RECORDED JANUARY 11, 2018 AS RECEPTION NO.03635545. **(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

31. REQUEST FOR NOTIFICATION OF APPLICATION FOR DEVELOPMENT RECORDED JULY 12, 2016 AS RECEPTION NO. 03529919 AND AMENDMENT THERETO RECORDED NOVEMBER 1, 2016 AS RECEPTION NO. 03554502. **(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

32. ALL MATTERS SHOWN ON THE PLAT OF FLATIRON MEADOWS PUD OVERLAY MAP AMENDMENT NO. 3 RECORDED APRIL 6, 2018 AS RECEPTION NO. 03649296 AND AS AMENDED BY ORDINANCE NO. 46-2016 RECORDED FEBRUARY 3, 2017 AS RECEPTION NO.03573280. **(AFFECTS THE SUBJECT PROPERTY, CONTAINS NO PLOTTABLE ITEMS)**

SURVEYORS CERTIFICATE:

TO: MOUNTAIN VIEW FIRE PROTECTION, A TITLE 32 SPECIAL DISTRICT, AND STEWART TITLE GUARANTY COMPANY:
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1,2,3,4,5,8,9,10,11(a)(b),13,14,15,16,17,18 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON MARCH 4, 2024.

DATE OF PLAT OR MAP: _____

ANTHONY L. KNIEVEL, PLS
COLORADO PROFESSIONAL LAND SURVEYOR NO. 38157
FOR AND ON BEHALF OF GEOVISTA SURVEY AND MAPPING

REVISIONS

By	Date	Description
GP	03/18/24	ISSUED FOR REVIEW
GP	06/06/24	ISSUED FOR SUBMITTAL

DRAWN: GP
CHECKED: AK
DESIGNED: --
FILENAME: MEADOW_SWEET_ALTA

TRACT G, FLATIRON MEADOWS SUBDIVISION, MASTER PLAT
ALTA/NSPS LAND TITLE SURVEY

COVER SHEET

GEOVISTA
SURVEY AND MAPPING
GeoVista Survey and Mapping
88 Inverness Cir East, Suite B101
Englewood, Colorado 80112
Phone: (303) 549-5903 | www.Geo-Vista.com

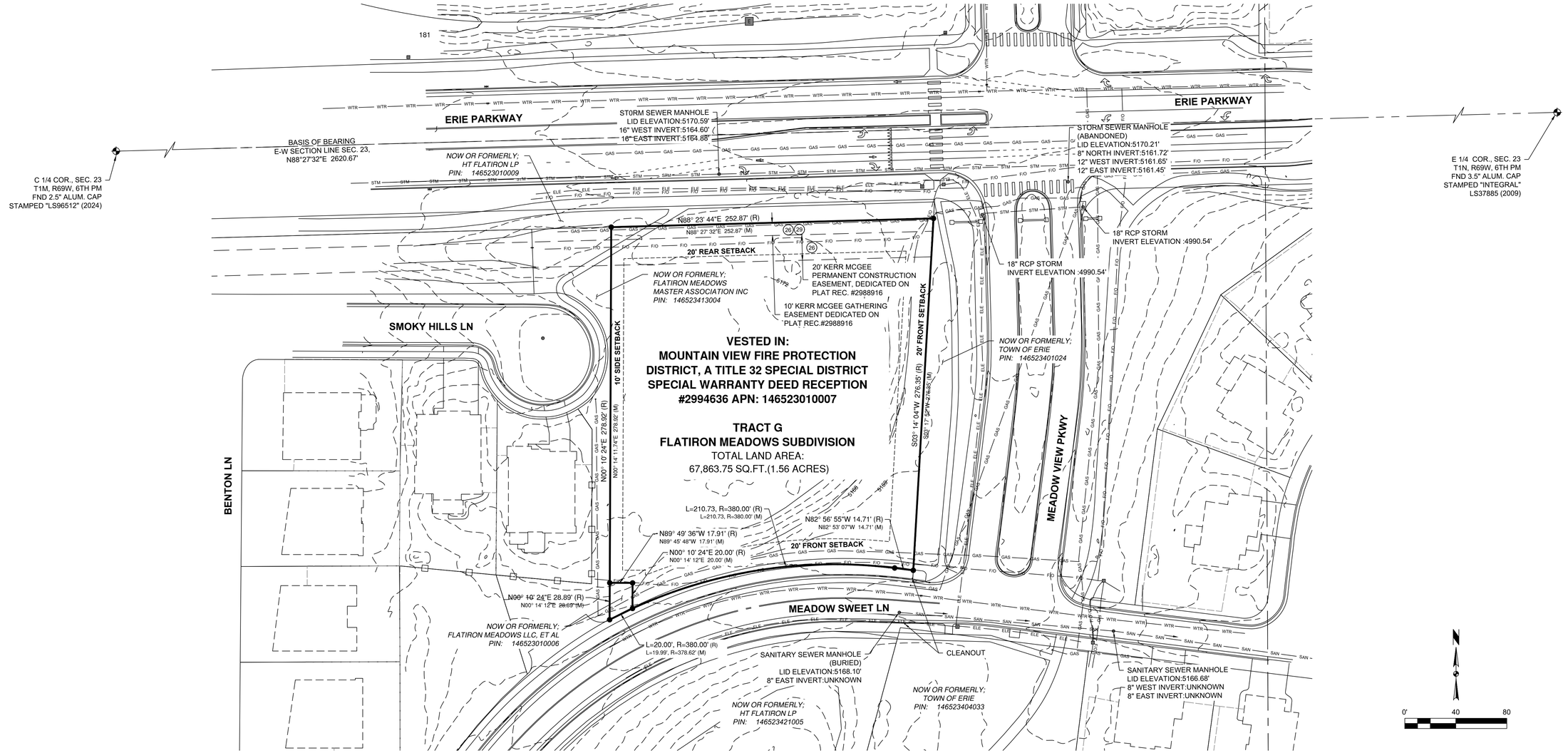
JOB NO. P-2024.004

DATE 3/18/2024

SHEETS 1 | SHEET 2

ALTA/NSPS LAND TITLE SURVEY

TRACT G, FLATIRON MEADOWS SUBDIVISION, MASTER PLAT
LOCATED IN A PORTION OF THE SOUTH HALF OF SECTION 23,
TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.



LEGEND

PROPERTY LINE	TITLE COMMITMENT EXCEPTIONS ITEMS	WV	WATER VALVE
EASEMENT LINE	PLSS MONUMENTATION FOUND AS DESCRIBED	IRV	IRRIGATION CONTROL VALVE
SETBACK LINE	FOUND MONUMENTATION AS DESCRIBED		CONCRETE
UNDERGROUND STORM SEWER	SET 5/8" REBAR WITH ALUMINUM CAP MARKED PLS 38157	(M)	MEASURED
UNDERGROUND WATER LINE	WATER VALVE	(R)	RECORDED
UNDERGROUND SANITARY SEWER	MANHOLE		
UNDERGROUND ELECTRIC LINE	TYPE C INLET		
UNDERGROUND IRRIGATION LINE	TRANSFORMER		
UNDERGROUND GAS LINE			

REVISIONS

By	Date	Description
GP	03/18/24	ISSUED FOR REVIEW
GP	06/28/24	ISSUED FOR SUBMITTAL

DRAWN: GP
CHECKED: AK
DESIGNED: --
FILENAME: MEADOW_SWEET_ALTA

TRACT G, FLATIRON MEADOWS SUBDIVISION, MASTER PLAT
ALTA/NSPS LAND TITLE SURVEY

PLAN SHEET

GEOVISTA SURVEY AND MAPPING
GeoVista Survey and Mapping
88 Inverness Cir East, Suite B101
Englewood, Colorado 80112
Phone: (303) 549-5903 | www.Geo-Vista.com

JOB NO. P-2024.004

DATE 3/18/2024

SHEETS 2 | SHEET 2

Stewart Title Company
55 Madison Street, Suite 400
Denver, CO 80206
(303) 752-6470
Fax:

Date: February 27, 2024
File Number: 2256251
Property Address: 0 North 111th Street, Erie, CO 80516
Buyer/Borrower: Information Only Title Commitment

Please direct all Closing inquiries to:

Jean Wankel
Phone: (720) 449-7512
Fax:
Email Address: Jean.Wankel@stewart.com

Information Only Title Commitment

Mountain View Fire Rescue District, a Title 32 Special District
Delivery Method: By Agent

Strategic Site Designs
88 Inverness Circle E, Ste B101
Englewood, CO 80112

WIRED FUNDS ARE REQUIRED ON ALL CASH PURCHASE TRANSACTIONS. PLEASE FEEL FREE TO CONTACT THE ESCROW OFFICE AS NOTED ABOVE.

We Appreciate Your Business and Look Forward to Serving You in the Future.

ALTA COMMITMENT FOR TITLE INSURANCE (07-01-2021)

ISSUED BY
STEWART TITLE GUARANTY COMPANY

NOTICE

IMPORTANT - READ CAREFULLY: THIS COMMITMENT IS AN OFFER TO ISSUE ONE OR MORE TITLE INSURANCE POLICIES. ALL CLAIMS OR REMEDIES SOUGHT AGAINST THE COMPANY INVOLVING THE CONTENT OF THIS COMMITMENT OR THE POLICY MUST BE BASED SOLELY IN CONTRACT.

THIS COMMITMENT IS NOT AN ABSTRACT OF TITLE, REPORT OF THE CONDITION OF TITLE, LEGAL OPINION, OPINION OF TITLE, OR OTHER REPRESENTATION OF THE STATUS OF TITLE. THE PROCEDURES USED BY THE COMPANY TO DETERMINE INSURABILITY OF THE TITLE, INCLUDING ANY SEARCH AND EXAMINATION, ARE PROPRIETARY TO THE COMPANY, WERE PERFORMED SOLELY FOR THE BENEFIT OF THE COMPANY, AND CREATE NO EXTRACONTRACTUAL LIABILITY TO ANY PERSON, INCLUDING A PROPOSED INSURED.

THE COMPANY'S OBLIGATION UNDER THIS COMMITMENT IS TO ISSUE A POLICY TO A PROPOSED INSURED IDENTIFIED IN SCHEDULE A IN ACCORDANCE WITH THE TERMS AND PROVISIONS OF THIS COMMITMENT. THE COMPANY HAS NO LIABILITY OR OBLIGATION INVOLVING THE CONTENT OF THIS COMMITMENT TO ANY OTHER PERSON.

COMMITMENT TO ISSUE POLICY

Subject to the Notice; Schedule B, Part I - Requirements; Schedule B, Part II - Exceptions; and the Commitment Conditions, STEWART TITLE GUARANTY COMPANY, a Texas corporation (the "Company"), commits to issue the Policy according to the terms and provisions of this Commitment. This Commitment is effective as of the Commitment Date shown in Schedule A for each Policy described in Schedule A, only when the Company has entered in Schedule A both the specified dollar amount as the Proposed Amount of Insurance and the name of the Proposed Insured.

If all of the Schedule B, Part I - Requirements have not been met within six months after the Commitment Date, this Commitment terminates and the Company's liability and obligation end.

Authorized Countersignature
Stewart Title Company
55 Madison Street, Suite 400
Denver, CO 80206

STEWART TITLE GUARANTY COMPANY INCORPORATED 1908 TEXAS

Frederick H. Eppinger
President and CEO

David Hisey
Secretary

This page is only a part of a 2021 ALTA® Commitment for Title Insurance. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I - Requirements; and Schedule B, Part II - Exceptions; and a countersignature by the Company or its issuing agent that may be in electronic form.

COMMITMENT CONDITIONS

1. DEFINITIONS

a. "Discriminatory Covenant": Any covenant, condition, restriction, or limitation that is unenforceable under applicable law because it illegally discriminates against a class of individuals based on personal characteristics such as race, color, religion, sex, sexual orientation, gender identity, familial status, disability, national origin, or other legally protected class.
b. "Knowledge" or "Known": Actual knowledge or actual notice, but not constructive notice imparted by the Public Records.
c. "Land": The land described in Item 5 of Schedule A and improvements located on that land that by State law constitute real property. The term "Land" does not include any property beyond that described in Schedule A, nor any right, title, interest, estate, or easement in any abutting street, road, avenue, alley, lane, right-of-way, body of water, or waterway, but does not modify or limit the extent that a right of access to and from the Land is to be insured by the Policy.
d. "Mortgage": A mortgage, deed of trust, trust deed, security deed, or other real property security instrument, including one evidenced by electronic means authorized by law.
e. "Policy": Each contract of title insurance, in a form adopted by the American Land Title Association, issued or to be issued by the Company pursuant to this Commitment.
f. "Proposed Amount of Insurance": Each dollar amount specified in Schedule A as the Proposed Amount of Insurance of each Policy to be issued pursuant to this Commitment.
g. "Proposed Insured": Each person identified in Schedule A as the Proposed Insured of each Policy to be issued pursuant to this Commitment.
h. "Public Records": The recording or filing system established under State statutes in effect at the Commitment Date under which a document must be recorded or filed to impart constructive notice of matters relating to the Title to a purchaser for value without Knowledge. The term "Public Records" does not include any other recording or filing system, including any pertaining to environmental remediation or protection, planning, permitting, zoning, licensing, building, health, public safety, or national security matters.
i. "State": The state or commonwealth of the United States within whose exterior boundaries the Land is located. The term "State" also includes the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, and Guam.
j. "Title": The estate or interest in the Land identified in Item 3 of Schedule A.

2. If all of the Schedule B, Part I - Requirements have not been met within the time period specified in the Commitment to Issue Policy, this Commitment terminates and the Company's liability and obligation end.

3. The Company's liability and obligation is limited by and this Commitment is not valid without:

a. the Notice;
b. the Commitment to Issue Policy;
c. the Commitment Conditions;
d. Schedule A;
e. Schedule B, Part I - Requirements;
f. Schedule B, Part II - Exceptions; and
g. a countersignature by the Company or its issuing agent that may be in electronic form.

4. COMPANY'S RIGHT TO AMEND

The Company may amend this Commitment at any time. If the Company amends this Commitment to add a defect, lien, encumbrance, adverse claim, or other matter recorded in the Public Records prior to the Commitment Date, any liability of the Company is limited by Commitment Condition 5. The Company is not liable for any other amendment to this Commitment.

5. LIMITATIONS OF LIABILITY

a. The Company's liability under Commitment Condition 4 is limited to the Proposed Insured's actual expense incurred in the interval between the Company's delivery to the Proposed Insured of the Commitment and the delivery of the amended Commitment, resulting from the Proposed Insured's good faith reliance to:
   i. comply with the Schedule B, Part I - Requirements;
   ii. eliminate, with the Company's written consent, any Schedule B, Part II - Exceptions; or
   iii. acquire the Title or create the Mortgage covered by this Commitment.

b. The Company is not liable under Commitment Condition 5.a. if the Proposed Insured requested the amendment or had Knowledge of the matter and did not notify the Company about it in writing.

c. The Company is only liable under Commitment Condition 4 if the Proposed Insured would not have incurred the expense had the Commitment included the added matter when the Commitment was first delivered to the Proposed Insured.

d. The Company's liability does not exceed the lesser of the Proposed Insured's actual expense incurred in good faith and described in Commitment Condition 5.a. or the Proposed Amount of Insurance.

e. The Company is not liable for the content of the Transaction Identification Data, if any.

f. The Company is not obligated to issue the Policy referred to in this Commitment unless all of the Schedule B, Part I - Requirements have been met to the satisfaction of the Company.

g. The Company's liability is further limited by the terms and provisions of the Policy to be issued to the Proposed Insured.

6. LIABILITY OF THE COMPANY MUST BE BASED ON THIS COMMITMENT; CHOICE OF LAW AND CHOICE OF FORUM

a. Only a Proposed Insured identified in Schedule A, and no other person, may make a claim under this Commitment.

b. Any claim must be based in contract under the State law of the State where the Land is located and is restricted to the terms and provisions of this Commitment. Any litigation or other proceeding brought by the Proposed Insured against the Company must be filed only in a State or federal court having jurisdiction.

c. This Commitment, as last revised, is the exclusive and entire agreement between the parties with respect to the subject matter of this Commitment and supersedes all prior commitment negotiations, representations, and proposals of any kind, whether written or oral, express or implied, relating to the subject matter of this Commitment.

d. The deletion or modification of any Schedule B, Part II—Exception does not constitute an agreement or obligation to provide coverage beyond the terms and provisions of this Commitment or the Policy.

e. Any amendment or endorsement to this Commitment must be in writing and authenticated by a person authorized by the Company.

f. When the Policy is issued, all liability and obligation under this Commitment will end and the Company's only liability will be under the Policy.

7. IF THIS COMMITMENT IS ISSUED BY AN ISSUING AGENT

The issuing agent is the Company's agent only for the limited purpose of issuing title insurance commitments and policies. The issuing agent is not the Company's agent for closing, settlement, escrow, or any other purpose.

8. PRO-FORMA POLICY

The Company may provide, at the request of a Proposed Insured, a pro-forma policy illustrating the coverage that the Company may provide. A pro-forma policy neither reflects the status of Title at the time that the pro-forma policy is delivered to a Proposed Insured, nor is it a commitment to insure.

9. CLAIMS PROCEDURES

This Commitment incorporates by reference all Conditions for making a claim in the Policy to be issued to the Proposed Insured. Commitment Condition 9 does not modify the limitations of liability in Commitment Conditions 5 and 6.

10. CLASS ACTION

ALL CLAIMS AND DISPUTES ARISING OUT OF OR RELATING TO THIS COMMITMENT, INCLUDING ANY SERVICE OR OTHER MATTER IN CONNECTION WITH ISSUING THIS COMMITMENT, ANY BREACH OF A COMMITMENT PROVISION, OR ANY OTHER CLAIM OR DISPUTE ARISING OUT OF OR RELATING TO THE TRANSACTION GIVING RISE TO THIS COMMITMENT, MUST BE BROUGHT IN AN INDIVIDUAL CAPACITY. NO PARTY MAY SERVE AS PLAINTIFF, CLASS MEMBER, OR PARTICIPANT IN ANY CLASS OR REPRESENTATIVE PROCEEDING. ANY POLICY ISSUED PURSUANT TO THIS COMMITMENT WILL CONTAIN A CLASS ACTION CONDITION.

11. ARBITRATION

The Policy contains an arbitration clause. All arbitrable matters when the Proposed Amount of Insurance is $2,000,000 or less may be arbitrated at the election of either the Company or the Proposed Insured as the exclusive remedy of the parties. A Proposed Insured may review a copy of the arbitration rules at http://www.alta.org/arbitration.

STEWART TITLE GUARANTY COMPANY

All notices required to be given the Company and any statement in writing required to be furnished the Company shall be addressed to it at: Stewart Title Guaranty Company, P.O. Box 2029, Houston, Texas 77252-2029.

UNDERSTANDING YOUR TITLE COMMITMENT

SCHEDULE A:

No. 1: Effective date: This is the date our title plant is certified through. There will typically be a 1-2 week gap between the certification date and the date the commitment is issued.

No. 2A : **Owner's Policy Proposed Insured:** This is how the buyer's name(s) appear(s) on the Contract, all Closing documents and your Final Title Policy. If your name is appearing incorrectly, please advise your Realtor, Builder and/or Lender.

No. 2B : **Loan Policy Proposed Insured:** This is how your lender has requested their name appear. If you are working with a Mortgage Broker, then this name may be unfamiliar to you. If a determination has not yet been made on what lender will be providing your loan, then this may appear as 'TBD' (To Be Determined). If you are paying cash for this purchase, this item will be left blank.

Charges: Title Premiums, Endorsements and Tax Certificates: These are fees for the items that the Company has determined may be required by your Lender and/or to meet the terms of your contract. Your lender may request additional items. This does not include any closing fees.

No. 3: The estate or interest in the land…: This shows the type of ownership that is going to be insured.

No. 4: **The Title is, at the Commitment Date…:** This shows the name(s) of the current owner(s).

No. 5: **The land referred to in the Commitment…:** This is the 'legal' property description for the real estate you are buying or selling.

SCHEDULE B-SECTION 1:

These are Requirements that must be satisfied in order to provide clear title to the Buyer and/or Lender. The closer and/or processor for the Title Company, will generally take care of satisfying these requirements, however there may be times when your help will be needed as well. Some requirements will be met prior to closing, and others will be met at the time of closing.

SCHEDULE B-SECTION 2:

These items are Exceptions to your coverage. We are telling you these items exist (whether by recordation in the County Clerk and Recorder's office or because we have knowledge of them through other means). Since these items have been disclosed to you, you will not be provided any coverage for same. Owner's Extended Coverage will delete Items 1-5 of the pre-printed items on Residential Sale Commitments, provided that the coverage was requested by contract and collected at closing. Copies of the plat and covenants will be automatically sent to the buyer and/or Selling Agent. We are happy to also provide you with copies of any other exceptions as well.

WIRE FRAUD

ALERT

NOTIFICATION:

READ THIS BEFORE YOU WIRE FUNDS

WIRE FRAUD: THE THREAT IS REAL

Buying a home is an exciting time. You've saved, found the perfect home and planned the move. Now, the closing day for your home is just around the corner.

We want to make sure your home purchase doesn't get derailed by a dangerous threat that could keep you from getting the keys, painting walls and decorating. Criminals have stolen money meant for the purchase of homes through malicious wire fraud schemes targeting consumers across the country.

Criminals begin the wire fraud process way before the attempted theft occurs. Most often, they begin with a common social engineering technique called phishing. This can take the form of email messages, website forms or phone calls to fraudulently obtain private information. Through seemingly harmless communication, criminals trick users into inputting their information or clicking a link that allows hackers to steal login and password information.

Once hackers gain access to an email account, they will monitor messages to find someone in the process of buying a home. Hacks can come from various parties involved in a transaction, including real estate agents, attorneys or consumers. Criminals then use the stolen information to email fraudulent wire transfer instructions disguised to appear as if they came from a professional you're working with to purchase a home. If you receive an email with wiring instructions, don't respond. Email is not a secure way to send financial information. If you take the bait, your money could be gone in minutes.

What can I do to protect myself?

Despite efforts by the title industry and others to educate consumers about the risk, homebuyers continue to be targeted. Here are some tips on what you can do to protect yourself and/or your clients:

1. **If requested**, wiring instructions will be provided via an encrypted email.
2. **Call, don't email**: Confirm all wiring instructions by phone before transferring funds. Use the phone number from the title company's website or a business card.
3. **Be suspicious**: It's not common for title companies to change wiring instructions and payment info
4. **Confirm it all**: Ask your bank to confirm not just the account number but also the name on the account before sending a wire. The name on the account should state Stewart Title Company Escrow Account.
5. **Verify immediately**: You should call the title company or real estate agent to validate that the funds were received. Detecting that you sent the money to the wrong account within 24 hours gives you the best chance of recovering your money from the hackers.
6. **Forward, don't reply**: When responding to an email, hit the "forward" button instead of clicking the "reply" button, and then start typing the person's email address. Criminals use email addresses that are very similar to the real one for a company. By typing in email addresses, you will make it easier to discover if a fraudster is after you.

ALTA COMMITMENT FOR TITLE INSURANCE (07-01-2021)
SCHEDULE A

ISSUED BY
STEWART TITLE GUARANTY COMPANY

Transaction Identification Data, for which the Company assumes no liability as set forth in Commitment Condition 5.e.:

Issuing Agent:	Stewart Title Company
Issuing Office:	55 Madison Street, Suite 400, Denver, CO 80206
Issuing Office's ALTA® Registry ID:	
Loan ID Number:	
Commitment Number:	2256251
Issuing Office File Number:	2256251
Property Address:	0 North 111th Street, Erie, CO 80516
Revision Number:	

1. **Commitment Date:** February 8, 2024 at 8:00AM

2. **Policy to be issued:** **Proposed Amount of Insurance**

   (a) 2021 ALTA® Owner's Policy
   Proposed Insured:

   (b) ALTA® Loan Policy
   Proposed Insured:

3. **The estate or interest in the Land at the Commitment Date is:**

   FEE SIMPLE

4. **The Title is, at the Commitment Date, vested in:**

   Mountain View Fire Protection, a Title 32 Special District

5. **The Land is described as follows:**

   See Exhibit "A" Attached Hereto

STEWART TITLE GUARANTY COMPANY

Authorized Countersignature

STATEMENT OF CHARGES
These charges are due and payable before a policy can be issued:

Informational Title Commitment	$500.00

This page is only a part of a 2021 ALTA® Commitment for Title Insurance. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I - Requirements; and Schedule B, Part II -Exceptions; and a countersignature by the Company or its issuing agent that may be in electronic form.

ALTA COMMITMENT FOR TITLE INSURANCE (07-01-2021)
EXHIBIT "A"
LEGAL DESCRIPTION

ISSUED BY
STEWART TITLE GUARANTY COMPANY

File No.: 2256251

Tract G, FLATIRON MEADOWS SUBDIVISION - MASTER PLAT, County of Boulder, State of Colorado.

For Informational Purposes Only: 0 North 111th Street, Erie, CO 80516

APN: R0515451, 146523010007

ALTA COMMITMENT FOR TITLE INSURANCE (07-01-2021)
SCHEDULE B PART I

ISSUED BY
STEWART TITLE GUARANTY COMPANY

File No.: 2256251

Requirements

All of the following Requirements must be met:

1. The Proposed Insured must notify the Company in writing of the name of any party not referred to in this Commitment who will obtain an interest in the Land or who will make a loan on the Land. The Company may then make additional Requirements or Exceptions.

2. Pay the agreed amount for the estate or interest to be insured.

3. Pay the premiums, fees, and charges for the Policy to the Company.

4. Documents satisfactory to the Company that convey the Title or create the Mortgage to be insured, or both, must be properly authorized, executed, delivered, and recorded in the Public Records.

5. NONE.

   NOTE: This product is for informational purposes only. It is not a title insurance product and does not provide any form of coverage. This product is not a guarantee or assurance and does not warrant, or otherwise insure any condition, fact or circumstance. This product does not obligate this Company to issue any policies of title insurance for any subsequent transaction based on the information provided or involving the property described herein. This Company's sole liability for any error(s) relating to this product is limited to the amount that was paid for this product.

   FOR INFORMATIONAL PURPOSES ONLY:

   Vesting: Warranty Deed recorded April 24, 2009, as Reception No. 2994636.

ALTA COMMITMENT FOR TITLE INSURANCE (07-01-2021)
SCHEDULE B PART II

ISSUED BY
STEWART TITLE GUARANTY COMPANY

File No.: 2256251

Exceptions

Some historical land records contain Discriminatory Covenants that are illegal and unenforceable by law. This Commitment and the Policy treat any Discriminatory Covenant in a document referenced in Schedule B as if each Discriminatory Covenant is redacted, repudiated, removed, and not republished or recirculated. Only the remaining provisions of the document will be excepted from coverage.

The Policy will not insure against loss or damage resulting from the terms and conditions of any lease or easement identified in Schedule A, and will include the following Exceptions unless cleared to the satisfaction of the Company:

1. Any defect, lien, encumbrance, adverse claim, or other matter that appears for the first time in the Public Records or is created, attaches, or is disclosed between the Commitment Date and the date on which all of the Schedule B, Part I - Requirements are met.

2. Rights or claims of parties in possession, not shown by the public records.

3. Easements, or claims of easements, not shown by the public records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the title that would be disclosed by an accurate and complete land survey of the Land and not shown by the public records.

5. Any lien, or right to a lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by the public records.

6. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) Minerals of whatsoever kind, subsurface and surface substances, in, on, under and that may be produced from the Land, together with all rights, privileges, and immunities relating thereto, whether or not the matters excepted under (a), (b) or (c) are shown by the Public Records or listed in Schedule B.

7. Water rights, claims or title to water.

8. Any and all unpaid taxes and assessments and any unredeemed tax sales.

9. All coal as reserved by the Union Pacific Railroad Company and the right of ingress and egress for the purpose of mining as set forth in instrument recorded February 25, 1891 in Book 138 at Page 317 as Reception No. 12115 . Relinquishment and Quitclaim recorded July 10, 2007 as Reception No. 2867978.

10. Oil and Gas Lease recorded November 28, 1973 on Film 1059 as Reception No. 311444. Amendment of Oil and Gas Lease recorded January 24, 2007 as Reception No. 2831791. Assignments recorded January 31, 2001 as Reception No. 2114771 and recorded December 21, 2009 as Reception No. 2048862.

11. Inclusion of subject property in the Erie Water and Sanitation by Order recorded December 22, 1983 on Film 1919 as Reception No. 1375530.

12. Annexation Ordinance recorded September 3, 1993 as Reception No. 01333940. Affidavit recorded September 3, 1993 as Reception No. 01333941. Annexation Map recorded September 3, 1993 as Reception No. 1333942.

13. Inclusion of subject property in the Northern Colorado Water Conservancy District by Order recorded February 14, 1994 on Film 1941 as Reception No. 1394497 and Order recorded January 21, 1997 on Film 2181 as Reception No. 1871966.

14. Service Line Agreement recorded October 3, 1994 on Film 2011 as Reception No. 1467268.

15. Any assessment or lien of the Northern Colorado Water Conservancy District as disclosed by Order recorded January 21, 1997 as Reception No. 1671966.

16. Stipulation recorded October 17, 1997 as Reception No. 1739983.

17. Notice of Oil and Gas Interests and Surface Use recorded January 23, 2001 as Reception No. 2112344.

18. Surface Use Agreement recorded January 25, 2007 as Reception No. 2832176.

19. Surface Use Agreement recorded February 27, 2007 as Reception No. 3458517 (Weld County).

20. Surface Use Agreement recorded March 30, 2007 as Reception No. 2846129.

21. Surface Use Agreement recorded April l9, 2007 as Reception No. 2848104.

22. Ordinance No. 18-2007 regarding rezoning recorded July 24, 2007 as Reception No. 2871224 and Ordinance No. 19-2007 regarding rezoning recorded July 24, 2007 as Reception No. 2871225 and re-recorded September 17, 2007 as Reception No. 2883461.

23. Reservations as described in Special Warranty Deed recorded August 2, 2007 as Reception No. 2873129, and any interests therein or rights thereunder.
NOTE: The Company makes no representation as to the present ownership of this interest.

24. Resolution of Board of Directors of Flatiron Meadows Metropolitan District, Boulder County, Colorado re: Imposition of Development Fees recorded August 17, 2007 as Reception No. 2877004.

25. Request for Notification of Surface Development recorded October 23, 2007 as Reception No. 2890878.

26. All matters shown on the plat of Flatiron Meadows Subdivision - Master Plat recorded March 31, 2009 in Plat Book R713 at Page 35 as Reception No. 2988916.

27. Flatiron Meadows Master Development Agreement recorded March 31, 2009 as Reception No. 2988917.

28. Grant of Permanent Avigation Easement Agreement recorded March 31, 2009 as Reception No. 2988918.

29. Right-of-Way Grant recorded April 9, 2010 as Reception No. 03068423.

30. Master Declaration of Covenants, Conditions and Restrictions for Flatiron Meadows Masters Association, Inc. recorded June 18, 2012 as Reception No. 03229945, Assignment & Assumption of Declarant Rights recorded November 2, 2015 as Reception No. 03483083, Supplemental thereto recorded January 11, 2018 as Reception No. 03635545.

31. Request for Notification of Application for Development recorded July 12, 2016 as Reception No. 03529919 and Amendment thereto recorded November 1, 2016 as Reception No. 03554502.

32. All matters shown on the plat of Flatiron Meadows PUD Overlay Map Amendment No. 3 recorded April 6, 2018 as Reception No. 03649296 and as amended by Ordinance No. 46-2016 recorded February 3, 2017 as Reception No. 03573280.

33. Local Disaster Emergency Declaration recorded March 27, 2020 as Reception No. 03774605 and Resolution No. 2020-05 recorded March 27, 2020 as Reception No. 03774612.

34. Existing unrecorded leases, if any.

SELLERS: Mountain View Fire Rescue District, a Title 32 Special District

BUYERS: Information Only Title Commitment

PROPERTY: 0 North 111th Street, Erie, CO 80516

DATE: _____, 2024

DISCLOSURE REGARDING FUNDS FOR CLOSING

Escrow Agent may receive other benefits from the financial institution where the funds are deposited. Based upon the deposit of escrow funds in demand deposit accounts and other relationships with the financial institution, Escrow Agent is eligible to participate in a program whereby it may (i) receive favorable loan terms and earn income from the investment of loan proceeds and (ii) receive other benefits offered by the financial institution.

AFFILIATED BUSINESS DISCLOSURE

This is to give you notice that Rocky Mountain Recording Services has a business relationship with Stewart Title Company and its affiliated and subsidiary companies. Stewart Title Company and Rocky Mountain Recording Services share common ownership. Stewart Title Company is wholly owned by Stewart Title Guaranty Company which shares the same parent company as Rocky Mountain Recording Services. Because of this relationship, this referral may provide Rocky Mountain Recording Services and Stewart a financial or other benefit.

Set forth below is the estimated charge or range of charges for the settlement services listed. You are NOT required to use the above provider as a condition for settlement of this transaction on the above referenced property. THERE ARE FREQUENTLY OTHER SETTLEMENT SERVICE PROVIDERS AVAILABLE WITH SIMILAR SERVICES. YOU ARE FREE TO SHOP AROUND TO DETERMINE THAT YOU ARE RECEIVING THE BEST SERVICES AND THE BEST RATE FOR THESE SERVICES.

Colorado Recording Fee Schedule

Processing/Verification Fee:
Per Escrow File ……$30.00

E-Recording Fee:
Per Document……$5.00

Government Recording Fees:
Per Document Fees
1st Page ……. $13.00

Each Additional Page……... $ 5.00

DISCLOSURES

File No.: 2256251

Pursuant to C.R.S. 10-11-122, notice is hereby given that:

A. THE SUBJECT REAL PROPERTY MAY BE LOCATED IN A SPECIAL TAXING DISTRICT;
B. A CERTIFICATE OF TAXES DUE LISTING EACH TAXING JURISDICTION SHALL BE OBTAINED FROM THE COUNTY TREASURER OR THE COUNTY TREASURER'S AUTHORIZED AGENT;
C. INFORMATION REGARDING SPECIAL DISTRICTS AND THE BOUNDARIES OF SUCH DISTRICTS MAY BE OBTAINED FROM THE BOARD OF COUNTY COMMISSIONERS, THE COUNTY CLERK AND RECORDER, OR THE COUNTY ASSESSOR

Note: Colorado Division of Insurance Regulations 8-1-2, Section 5, Paragraph G requires that "Every title entity shall be responsible for all matters which appear of record prior to the time of recording whenever the title entity conducts the closing and is responsible for recording or filing of legal documents resulting from the transaction which was closed." Provided that Stewart Title Company conducts the closing of the insured transaction and is responsible for recording the legal documents from the transaction, exception number 1 will not appear on the Owner's Title Policy and the Lender's Title Policy when issued.

Note: Colorado Division of Insurance Regulations 8-1-2, Section 5, Paragraph M requires that every title entity shall notify in writing that

Affirmative Mechanic's Lien Protection for the Owner may be available (typically by deletion of Exception No. 5 of Schedule B, Section 2 of the Commitment from the Owner's Policy to be issued) upon compliance with the following conditions:

A. The land described in Schedule A of this commitment must be a single-family residence, which includes a condominium or townhouse unit.
B. No labor or materials have been furnished by mechanics or materialmen for purposes of construction on the land described in Schedule A of this Commitment within the past 6 months.
C. The Company must receive an appropriate affidavit indemnifying the Company against unfiled Mechanic's and Materialmen's Liens.
D. The Company must receive payment of the appropriate premium.
E. If there has been construction, improvements or major repairs undertaken on the property to be purchased, within six months prior to the Date of the Commitment, the requirements to obtain coverage for unrecorded liens will include: disclosure of certain construction information; financial information as to the seller, the builder and/or the contractor; payment of the appropriate premium; fully executed Indemnity agreements satisfactory to the company; and, any additional requirements as may be necessary after an examination of the aforesaid information by the Company.

No coverage will be given under any circumstances for labor or material for which the insured has contracted for or agreed to pay.

To comply with the provisions of C.R.S. 10-11-123, the Company makes the following disclosure:

a. That there is recorded evidence that a mineral estate has been severed, leased or otherwise conveyed from the surface estate and that there is a substantial likelihood that a third party holds some or all interest in oil, gas, other minerals, or geothermal energy in the property; and
b. That such mineral estate may include the right to enter and use the property without the surface owner's permission.

NOTE: THIS DISCLOSURE APPLIES ONLY IF SCHEDULE B, SECTION 2 OF THE TITLE COMMITMENT HEREIN INCLUDES AN EXCEPTION FOR SEVERED MINERALS.

Notice of Availability of a Closing Protection Letter: Pursuant to Colorado Division of Insurance Regulation 8-1-3, Section 5, Paragraph C (11)(f), a closing protection letter is available to the consumer.

NOTHING HEREIN CONTAINED WILL BE DEEMED TO OBLIGATE THE COMPANY TO PROVIDE ANY OF THE COVERAGES REFERRED TO HEREIN, UNLESS THE ABOVE CONDITIONS ARE FULLY SATISFIED.

Updated: August 24, 2023

STEWART INFORMATION SERVICES CORPORATION
GRAMM-LEACH BLILEY PRIVACY NOTICE

This Stewart Information Services Corporation Privacy Notice ("Notice") explains how we and our affiliates and majority-owned subsidiary companies (collectively, "Stewart," "our," or "we") collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of your information. Pursuant to Title V of the Gramm-Leach Bliley Act ("GLBA") and other Federal and state laws and regulations applicable to financial institutions, consumers have the right to limit some, but not all sharing of their personal information. Please read this Notice carefully to understand how Stewart uses your personal information.

The types of personal information Stewart collects, and shares depends on the product or service you have requested.

Stewart may collect the following categories of personal and financial information from you throughout your transaction:

1. Identifiers: Real name, alias, online IP address if accessing company websites, email address, account name, unique online identifier, or other similar identifiers.

2. Demographic Information: Marital status, gender, date of birth.

3. Personal Information and Personal Financial Information: Full name, signature, social security number, address, driver's license number, passport number, telephone number, insurance policy number, education, employment, employment history, bank account number, credit card number, debit card number, credit reports, or any other information necessary to complete the transaction.

Stewart may collect personal information about you from:

1. Publicly available information from government records.
2. Information we receive directly from you or your agent(s), such as your lender or real estate broker.
3. Information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

Stewart may use your personal information for the following purposes:

1. To provide products and services to you in connection with a transaction.
2. To improve our products and services.
3. To communicate with you about our affiliates', and others' products and services, jointly or independently.

Stewart may use or disclose the personal information we collect for one or more of the following purposes:

- To fulfill or meet the reason for which the information is provided.
- To provide, support, personalize, and develop our website, products, and services.
- To create, maintain, customize, and secure your account with Stewart.
- To process your requests, purchases, transactions, and payments and prevent transactional fraud.
- To prevent and/or process claims.
- To assist third party vendors/service providers who complete transactions or perform services on Stewart's behalf pursuant to valid service provider agreements.
- As necessary or appropriate to protect the rights, property or safety of Stewart, our customers, or others.
- To provide you with support and to respond to your inquiries, including to investigate and address your concerns and monitor and improve our responses.
- To help maintain the safety, security, and integrity of our website, products and services, databases and other technology-based assets, and business.
- To respond to law enforcement or regulator requests as required by applicable law, court order, or governmental regulations.
- Auditing for compliance with federal and state laws, rules, and regulations.
- Performing services including maintaining or servicing accounts, providing customer service, processing, or fulfilling orders and transactions, verifying customer information, processing payments.
- To evaluate or conduct a merger, divestiture, restructuring, reorganization, dissolution, or other sale or transfer of some or all our assets, whether as a going concern or as part of bankruptcy, liquidation, or similar proceeding, in which personal information held by us is among the assets transferred.

Stewart will not collect additional categories of personal information or use the personal information we collected for materially different, unrelated, or incompatible purposes without providing you notice.

Disclosure of Personal Information to Affiliated Companies and Nonaffiliated Third Parties

Stewart does not sell your personal information to nonaffiliated third parties. Stewart may share your information with those you have designated as your agent throughout the course of your transaction (for example, your realtor, broker, or a lender). Stewart may disclose your personal information to non-affiliated third-party service providers and vendors to render services to complete your transaction.

We share your personal information with the following categories of third parties:

- Non-affiliated service providers and vendors we contract with to render specific services (For example, search companies, mobile notaries, and companies providing credit/debit card processing, billing, shipping, repair, customer service, auditing, marketing, etc.)
- To enable Stewart to prevent criminal activity, fraud, material misrepresentation, or nondisclosure.
- Stewart's affiliated and subsidiary companies.
- Parties involved in litigation and attorneys, as required by law.
- Financial rating organizations, rating bureaus and trade associations, taxing authorities, if required in the transaction.
- Federal and State Regulators, law enforcement and other government entities to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order.

The law does not require your prior authorization or consent and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or browsing information with non-affiliated third parties, except as required or permitted by law.

Right to Limit Use of Your Personal Information

You have the right to opt-out of sharing of your personal information among our affiliates to directly market to you. To opt-out of sharing your information with affiliates for direct marketing, you may send an "opt out" request to OptOut@stewart.com, or contact us through other available methods provided under "Contact Information" in this Notice. We do not share your Personal Information with nonaffiliates for their use to directly market to you without your consent.

How Stewart Protects Your Personal Information

Stewart maintains physical, technical, and administrative safeguards and policies to protect your personal information.

Contact Information

If you have specific questions or comments about this Notice, the ways in which Stewart collects and uses your information described herein, or your choices and rights regarding such use, please do not hesitate to contact us at:

Phone: Toll Free at 1-866-571-9270
Email: Privacyrequest@stewart.com

Postal Address: Stewart Information Services Corporation
Attn: Mary Thomas, Chief Compliance and Regulatory Officer
1360 Post Oak Blvd., Ste. 100, MC #14-1
Houston, TX 77056

Effective Date: January 1, 2020
Updated: August 24, 2023

STEWART INFORMATION SERVICES CORPORATION
PRIVACY NOTICE FOR CALIFORNIA RESIDENTS

Stewart Information Services Corporation and its affiliates and majority-owned subsidiary companies (collectively, "Stewart," "our," or "we") respect and are committed to protecting your privacy. Pursuant to the California Consumer Privacy Act of 2018 ("CCPA") and the California Privacy Rights Act of 2020 ("CPRA"), we are providing this **Privacy Notice ("**CCPA Notice"). This CCPA Notice explains how we collect, use, and disclose personal information, when and to whom we disclose such information, and the rights you, as a California resident have regarding your Personal Information. This CCPA Notice supplements the information contained in Stewart's existing privacy notice and applies solely to all visitors, users, consumers, and others who reside in the State of California or are considered California Residents as defined in the CCPA ("consumers" or "you"). All terms defined in the CCPA & CPRA have the same meaning when used in this Notice.

Personal and Sensitive Personal Information Stewart Collects

Stewart has collected the following categories of personal and sensitive personal information from consumers within the last twelve (12) months:

A. Identifiers. A real name, alias, postal address, unique personal identifier, online identifier, Internet Protocol address, email address, account name, Social Security number, driver's license number, passport number, or other similar identifiers.

B. Personal information categories listed in the California Customer Records statute (Cal. Civ. Code § 1798.80(e)). A name, signature, Social Security number, address, telephone number, passport number, driver's license or state identification card number, insurance policy number, education, employment, employment history, bank account number, credit card number, debit card number, or any other financial information.

C. Protected classification characteristics under California or federal law. Age, race, color, ancestry, national origin, citizenship, marital status, sex (including gender, gender identity, gender expression), veteran or military status.

D. Commercial information. Records of personal property, products or services purchased, obtained, or considered, or other purchasing or consuming histories or tendencies.

E. Internet or other similar network activity. Browsing history, search history, information on a consumer's interaction with a website, application, or advertisement.

F. Geolocation data

Stewart obtains the categories of personal and sensitive information listed above from the following categories of sources:

- Directly and indirectly from customers, their designees, or their agents (For example, realtors, lenders, attorneys, brokers, etc.)
- Directly and indirectly from activity on Stewart's website or other applications.
- From third parties that interact with Stewart in connection with the services we provide.

Use of Personal and Sensitive Personal Information

Stewart may use or disclose the personal or sensitive information we collect for one or more of the following purposes:

a. To fulfill or meet the reason for which the information is provided.
b. To provide, support, personalize, and develop our website, products, and services.
c. To create, maintain, customize, and secure your account with Stewart.
d. To process your requests, purchases, transactions, and payments and prevent transactional fraud.
e. To prevent and/or process claims.
f. To assist third party vendors/service providers who complete transactions or perform services on Stewart's behalf pursuant to valid service provider agreements.
g. As necessary or appropriate to protect the rights, property or safety of Stewart, our customers, or others.
h. To provide you with support and to respond to your inquiries, including to investigate and address your concerns and monitor and improve our responses.
i. To personalize your website experience and to deliver content and product and service offerings relevant to your interests, including targeted offers and ads through our website, third-party sites, and via email or text message (with your consent, where required by law).
j. To help maintain the safety, security, and integrity of our website, products and services, databases and other technology-based assets, and business.
k. To respond to law enforcement or regulator requests as required by applicable law, court order, or governmental regulations.
l. Auditing for compliance with federal and state laws, rules, and regulations.
m. Performing services including maintaining or servicing accounts, providing customer service, processing, or fulfilling orders and transactions, verifying customer information, processing payments, providing advertising or marketing services or other similar services.
n. To evaluate or conduct a merger, divestiture, restructuring, reorganization, dissolution, or other sale or transfer of some or all our assets, whether as a going concern or as part of bankruptcy, liquidation, or similar proceeding, in which personal information held by us is among the assets transferred.

Stewart will not collect additional categories of personal or sensitive information or use the personal or sensitive information we collected for materially different, unrelated, or incompatible purposes without providing you notice.

Disclosure of Personal Information to Affiliated Companies and Nonaffiliated Third Parties

Stewart does not sell your personal information to nonaffiliated third parties. Stewart may share your information with those you have designated as your agent throughout the course of your transaction (for example, a realtor, broker, or a lender).

We share your personal information with the following categories of third parties:

a. Service providers and vendors we contract with to render specific services (For example, search companies, mobile notaries, and companies providing credit/debit card processing, billing, shipping, repair, customer service, auditing, marketing, etc.)
b. Affiliated Companies.
c. Parties involved in litigation and attorneys, as required by law.
d. Financial rating organizations, rating bureaus and trade associations.
e. Federal and State Regulators, law enforcement and other government entities

In the preceding twelve (12) months, Stewart has disclosed the following categories of personal information:

Category A: Identifiers
Category B: California Customer Records personal information categories
Category C: Protected classification characteristics under California or federal law
Category D: Commercial Information
Category E: Internet or other similar network activity
Category F: Non-public education information

A. Your Consumer Rights and Choices Under CCPA and CPRA

The CCPA and CPRA provide consumers (California residents as defined in the CCPA) with specific rights regarding their personal information. This section describes your rights and explains how to exercise those rights.

i. Access to Specific Information and Data Portability Rights

You have the right to request that Stewart disclose certain information to you about our collection and use of your personal information over the past 12 months. Once we receive and confirm your verifiable consumer request, Stewart will disclose to you:

- The categories of personal information Stewart collected about you.
- The categories of sources for the personal information Stewart collected about you.
- Stewart's business or commercial purpose for collecting that personal information.
- The categories of third parties with whom Stewart shares that personal information.
- The specific pieces of personal information Stewart collected about you (also called a data portability request).
- If Stewart disclosed your personal data for a business purpose, a listing identifying the personal information categories that each category of recipient obtained.

ii. Deletion Request Rights

You have the right to request that Stewart delete any personal information we collected from you and retained, subject to certain exceptions. Once we receive and confirm your verifiable consumer request, Stewart will delete (and direct our service providers to delete) your personal information from our records, unless an exception applies.

Stewart may deny your deletion request if retaining the information is necessary for us or our service providers to:

1. Complete the transaction for which we collected the personal information, provide a good or service that you requested, take actions reasonably anticipated within the context of our ongoing business relationship with you, or otherwise perform our contract with you.
2. Detect security incidents, protect against malicious, deceptive, fraudulent, or illegal activity, or prosecute those responsible for such activities.
3. Debug products to identify and repair errors that impair existing intended functionality.
4. Exercise free speech, ensure the right of another consumer to exercise their free speech rights, or exercise another right provided for by law.
5. Comply with the California Electronic Communications Privacy Act (Cal. Penal Code § 1546 *seq.*).
6. Engage in public or peer-reviewed scientific, historical, or statistical research in the public interest that adheres to all other applicable ethics and privacy laws, when the information's deletion may likely render impossible or seriously impair the research's achievement, if you previously provided informed consent.
7. Enable solely internal uses that are reasonably aligned with consumer expectations based on your relationship with us.
8. Comply with a legal obligation.
9. Make other internal and lawful uses of that information that are compatible with the context in which you provided it.

iii. Opt-Out of Information Sharing and Selling

Stewart does not share or sell information to third parties, as the terms are defined under the CCPA and CPRA. Stewart only shares your personal information as commercially necessary and in accordance with this CCPA Notice.

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1. Emailing us at **OptOut@stewart.com**; or

2. Visiting **https://www.stewart.com/en/quick-links/ccpa-request.html**

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- Describe your request with sufficient detail that allows us to properly understand, evaluate, and respond to it.

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Link to Privacy Notice

https://www.stewart.com/en/privacy.html

Contact Information

Stewart Information Services Corporation
Attn: Mary Thomas, Chief Compliance and Regulatory Officer
1360 Post Oak Blvd., Ste. 100, MC #14-1
Houston, TX 77056

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- PROTECT YOURSELF

Think of the large amounts of money changing hands as part of your real estate transaction. This makes you a target for criminals who send emails to home buyers and sellers and their real estate or mortgage brokers with false wiring instructions. Instead of your money being sent to the proper account, it ends up in the fraudster's account.

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- To ensure receiving or sending wiring instructions in the safest manner possible, they should be obtained or delivered in person or from an initial order package you received or in the mail from your Stewart Title Company representative.
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- Never rely on email for wiring instructions as accounts can be faked or hacked and messages can be intercepted.
- If at any point during a transaction you receive changes to the wiring instructions you have been provided, this is a huge red flag. Immediately call your Stewart Title Company representative for verification. Always use a verified telephone number -never the number in the email with the wiring instructions.

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GEOTECHNICAL ENGINEERING STUDY
AND PAVEMENT THICKNESS DESIGN
PROPOSED MOUNTAIN VIEW FIRE RESCUE FIRE STATION
NEAR THE SOUTHWEST CORNER OF MEADOW VIEW PARKWAY
AND ERIE PARKWAY
ERIE, COLORADO

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Attn: Ms. Selena Twilley

Project No. 24-3-115

May 15, 2024

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SUMMARY

1. A total of eight (8) exploratory borings were drilled for this study. The borings generally encountered a thin layer of topsoil overlying approximately 4 to 5 feet of man-placed fill. The man-placed fill was underlain by naturally deposited (natural) clayey soils which were in turn underlain by claystone bedrock with occasional sandstone bedrock interbeds that extended to the explored depths of about 20 to 40 feet below the ground surface. Boring P-1 encountered a thin layer of topsoil overlying man-placed fill that extended to the explored depth of about 5 feet. Boring P-2 encountered a thin layer of topsoil overlying approximately 4 feet of man-placed fill which was in turn underlain by natural clayey soils that extended to the explored depth of about 5 feet.

   The man-placed fill consisted of lean clay to clayey sand with claystone bedrock fragments to sandy lean clay and the natural clayey soils consisted of lean clay with sand to sandy lean clay with occasional lenses of clayey sand.

   Groundwater was encountered in Borings 3, 5 and 6 at a depth of about 39 feet below the ground surface at the time of drilling and was encountered in Borings 3 through 6 at depths of about 15 to 19 feet below the ground surface when subsequently checked 5 days after drilling.

2. The safest approach for building support on the site would be to use deep foundations and structurally-supported floors. The floors would be supported on pier or pile foundations the same as the building structures, and underlain by voids or crawl spaces. Our experience is such that structurally supported floors can be costly for structures of this size; therefore, we have also developed recommendations for slab on grade floors. Discussion of the heave risks associated with slab on grade floors are presented in the body of this report.

   Slab on grade floors, if selected, should be underlain by at least 10 feet of properly compacted fill material. The fill material should consist of 5 feet of imported non-expansive fill material overlying 5 feet of moisture conditioned on-site soils. Additional design considerations and recommendations are presented herein.

3. Straight-shaft drilled piers used to support the structure should be designed using an allowable end-bearing value of 12,000 psf and a skin friction of 1,200 psf for the portion of the pier in bedrock. The allowable end-bearing pressure may be increased to 30,000 psf if the bottom of the pier is at least 25 feet below the existing ground surface elevation. The skin friction value may be increased to 3,000 psf for portions of the pier more than 25 feet below the existing ground surface elevation. Additional criteria are presented in the body of this report.

5. The following table presents the minimum pavement thickness recommendations for this development.

Paved Area	Full Depth Asphalt (inches)	Composite Section Asphalt/ABC (inches)	PCCP (inches)
Light Duty	6.0	4.0 / 8.0	6.0
Heavy Duty	6.5	4.5 / 8.0	7.0

Fire Truck Access Drives	---	---	8.0

ABC – Aggregate Base Course
PCCP – Portland Cement Concrete Pavement

All pavements should be placed on a minimum of 3 feet of moisture-density conditioned on-site overburden soils. Additional pavement design alternatives are provided in the body of this report.

PURPOSE AND SCOPE OF STUDY

This report presents the results of a geotechnical engineering study and pavement thickness design for the proposed Mountain View Fire Rescue Fire Station to be located near the southwest corner of Meadow View Parkway and Erie Parkway in Erie, Colorado. The study was conducted for the purpose of developing building foundation, floor slab and site paving recommendations. This study was performed in general accordance with our Proposal No. P3-24-113 to Wember dated January 31, 2024.

A field exploration program consisting of exploratory borings was conducted to obtain information on subsurface conditions. Samples of the soils and bedrock obtained during the field exploration program were tested in the laboratory to determine their classification and engineering characteristics. The results of the field exploration program and laboratory testing were analyzed to develop geotechnical engineering recommendations for use in site earthwork and in design and construction of the proposed development.

This report has been prepared to summarize the data obtained during this study and to present our conclusions and recommendations based on the proposed construction and the subsurface conditions encountered. Design parameters and a discussion of geotechnical engineering considerations related to construction of the proposed development are included in the report.

PROPOSED DEVELOPMENT

Based on the site plan provided, we anticipate the proposed fire station will be constructed with a footprint of approximately 15,000 ft^2 with a finished floor slab near the existing ground surface elevation. We also anticipate that the building will be constructed with steel structural members, load bearing masonry unit walls along with masonry/brick veneer. We understand the maximum column loads will be on the order of 60 kips with maximum wall line loads between 4 and 5 kips per linear foot. Areas outside of the building footprint will be provided with pavement for drive lanes and parking areas.

If the proposed development varies significantly from that generally described above or depicted throughout this report, we should be notified to reevaluate the recommendations provided herein.

SITE CONDITIONS

At the time of drilling, the site was vacant of structures and contained areas of sparse grasses and vegetation. The site was relatively flat with a slight slope down to the south and west. The site was bordered to the north by Erie Parkway, to the west by a single-family residential neighborhood, to the south by Meadow Sweet Lane and to the east by Meadow View Parkway.

SUBSURFACE CONDITIONS

Information on the subsurface conditions was obtained by drilling a total of eight (8) exploratory borings at the approximate locations shown on Fig. 1. Graphic logs of the borings are presented on Fig. 2 and a legend and notes describing the soils encountered is presented on Fig. 3.

The borings generally encountered a thin layer of topsoil overlying approximately 4 to 5 feet of man-placed fill. The man-placed fill was underlain by naturally deposited (natural) clayey soils which were in turn underlain by claystone bedrock with occasional sandstone bedrock interbeds that extended to the explored depths of about 20 to 40 feet below the ground surface. Boring P-1 encountered a thin layer of topsoil overlying man-placed fill that extended to the explored depth of about 5 feet. Boring P-2 encountered a thin layer of topsoil overlying approximately 4 feet of man-placed fill which was in turn underlain by natural clayey soils that extended to the explored depth of about 5 feet.

The man-placed fill consisted of lean clay to clayey sand with claystone bedrock fragments to sandy lean clay and the natural clayey soils consisted of lean clay with sand to sandy lean clay with occasional lenses of clayey sand.

The man-placed fill contained a fine to coarse grained sand fraction and was slightly moist to moist and brown to gray. The natural clayey soils contained a fine to coarse grained sand fraction and were moist and brown to light brown. The claystone bedrock with occasional sandstone bedrock interbeds was fine to medium grained, moist, and brown to gray. Based on sampler penetration resistance, the natural clayey soils were medium stiff to very stiff and the bedrock was firm to very hard.

Groundwater was encountered in Borings 3, 5 and 6 at a depth of about 39 feet below the ground surface at the time of drilling and was encountered in Borings 3 through 6 at depths of about 15

to 19 feet below the ground surface when subsequently checked 5 days after drilling.

Groundwater levels are expected to fluctuate with time and may fluctuate upward after wet weather or after landscape irrigation.

LABORATORY TESTING

Laboratory testing was performed on selected samples obtained from the borings to determine in-situ moisture content and dry density, Atterberg limits, swell-consolidation characteristics, and water-soluble sulfates. The results of the laboratory tests are shown next to the boring logs on Fig. 2, graphically plotted on Figs. 4 through 12, and summarized in the attached Table I. The testing was conducted in general accordance with recognized test procedures, primarily those of ASTM and the Colorado Department of Transportation (CDOT).

Index Properties: Samples were classified into categories of similar engineering properties in general accordance with the Unified Soil Classification System. This system is based on index properties, including liquid limit and plasticity index and gradation characteristics. Values for moisture content and dry density, liquid limit and plasticity index, and the percent of soil passing the U.S. No. 4 and No. 200 sieves are presented in Table I and adjacent to the corresponding sample on the boring logs.

Swell-Consolidation: Swell-consolidation tests were conducted on samples of the man-placed fill, natural overburden soils and claystone. The swell-consolidation tests were performed to determine the compressibility and swell characteristics of the samples under loading and when submerged in water. Each sample was prepared and placed in a confining ring between porous discs, subjected to a surcharge pressure of 200- or 1,000-psf, and allowed to consolidate before being submerged. The sample height was monitored until deformation practically ceased under each load increment.

Results of the swell-consolidation tests are plotted as a curve of the final strain at each increment of pressure against the log of the pressure and are presented on Figs. 4 through 9. Based on the results of the laboratory swell-consolidation testing, samples of man-placed fill exhibited low to high swell potential (1.0% to 5.5%) upon wetting under a 200-psf surcharge pressure and high

swell potential (5.0%) upon wetting under a 1,000-psf surcharge pressure. A sample of the natural clayey soils exhibited high swell potential (4.1%) upon wetting under a 1,000-psf surcharge pressure. Samples of the claystone bedrock exhibited moderate to very high swell potential (3.2% to 6.1%) upon wetting under a 1,000-psf surcharge pressure.

Results of moisture-density relationships from a composite sample of overburden soils, as determined by standard Proctor (ASTM D698), are presented on Fig. 12. The maximum dry density of the composite sample from the borings was 107.0 pcf at an optimum moisture content of 16.8 percent.

Re-molded swell-consolidation tests were performed on the clayey overburden soils and are presented on Fig. 10. The samples were re-molded between approximately 94.8% and 94.9% of the maximum dry density near +0.2% of optimum moisture content. When wetted under a surcharge pressure of 200 psf, the re-molded samples exhibited swell potentials of about 3.4% and 3.0%.

WATER-SOLUBLE SULFATES

The concentration of water-soluble sulfates measured in a sample of the overburden material obtained from the exploratory borings was 0.23%. This concentration of water-soluble sulfates represents a Class S2 severity exposure to sulfate attack on concrete exposed to these materials. These degrees of attack are based on a range of Class S0, Class S1, Class S2, and Class S3 severity exposure as presented in ACI 201.2R-16.

Based on our experience with sulfate testing on soils in the area, we recommend all concrete exposed to the on-site materials meet the cement requirements for Class S2 exposure as presented in ACI 201. Alternatively, the concrete could meet the Colorado Department of Transportation's (CDOT) cement requirements for Class S2 exposure as presented in Section 601.04 of the CDOT Standard Specifications for Road and Bridge Construction.

GEOTECHNICAL ENGINEERING CONSIDERATIONS

Based on conditions encountered in the borings, it appears that the site has about 8 to 9 feet of clayey overburden soils. The on-site clays are moderately to highly expansive. The site, in its present condition, is considered unsuitable for support of slab-on-grade floors and pavements.

The foundation alternative with the least risk of post-construction foundation movements exceeding the design values presented herein would be to use deep foundations and structurally-supported floors. The floors would be supported on the selected foundation system for the building structures, and would be underlain by voids or crawl spaces. Considering the depth to competent bedrock below the proposed structure and the proposed finished floor elevations, conventional drilled pier foundations may not be as economical as other foundation alternatives; however, drilled pier foundations provide the least risk of post-construction movement versus other common foundation systems.

The cost of structurally-supported floors may drive the preferred alternative flooring system to consist of slab-on-grade floors over a zone of compacted fill. However, this alternative would require significant mass grading to prepare a suitable site, and should be used only if the risk of post-construction heave is accepted by the owner.

Heaving Movement Considerations: Slab movements can be mitigated to a certain degree by providing a zone of non- to low-swelling, relatively impervious structural fill directly beneath the slab. Heave estimate calculations can be useful in evaluating the relative effectiveness of varying the thickness of an underslab fill layer. However, such calculations cannot address the uncertainty in the potential depth and degree of wetting that may occur under a floor slab, or the variability of swell potential across a site, which is frequently erratic. We have performed calculations to demonstrate the potential for slab movement if the underslab soils should be thoroughly wetted to significant depths below the depth of the structural fill layer.

The following table presents estimates of potential heave based on the results of swell-consolidation tests using test and analysis methods generally accepted in the Colorado Front Range. Both depth of wetting and depth of structural fill were considered as variables in the analysis.

ALTERNATIVE	SLAB HEAVE IN INCHES	
	5 feet wetting	10 feet wetting
No Structural Fill Layer	3.6	5.7
3 feet of M/C	1.7	3.8
6 feet of M/C	0.9	2.6

4 feet N/E over 4 feet M/C	0.1	1.1
5 feet N/E over 5 feet M/C	0.1	0.9

M/C = Moisture Conditioned On-Site soil
N/E = Imported Non-Expansive Fill

The heave estimate calculations demonstrate that significant heave should be expected if wetting of the underslab soils occurs to significant depth below the bottom of the underslab fill layer. However, our experience indicates that most similar structures underlain by similar subsoils do not experience extreme moisture increases in the underslab soils to significant depth provided that good surface drainage is designed, constructed, and maintained, and that good irrigation practices are followed. However, wetting can also occur because of unforeseeable influences such as plumbing breaks, or in some cases even due to off-site influences depending on geologic conditions. Based on our experience with construction in the area, it is unlikely that significant wetting will extend deeper than about 10 feet below the finished ground surface due to the presence of relatively impermeable claystone bedrock at depths of about 8 to 9 feet below the ground surface.

Proper surface drainage during and after construction is very important to mitigate wetting of the subgrade soils. We recommend that landscape areas adjacent to the building be provided with the maximum slope possible to promote good surface drainage. A means of allowing water to readily leave the landscape areas, such as drain pans or chases through a sidewalk, are recommended. All efforts possible should be made to ensure that surface water on the site is allowed to sheet-flow to an off-site location such as a storm sewer inlet or water quality pond located as far from the building as possible. It is critical to the performance of the structure and surrounding pavement that the pavement surfaces be properly maintained. Proper maintenance may include sealing of cracks that appear in the pavement surface. More aggressive cleaning and sealing techniques may be required if larger cracks develop.

Considering the above discussion, we believe slab-on-grade construction may be used for the project, provided that the risk of distress is recognized and accepted by the owner, and the measures herein are taken to reduce the damage which could result from movement should the underslab materials be subjected to excessive moisture increases. The intent of our recommendations is to provide for a condition where there is a good chance slab heave

movements will not exceed 1 inch and it is unlikely they will exceed 2 inches unless extreme wetting is allowed. Barring unforeseen events, we do not believe extreme wetting is likely to occur if the surface drainage and irrigation recommendations presented in this report are followed. It is also very important to provide the recommended isolation between the structure and the slab-on-grade floors to reduce damage if heaving occurs. Slab-on-grade floors should not be used if architectural finishes that will not tolerate upward slab movement are planned.

For the slab on grade alternative, we recommend the existing expansive soils be overexcavated to a depth of at least 10 feet below the floor slab subgrade elevation. The lower 5 feet of the zone of subexcavation may consist of moisture conditioned on-site overburden soils. The upper 5 feet of the zone of subexcavation should consist of imported non-expansive material meeting the criteria presented in the “Site Grading” section of this report. All fill materials should be placed and compacted according to the material and placement criteria presented in the “Site Grading” section of this report. The zone of subexcavation should extend laterally outside of all building lines a minimum of 10 feet.

It should be noted that the above depth of subexcavation and replacement values are based on conditions above the groundwater level. The intent of the reevaluation would be to try and keep the bottom of the subexcavation above the groundwater level. Excavating near or below the groundwater level will result in significant challenges for the earth working crews that should be able to be avoided with proper pre-construction evaluation.

To be clear, deep foundations and structurally supported floor slabs are the preferred alternatives. Soil supported floor slabs have much higher risk of post-construction movement.

Subsurface Drainage: Projects with zones of subexcavation that bottom out near relatively impermeable soils that are susceptible to movement if infiltration occurs, require the installation of subsurface drainage surrounding the subexcavation zone. The drainage system is intended to intercept water flows that occur through the permeable zones and between the beds of the bedrock and perched water near the surface of the impermeable layer of bedrock, like a bathtub where the water can saturate the underlying expansive bedrock which can potentially cause distress to the structure above.

If soil supported floor slabs are selected, we recommend an underdrain system be installed due to the susceptibility of the subgrade soils to expansion if infiltration occurs. We have provided design criteria and recommendations for a subsurface drainage system in the "Underdrain System" section of this report, if such a system is selected by the owner.

FOUNDATION RECOMMENDATIONS

Considering the discussion presented above under Geotechnical Engineering Considerations, we anticipate that a deep foundation system with slab-on-grade floors will be selected for the project. Design recommendations for deep foundations are presented below.

Based on the data from the field exploration and laboratory testing properties, straight-shaft piers drilled into the bedrock may be used to support the proposed structures.

Drilled Pier Foundations: The design and construction criteria presented below should be observed for a straight-shaft pier foundation system. The construction details should be considered when preparing project documents.

1. Piers should be designed for an allowable end bearing pressure of 12,000 psf and a skin friction of 1,200 psf for the portion of the pier in bedrock. The allowable end-bearing pressure may be increased to 30,000 psf if the bottom of the pier is at least 25 feet below the existing ground surface elevation. The skin friction value may be increased to 3,000 psf for portions of the pier more than 25 feet below the existing ground surface elevation. Uplift due to structural loadings on the piers can be resisted by using 75% of the allowable skin friction value plus an allowance for pier weight.

2. Piers should also be designed for a minimum dead load pressure of 15,000 psf based on pier end area only. Application of dead load pressure is the most effective way to resist foundation movement due to swelling soils. However, if the minimum dead load requirement cannot be achieved and the piers are spaced as far apart as practical, the pier length should be extended beyond the minimum bedrock penetration and minimum length to mitigate the dead load deficit. This can be accomplished by assuming one-half of the skin friction given above acts in the direction to resist uplift caused by swelling soil

near the top of the pier. The owner should be aware of an increased potential for foundation movement if the recommended minimum dead load pressure is not met.

3. Piers should penetrate at least three pier diameters or 10 feet into the bedrock, whichever is greater. Piers should also have a minimum length of 20 feet.

4. Piers should be designed to resist lateral loads using a modulus of horizontal subgrade reaction in the overburden soils of 50 tcf and a modulus of horizontal subgrade reaction of 250 tcf in the bedrock. The modulus value given is for a long one-foot-wide pier and must be corrected for pier size. If more rigorous analysis is desired, a computer application such as LPILE should be used.

5. The lateral capacity of the piers may be analyzed using the LPile computer program and the parameters provided in the following table. The strength criteria provided in the table are for use with that software application only and may not be appropriate for other usages.

Material	C	φ	γ	k_s	k_c	ϵ_{50}	Soil Type
Existing or Newly Placed Granular Fill	0	34	125	90	90	---	1
Existing or Newly Placed Clayey Fill / Overburden Clay	750	0	120	500	200	0.007	2
Bedrock	8,000	0	125	2,000	800	0.004	2

c Cohesion intercept (pounds per square foot)
φ Angle of internal friction (degrees)
γ Total unit weight (pounds per cubic foot)
k_s Initial static modulus of horizontal subgrade reaction (pounds per cubic inch)
k_c Initial cyclic modulus of horizontal subgrade reaction (pounds per cubic inch)
ϵ_{50} Strain at 50 percent of peak shear strength

Soil Types:

1. Sand (Reese)
2. Stiff clay without free water (Reese)

6. Piers should be reinforced their full length to resist an unfactored net tensile force from swelling soil pressure of at least 50 kips. The recommended tensile force is for a 1-foot diameter pier and should be increased in proportion to the pier diameter for larger piers. If the design dead load is greater than or less than the recommended dead load, the requirement for tension reinforcement should be decreased or increased accordingly to account for the difference in an equal exchange of deadload vs. swell reinforcement capacity.

7. An 8-inch void should be provided beneath the grade beams to concentrate pier loadings and to separate the expansive soil from the grade beams. Absence of a void space will result in a reduction in dead load pressure which could result in upward movement of the foundation system. A void should also be provided beneath necessary pier caps.

8. The minimum spacing requirements between piers should be three diameters from center to center. At this spacing, no reduction in axial or horizontal soil modulus values is required. Piers grouped less than three diameters from center to center should be studied on an individual basis to determine the appropriate reductions in both lateral and axial capacity. For estimating purposes, piers spaced 1.5 diameters apart from center to center should assume a 50% reduction in axial capacity. Axial capacity of piers spaced between 1.5 and 3.0 pier diameters should use a linear interpolation between the 50% capacity at 1.5 diameter spacing and 100% axial capacity at 3.0 or greater pier diameters center to center. As indicated, we should be retained to provide more detailed input on axial capacity reduction once pier groups and/or spacings are established.

9. If the minimum pier spacings recommended above for lateral loading cannot be achieved, we recommend that the lateral load-displacement curve (p-y curve) for an isolated pier be modified for closely-spaced piers using p-multipliers to reduce all the p-values on the curve. With this approach, the computed load carrying capacity of the pier in a group is reduced relative to the isolated pile capacity. The modified p-y curve should then be reentered into the L-Pile software to calculate the pile deflection. The reduction in capacity for the leading pier, the pier leading the direction of movement of the group, is less than that for the trailing piers.

For center-to-center spacing of piers in the group in the direction of loading expressed in multiples of the pier diameter, we recommend p-multipliers of 0.7 and 1.0 for pier spacings of 3 and 5 diameters, respectively, for the leading row of piers, 0.4 and 0.85 for pier spacings of 3 and 5 diameters, respectively, for the second row of piers, and 0.3 and 0.7 for pier spacings of 3 and 5 diameters, respectively, for rows 3 and higher. For loading in a direction perpendicular to the row of piers, the p-multipliers are 1.0 for a pier spacing of 5 diameters, 0.7 for a pier spacing of 3 diameters, and 0.5 for a pier spacing of 1 diameter. P-multiplier values for other pier spacing values should be determined by interpolation. These values are consistent with Table 10.7.2.4-1 of the AASHTO LRFD Bridge Design Specifications. It will be necessary to determine the load distribution between the piers that attain deflection compatibility because the leading pier carries a higher proportion of the group load and the pier cap prevents differential movement between the piers.

10. The pier length-to-diameter ratio should not exceed 30.

11. Concrete used in the piers should be a fluid mix with sufficient slump so it will fill the void between reinforcing steel and the pier hole. We recommend a slump in the range of 5 to 8 inches.

12. Rock penetration in all pier holes should be roughened artificially or provided with shear rings 3 inches high and 3 inches deep in the lower 6 feet of the pier hole to assist the development of peripheral shear stress between the pier and the bedrock. It is extremely important in these materials that the sides of the pier shafts not be smooth prior to placing concrete. The roughening/shear rings should be installed with as horizontal grooves at 18-inch centers or helical grooves with an 18-inch pitch.

13. Based on the results of our field exploration, laboratory testing, and our experience with similar, properly constructed drilled pier foundations, we estimate pier settlement will be low. Generally, we estimate the settlement of a pier will be less than 1-inch when designed according to the criteria presented herein. The settlement of closely spaced piers will be larger and should be studied on an individual basis.

14. Pier holes should be properly cleaned prior to the placement of concrete.

15. The presence of water in the exploratory borings indicates temporary casing and/or dewatering equipment may be required. In no case, should concrete be placed if more than 3 inches of water is present at the bottom of the pier hole unless the tremie method is used. If water cannot be removed or prevented with the use of temporary casing and/or dewatering equipment prior to placement of concrete, the tremie method should be used after the hole has been cleaned.

    Casing procedures should be evaluated by the geotechnical engineer on piers that will be subjected to lateral loads. Oversizing the portion of the hole in the overburden to allow casing insertion can reduce the lateral pier capacity if the hole is processed with a dense, viscous mixture of water and soil and that material is not displaced from the hole during concreting. If lateral support from the overburden soil is relied upon in design, the specifications should require intimate contact between the pier and the surrounding soil. If slurry processing is required, this may be accomplished by using slurry with properties that ensure slurry displacement from the hole during concrete placement (such as polymer slurry materials). Other options proposed by the pier contractor may also be considered. Alternatively, the lateral support contribution from the overburden soil may be ignored in design.

    When water and/or drilling slurry is present outside the casing, care should be taken that concrete of sufficiently high slump is placed to a sufficiently high elevation inside the casing to prevent intrusion of the water and/or slurry into the concrete when the casing is withdrawn.

16. The drilled shaft contractor should mobilize equipment of sufficient size and operating condition to achieve the required bedrock penetration.

17. Care should be taken that the pier shafts are not oversized at the top. Mushroomed pier tops can reduce the effective dead load pressure on the piers.

18. Concrete should be placed in piers the same day they are drilled. The presence of water or caving soils may require that concrete be placed immediately after the pier hole is

completed. Failure to place concrete the day of drilling will normally result in a requirement for additional bedrock penetration.

19. Piers spaced less than 3 pier diameters center to center should be provided with minimum delay between drilling adjacent shafts of at least 72 hours after the concrete has been poured into the adjacent pier.

20. A representative of the geotechnical engineer should observe pier drilling operations on a full-time basis to assist in identification of adequate bedrock strata and monitor pier construction procedures.

Shallow Foundation Considerations: We have been requested to provide shallow foundation recommendations for trash enclosures and retaining structures.

As previously discussed, we highly recommend the trash enclosure and retaining structures be founded on drilled shaft foundations. However, if the owner is willing to accept the risk of foundation movements may be higher than industry standards, the trash enclosures and retaining structures may be founded on spread footings placed on a minimum of 3 feet of properly compacted structural fill. We cannot accurately predict the magnitude of potential movement of swelling soils; however, movements more than several inches are possible.

The design and construction criteria presented below should be observed for a spread footing foundation system. The construction details should be considered when preparing project documents.

1. Spread footings should be placed on a minimum of 3 feet of properly compacted imported structural fill extending to undisturbed natural soils and/or bedrock (the subgrade materials do not meet structural fill requirements). Structural fill placed beneath spread footings should be properly moisture conditioned and compacted to at least 98% of the maximum of dry density (ASTM D 698). Areas of loose or soft material or existing fill encountered within the foundation excavation should be removed and replaced with structural fill meeting the material and placement requirements outlined in the “Site Grading” section of

our report. New structural fill should extend down from the edges of the footings at a 1 horizontal to 1 vertical projection.

2. Footings supported on properly compacted structural fill as recommended herein should be designed for an allowable soil bearing pressure of 2,000 psf.

3. Spread footings should have a minimum footing width of 16 inches for continuous footings and of 24 inches for isolated pads.

4. Exterior footings and footings beneath unheated areas should be provided with adequate soil cover above their bearing elevation for frost protection. Placement of foundations at least 36 inches below the exterior grade is typically used in this area.

5. The lateral resistance of a spread footing placed on properly compacted structural fill material will be a combination of the sliding resistance of the footing on the foundation materials and passive earth pressure against the side of the footing. Resistance to sliding at the bottoms of the footings can be calculated based on a coefficient of friction of 0.3. Passive pressure against the sides of the footings can be calculated using an equivalent fluid unit weight of 190 pcf. The above values are working values.

   Compacted fill placed against the sides of the footings to resist lateral loads should meet the material and placement requirements outlined in the “Site Grading” section of our report.

6. Continuous foundation walls should be reinforced top and bottom to span an unsupported length of at least 10 feet.

7. A representative of the geotechnical engineer should observe all footing excavations prior to concrete placement.

FLOOR SLABS

Floor slabs present a very difficult problem where expansive soils are present near floor slab elevation because sufficient dead load cannot be imposed on them to resist the uplift pressure

generated when the materials are wetted and expand. Based on the moisture-volume change characteristics of the clayey soils encountered, a structural floor above a well-ventilated void or crawl space would provide the most effective method of minimizing the risk of floor slab movement. The floor would be supported on grade beams and piers the same as the building structure.

We recommend a minimum 8-inch void beneath floors. Utility lines should not be supported on the subgrade, unless adequate measures are taken to account for differential movement between grade supported utilities and slabs. If utilities are connected to the floor or floor openings, void spaces should also be provided below the utility lines. The utility lines should be supported by suitable means such as hangers as necessary.

We recommend that void and crawl spaces be designed with positive surface drainage and a collection point or outlet so that free-water introduced into these spaces can be removed.

Slab on Grade Consideration: Considering the type of development planned and cost factors associated with structural floors, slab-on-ground construction may be considered as an alternative for the floor slabs provided the increased risk of distress resulting from floor slab movement is accepted by the owner. The “Geotechnical Engineering Considerations” section of this report provides discussion of potential heaving movement magnitudes to help the owner evaluate the risk potential and aid in the decision-making process. For slab on grade construction, we recommend the existing expansive soils be overexcavated to a depth of at least 10 feet below the floor slab subgrade elevation. The lower 5 feet of the zone of subexcavation may consist of moisture conditioned on-site overburden soils. The upper 5 feet of the zone of subexcavation should consist of imported non-expansive material meeting the criteria presented in the “Site Grading” section of this report. A modulus of vertical subgrade reaction equal to 175 pci may be used for the properly compacted onsite soils.

As mentioned previously, the above depth of subexcavation and replacement values are based on conditions above the groundwater level. Once finished floor slab elevations of the building are established, we should be retained to reevaluate our subexcavation recommendations.

The following measures should be taken to reduce damage that could result from movement should the underslab materials be subjected to moisture changes.

1. Floor slabs should be separated from all bearing walls and columns with expansion joints that allow unrestrained vertical movement.

2. Interior nonbearing partitions resting on floor slabs should be provided with slip joints so that, if the slabs move, the movement cannot be transmitted to the upper structure. This detail is also important for wallboards, stairways, and door frames. Slip joints which will allow at least 2 inches of vertical movement are recommended.

   If wood or metal stud partition walls are used, the slip joints should preferably be placed at the bottoms of the walls so differential slab movement will not damage the partition wall. If slab bearing masonry block partitions are constructed, the slip joints will have to be placed at the tops of the walls. If slip joints are provided at the tops of walls and the floors move, it is likely the partition walls will show signs of distress, such as cracking. An alternative, if masonry block walls or other walls without slip joints at the bottoms are required, is to found them on grade beams and piers and to construct the slabs independently of the foundation. If slab bearing partition walls are required, distress may be reduced by connecting the partition walls to the exterior walls using slip channels. Floor slabs should not extend beneath exterior doors or over foundation grade beams, unless saw cut at the beam after construction.

3. Floor slab control joints should be used to reduce damage due to shrinkage cracking. Joint spacing is dependent on slab thickness, concrete aggregate size, and slump, and should be consistent with recognized guidelines such as those of the Portland Cement Association (PCA) or American Concrete Institute (ACI). We suggest joints be provided on the order of 12 to 15 feet apart in both directions. The requirements for slab reinforcement should be established by the designer based on experience and the intended slab use.

4. If moisture-sensitive floor coverings will be used, mitigation of moisture penetration into the slabs, such as by use of a vapor barrier, may be required. If an impervious vapor

barrier membrane is used, special precautions will be required to prevent differential curing problems which could cause the slabs to warp. This topic is addressed by ACI 302.1R.

5. All plumbing lines should be tested before operation. Where plumbing lines enter through the floor, a positive bond break should be provided. Flexible connections with a minimum of 1-inch of vertical movement should be provided for slab-bearing mechanical equipment.

The precautions and recommendations itemized above will not prevent the movement of floor slabs if the underlying expansive materials are subjected to moisture increases. However, the precautions should reduce the damage if such movement occurs.

Exterior Flatwork: It is extremely important that exterior slabs-on-grade and pavements be isolated from the building foundations. Many expansive soil related problems are related to ineffective isolation between pavements/floor slabs and foundation-supported components of structures. Careful design detailing is necessary at locations such as exterior stairway landings and entry points.

Exterior flatwork adjacent to structures that is relatively sensitive to movement, such as entry areas, should be overexcavated and provided with underslab fill of the same type and to the same depth as for the building slabs. Based on discussions with the design team, we understand that the generator pad may be sensitive to movement. We recommend the generator slab subgrade be overexcavated and provided with underslab fill of the same type and to the same depths as the building slabs. We also understand that the trash enclosure slabs

Less sensitive areas of flatwork, such as sidewalks away from doorways and flatwork away from buildings, may be prepared the same as pavement subgrade areas as recommended below.

LATERAL EARTH PRESSURES

Retaining structures should be designed for the lateral earth pressure generated by the backfill materials, which is a function of the degree of rigidity of the retaining structure and the type of backfill material used. Retaining structures that are laterally supported and can be expected to

undergo only a moderate amount of deflection, such as basement or vault walls, should be designed for a lateral earth pressure based on the following equivalent at-rest fluid pressures:

CDOT Class 1 (<20% passing No. 200 Sieve)	55 pcf
Imported, non-expansive, silty, or clayey sand	65 pcf
On-site, moisture-conditioned clay backfill*	70 pcf

* Swell potential less than 2%

Cantilevered retaining structures that can be expected to deflect sufficiently to mobilize the full active earth pressure condition should be designed for the following equivalent fluid pressures:

CDOT Class 1 (<20% passing No. 200 Sieve)	40 pcf
Imported, non-expansive, silty, or clayey sand	45 pcf
On-site, moisture-conditioned clay backfill*	55 pcf

* Swell potential less than 2%

Passive pressure against the sides of the retaining structures can be calculated using an equivalent fluid unit weight of 190 pcf.

The equivalent fluid pressures recommended above assume drained conditions behind retaining structures and a horizontal backfill surface. The buildup of water behind a retaining structure or an upward sloping backfill surface will increase the lateral pressure imposed on the retaining structure. All retaining structures should also be designed for appropriate surcharge pressures such as traffic, construction materials and equipment.

The zone of backfill placed behind retaining structures to within 2 feet of the ground surface should be sloped upward from the base of the structure at an angle no steeper than 45 degrees measured from horizontal. To reduce surface water infiltration into the backfill, the upper 2 feet of the backfill should consist of a relatively impervious imported soil containing at least 30% passing the No. 200 sieve, or the backfill zone should be covered by a slab or pavement structure.

Backfill should be compacted to at least 95% of the standard Proctor (ASTM D698) maximum dry density at moisture contents within 2 percentage points of optimum for granular materials and

between +2 and +5 percentage points of optimum for clay materials. Care should be taken not to over compact the backfill since this could cause excessive lateral pressure on the wall. Hand compaction procedures, if necessary, should be used to prevent lateral pressures from exceeding the design values.

SEISMIC DESIGN CRITERIA

The Colorado Front Range is in a low seismic activity area. The soil profile will generally consist of relatively stiff overburden soils overlying claystone bedrock and sandstone bedrock. It is assumed that the bedrock materials extend to depths greater than 100 feet. The overburden soils classify as Site Class C in accordance with International Building Code (IBC), which references ASCE 7 for Seismic Site Class determination. The bedrock at the site will also classify as Site Class C. Based on our experience with similar profiles (including shear wave velocities measured for similar subsurface profiles), and the weighted average of estimated shear wave velocities calculated for the upper 100 feet of the site, we recommend a design soil profile of IBC Site Class C. Based on site seismicity, the subsurface profile, and the depth to groundwater, liquefaction is not a design consideration.

SURFACE DRAINAGE

Proper surface drainage is very important for acceptable performance of the building during construction and after the construction has been completed. Drainage recommendations provided by local, state, and national entities should be followed based on the intended use of the structures. The following recommendations should be used as guidelines and changes should be made only after consultation with the geotechnical engineer.

1. Excessive wetting or drying of the foundation and slab subgrades should be avoided during construction.

2. Exterior backfill should be adjusted to near optimum moisture content (generally between optimum and +3% of optimum unless indicated otherwise in the report) and compacted to at least 95% of the ASTM D 698 (standard Proctor) maximum dry density. Backfill material should meet the requirements stated in the “Site Grading” section of the report.

3. Care should be taken when compacting around the foundation walls and underground structures to avoid damage to the structure. Hand compaction procedures, if necessary, should be used to prevent lateral pressures from exceeding the design values.

4. The ground surface surrounding the exterior of the building should be sloped to drain away from the foundation in all directions. We recommend a minimum slope of 12 inches in the first 10 feet in unpaved areas. Site drainage beyond the 10-foot zone should be designed to promote runoff and reduce infiltration. A minimum slope of 3 inches in the first 10 feet is recommended in the paved areas. These slopes may be changed as required for handicap access points in accordance with the Americans with Disabilities Act.

5. The upper 1 to 2 feet of the backfill should be relatively impervious material compacted as recommended above to limit infiltration of surface runoff.

6. Ponding of water should not be allowed in backfill material of in a zone within 10 feet of the foundation walls, whichever is greater.

7. Roof downspouts and drains should discharge well beyond the limits of all backfill.

8. Landscaping which requires relatively heavy irrigation and lawn sprinkler heads should be located at least 10 feet from foundation walls. Irrigation schemes are available which allow placement of lightly irrigated landscape near foundation walls in moisture sensitive soil areas. Drip irrigation heads with main lines located at least 10 feet from the foundation walls are acceptable provided irrigation quantities are limited.

9. Plastic membranes should not be used to cover the ground surface adjacent to foundation walls.

SITE GRADING

Permanent Cut Slopes: Permanent unretained cuts in the overburden soils less than 10 feet in height should be sloped to 3 horizontals to 1 vertical, although flatter slopes may be desired due to erosion and revegetation considerations. The risk of slope instability will be significantly increased if seepage is encountered in cuts. If seepage is encountered in permanent

excavations, an investigation should be conducted to determine if the seepage will adversely affect the cut stability. Based on our understanding of the maximum depths anticipated for site grading, it does not appear that slope instability due to groundwater seepage will typically be a concern. However, it could be of concern regarding temporary stability in deep excavations for site utilities.

Permanent Fills and Embankments: Fill slopes up to 10 feet in height can be used if the fill slopes do not exceed 3 horizontals to 1 vertical and the fills are properly compacted and drained. The ground surface underlying all fills should be carefully prepared by removing all organic matter, scarification to a depth of 12 inches and compacting to 95% of the standard Proctor maximum dry density at a moisture content near optimum to provide a uniform base for fill placement. Fills should be benched into cuts exceeding 4 horizontals to 1 vertical.

Good surface drainage should be provided around all permanent cuts and fills to direct surface runoff away from the slope faces. Fill slopes, cut slopes and other stripped areas should be protected against erosion by revegetation or other methods.

Temporary Excavations: For temporary excavations that occur during site grading, the natural clays and claystone bedrock classify as OSHA Type B soil. All excavations should be constructed in accordance with the applicable OSHA regulations. If groundwater is encountered, the geotechnical engineer should be notified so that additional recommendations can be provided, if necessary.

Material Specifications: The following recommendations for material specifications are presented for new fills on the project site. A geotechnical engineer should evaluate the suitability of all proposed import fill material, if required, for the project prior to placement.

1. Structural Fill Beneath Buildings: Fill placed beneath the building should consist of imported non-expansive fill material in the upper 5 feet and on-site overburden fill below that depth. Imported non-expansive material should contain 20 to 80 percent passing the No. 200 sieve, have a maximum liquid limit of 35 and a maximum plasticity index of 12. Also, the swell potential of non-expansive fill materials when remolded to 95% of the

standard Proctor (ASTM D 698) maximum dry density at optimum moisture content should be less than 1% when wetted under a 200 psf surcharge pressure.

2. Pavement Subgrade: The upper 3 feet of pavement subgrade fill should consist of moisture conditioned on-site overburden soils.

3. Pipe Bedding Material: Pipe bedding material should be a free draining, coarse grained sand and/or fine gravel.

4. Utility Trench Backfill: Material excavated from the utility trenches may be used for backfill provided it does not contain unsuitable material or particles larger than 4 inches.

5. Material Suitability: It is the intent of the recommendations provided herein to use the on-site soils as part of the structural fill material required on the site.

   All fill material should be free of vegetation, brush, sod, and other deleterious substances and should not contain rocks, debris or lumps having a diameter of more than 4 inches. Rocks, debris, or lumps should be dispersed throughout the fill and "nesting" of these materials should be avoided. The geotechnical engineer should evaluate the suitability of proposed import fill materials prior to placement.

Compaction Specifications: We recommend the following compaction criteria be used on the project:

1. Moisture Content: Fill materials should be compacted as outlined below with moisture contents of +/- 2 percent for granular soils and between 2 and 5 percentage points above optimum moisture for clayey soils. The on-site soils may become somewhat unstable and deform under wheel loads if placed near the upper end of the recommended moisture range, so the upper 2 feet of pavement subgrade fill should be placed towards the lower end of this range.

2. Degree of Compaction: The following compaction criteria should be followed during construction:

AREA	MINIMUM PERCENTAGE OF STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D 698)
Underslab Fill More than 5 Feet Below Slab Subgrade Elevation	98%
Underslab Fill less than 5 Feet Beneath Building Floor Slabs	95%
Fills Beneath Pavements and Exterior Flatwork	95%
Utility Trenches	95%
Foundation Wall Backfill	95%

3. A representative of the geotechnical engineer should observe fill placement on a full-time basis.

UNDERDRAIN SYSTEM

Discussion of the necessity of a subsurface (underdrain) system is discussed in the "Geotechnical Considerations" section of this report. The criteria presented below should be followed.

The base of the zone of subexcavation should be sloped to provide positive drainage towards the perimeter of the zone of subexcavation.

An underdrain system should consist of a drain around the perimeter of the zone of subexcavation and keyed at least 1 foot into the underlying materials below the lowest elevation of the underslab fill layer. Free-draining granular material used in the drain system should contain less than 5% passing the No. 200 sieve, less than 30% passing the No. 4 sieve and have a maximum size of 2 inches.

The drain lines should consist of perforated, rigid, drain pipe placed in the bottom of a trench around the perimeter of the zone of subexcavation and surrounded above the invert level with free draining granular material. The free-draining granular material should extend at least 1 foot below and 7 feet above the base of the subexcavation zone. The entire drainage trench should be wrapped with a geotextile fabric to prevent migration of fines from the surrounding soil into the drainage material. The drain lines should be graded to sumps or gravity outlet at a minimum slope of ½%. Sumps should be provided with alarms in the event pumping equipment malfunctions.

Standby pump capacity should be provided in the event of pump failure. We also believe an overdesigned pump capacity is desirable in the event groundwater conditions change.

PAVEMENT DESIGN

A pavement section is a layered system designed to distribute concentrated traffic loads to the subgrade. Performance of the pavement structure is directly related to the physical properties of the subgrade soils and traffic loadings. Pavement design procedures are based on strength properties of the subgrade and pavement materials assuming stable, uniform conditions. Soils are represented for pavement design purposes by means of a soil support value for flexible pavements and a modulus of subgrade reaction for rigid pavements. Both values are empirically related to strength.

Subgrade Materials: Based on the results of the field and laboratory studies, most of the near surface subgrade materials at the site classify as A-6 and A-7-6 soils with group indices between 2 and 23 in accordance with the American Association of State Highway and Transportation Officials (AASHTO) classification system. Soils classifying as A-6 and A-7-6 are generally considered to provide poor subgrade support. A soil support value of 3,025 psi was selected for flexible pavements. A corrected modulus of subgrade reaction of 40 pci was selected for rigid pavements

Design Traffic: Since anticipated traffic loading information was not available at the time of report preparation, an equivalent 18-kip daily load application (EDLA) of 5 was assumed for automobile and light truck traffic areas and an EDLA of 10 was assumed for areas that will be accessed by multi-unit trucks as well as fire lanes elsewhere on the site.

Pavement Design: The following table presents the minimum pavement thickness recommendations for this development.

Paved Area	Full Depth Asphalt (inches)	Composite Section Asphalt/ABC (inches)	PCCP (inches)
Light Duty	6.0	4.0 / 8.0	6.0

Heavy Duty	6.5	4.5 / 8.0	7.0
Fire Truck Access Drives	---	---	8.0

ABC – Aggregate Base Course
PCCP – Portland Cement Concrete Pavement

Fire truck access drives where truck turning movements are concentrated should be paved with 8 inches of Portland Cement Concrete with #4 rebar spaced at 24 inches on center. The concrete pavement should contain sawed or formed joints to ¼ of the depth of the slab at a maximum distance of 12 feet on center.

The above PCCP thicknesses are presented as un-reinforced slabs. If heavy vehicular loading will occur in certain areas, we recommend that dowels be provided at transverse and longitudinal joints within the slabs located in the travel lanes of heavily loaded vehicles, loading docks and areas where truck turning movements are likely to be concentrated. Additionally, curbs and/or pans should be tied to the slabs. The dowels and tie bars will help minimize the risk for differential movements between slabs to assist in more uniformly transferring axle loads to the subgrade. The current CDOT *"Standard Specifications for Road and Bridge Construction"* provides some guidance on dowel and tie bar placement, as well as in the Standard Plans: M&S Standards. The proper sealing and maintenance of joints to minimize the infiltration of surface water is critical to the performance of PCCP, especially if dowels and tie bars are not installed.

Pavement Materials: The following are recommended material and placement requirements for pavement construction for this project site. We recommend that properties and mix designs for all materials proposed to be used for pavements be submitted for review to the geotechnical engineer prior to placement.

1. *Aggregate Base Course*: Aggregate base course (ABC) used beneath hot mixed asphalt (HMA) pavements should meet the material specifications for Class 6 ABC stated in the current Colorado Department of Transportation (CDOT) *"Standard Specifications for Road and Bridge Construction"*. The ABC should be placed and compacted as outlined in the Site Grading section of this report.

2. *Hot Mix Asphalt:* Hot mix asphalt (HMA) materials and mix designs should meet the applicable requirements indicated in the current CDOT *"Standard Specifications for Road and Bridge Construction."* We recommend that the HMA used for this project is designed in accordance with the Super Pave gyratory mix design method. The mix should generally meet Grading S or SX specifications with a Super Pave gyratory design revolution (N_{DESIGN}) of 75. The mix design for the HMA should use a performance grade PG 58-28 asphalt binder. Placement and compaction of HMA should follow current CDOT standards and specifications.

3. *Portland Cement Concrete*: Portland cement concrete pavement (PCCP) should meet Class P specifications and requirements in the current CDOT *"Standard Specifications for Road and Bridge Construction."* Rigid PCCP is more sensitive to distress due to movement resulting from settlement or heave of the underlying base layer and/or subgrade than flexible asphalt pavements.

Subgrade Preparation: The pavement subgrade within 3 feet of the subgrade elevation should be properly moisture conditioned and compacted as outlined in the "Site Grading" section of this report. Prior to placing the pavement section, the entire subgrade area should be thoroughly plowed and well mixed to a minimum depth of 12 inches, adjusted to a moisture content within 0 to +3 percentage points of optimum and compacted to 95% of the standard Proctor maximum dry density. The pavement subgrade should be proofrolled with a heavily loaded pneumatic-tired vehicle. Pavement design procedures assume a stable subgrade. Areas which deform excessively under heavy wheel loads are not stable and should be removed and replaced to achieve a stable subgrade prior to paving. Areas of existing fill may also require deeper removal and replacement if they are either unstable or not well compacted.

Drainage: The collection and diversion of surface drainage away from paved areas is extremely important to the satisfactory performance of pavement. Drainage design should provide for the removal of water from paved areas and prevent the wetting of the subgrade soils.

DESIGN AND CONSTRUCTION SUPPORT SERVICES

Kumar & Associates, Inc. should be retained to review the project plans and specifications for conformance with the recommendations provided in this report. We are also available to assist the design team in preparing specifications for geotechnical aspects of the project and, if necessary, perform additional studies to accommodate any changes in the proposed construction.

We recommend that Kumar & Associates, Inc. be retained to provide construction observation and testing services to document that the intent of this report and the requirements of the plans and specifications are being followed during construction. This will allow us to identify possible variations in subsurface conditions from those encountered during this study and to allow us to re-evaluate our recommendations, if needed. We will not be responsible for implementation of the recommendations presented in this report by others, if we are not retained to provide construction observation and testing services.

LIMITATIONS

This study has been conducted for exclusive use by the client for geotechnical related design and construction criteria for the project. The conclusions and recommendations submitted in this report are based upon the data obtained from the exploratory borings at the locations indicated on Fig. 1 or as described in the report, and the proposed type of construction. This report may not reflect subsurface variations that occur between the exploratory borings, and the nature and extent of variations across the site may not become evident until site grading and excavations are performed. If during construction, fill, soil, rock, or water conditions appear to be different from those described herein, Kumar & Associates, Inc. should be advised at once so that a re-evaluation of the recommendations presented in this report can be made. Kumar & Associates, Inc. is not responsible for liability associated with interpretation of subsurface data by others.

Swelling soils occur on this site. Such soils are stable at their natural moisture content but will undergo high volume changes with changes in moisture content. The extent and amount of perched water beneath the building site because of area irrigation and inadequate surface drainage is difficult, if not impossible, to foresee.

The recommendations presented in this report are based on current theories and experience of our engineers on the behavior of swelling soil in this area. The owner should be aware that there is a risk of constructing a building in an expansive soil area. Following the recommendations given by a geotechnical engineer, careful construction practice and prudent maintenance by the owner can, however, decrease the risk of foundation movement due to expansive soils.

JAH/ER
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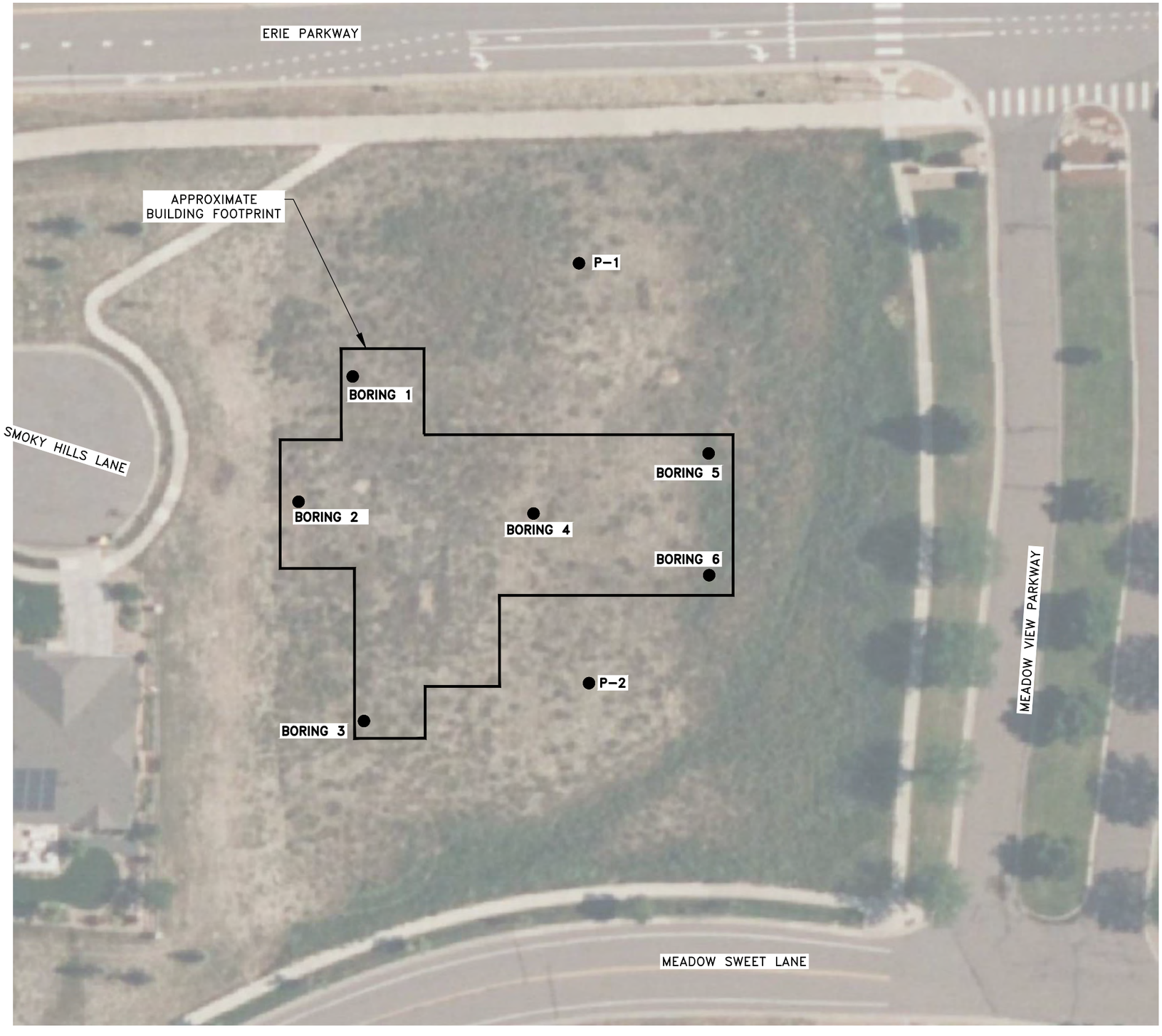

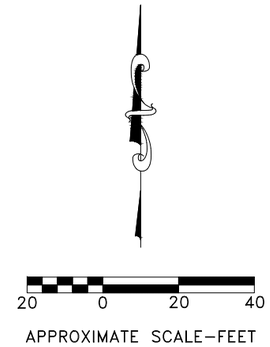

APPROXIMATE SCALE–FEET

VICINITY MAP
NOT TO SCALE

24–3–115	Kumar & Associates	MOUNTAIN VIEW FIRE STATION – ERIE	LOCATION OF EXPLORATORY BORINGS	Fig. 1

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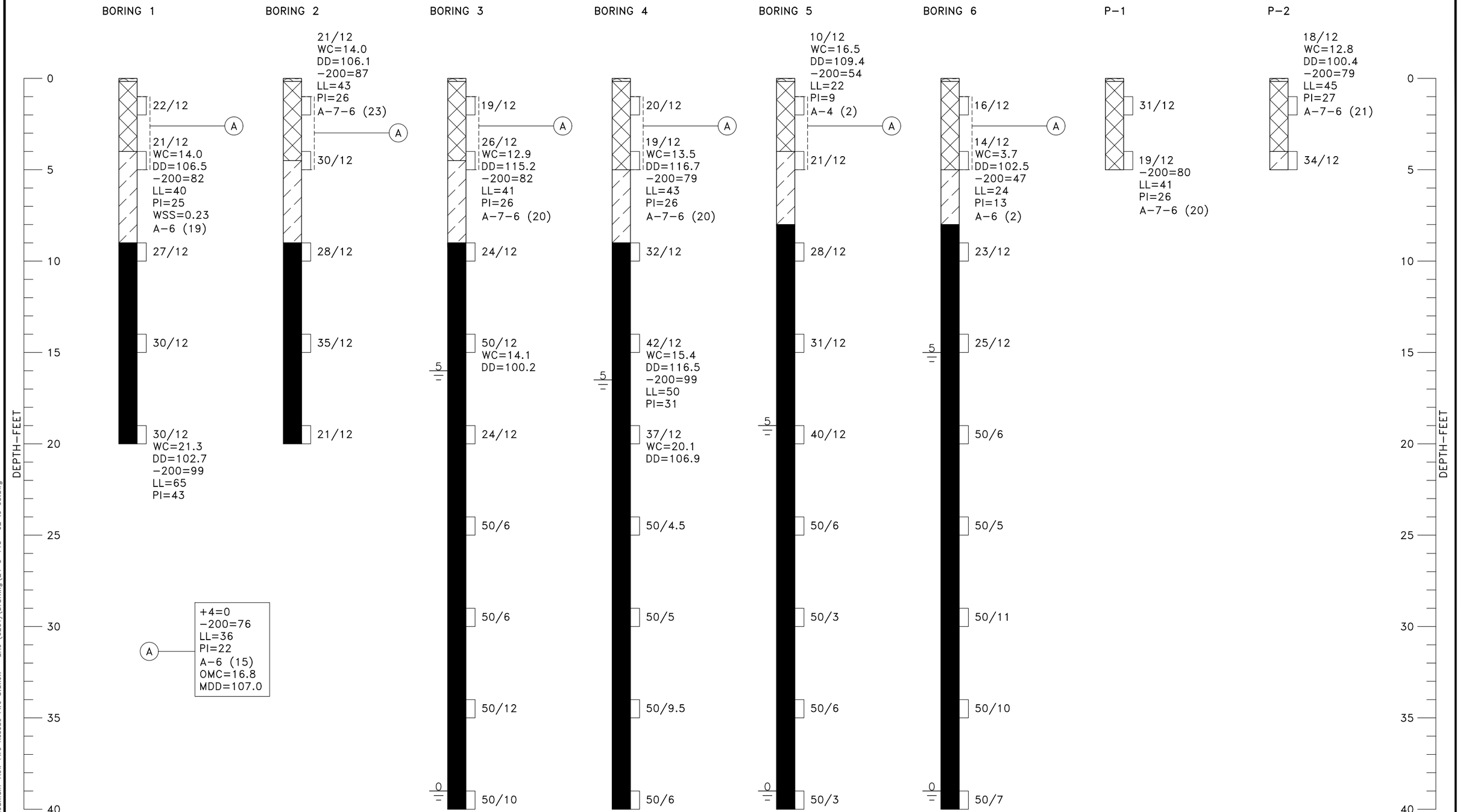

24-3-115	Kumar & Associates	MOUNTAIN VIEW FIRE STATION – ERIE	LOGS OF EXPLORATORY BORINGS	Fig. 2

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LEGEND

TOPSOIL.

FILL: LEAN CLAY (CL) TO CLAYEY SAND (SC) WITH CLAYSTONE BEDROCK FRAGMENTS, FINE TO COARSE GRAINED SAND FRACTION, SLIGHTLY MOIST TO MOIST, BROWN TO GRAY.

LEAN CLAY WITH SAND (CL) TO SANDY LEAN CLAY (CL), WITH OCCASIONAL LENSES OF CLAYEY SAND (SC), FINE TO COARSE GRAINED SAND FRACTION, MEDIUM STIFF TO VERY STIFF, MOIST, BROWN TO LIGHT BROWN.

CLAYSTONE BEDROCK WITH OCCASIONAL SANDSTONE BEDROCK INTERBEDS, FINE TO MEDIUM GRAINED, FIRM TO VERY HARD, MOIST, BROWN TO GRAY.

DRIVE SAMPLE, 2-INCH I.D. CALIFORNIA LINER SAMPLE.

22/12 DRIVE SAMPLE BLOW COUNT. INDICATES THAT 22 BLOWS OF A 140-POUND HAMMER FALLING 30 INCHES WERE REQUIRED TO DRIVE THE SAMPLER 12 INCHES.

DEPTH TO WATER LEVEL AND NUMBER OF DAYS AFTER DRILLING MEASUREMENT WAS MADE.

NOTES

1. THE EXPLORATORY BORINGS WERE DRILLED ON APRIL 1 AND 4, 2024 WITH A 4-INCH-DIAMETER CONTINUOUS-FLIGHT POWER AUGER.

2. THE LOCATIONS OF THE EXPLORATORY BORINGS WERE MEASURED APPROXIMATELY BY HANDHELD GPS DEVICE.

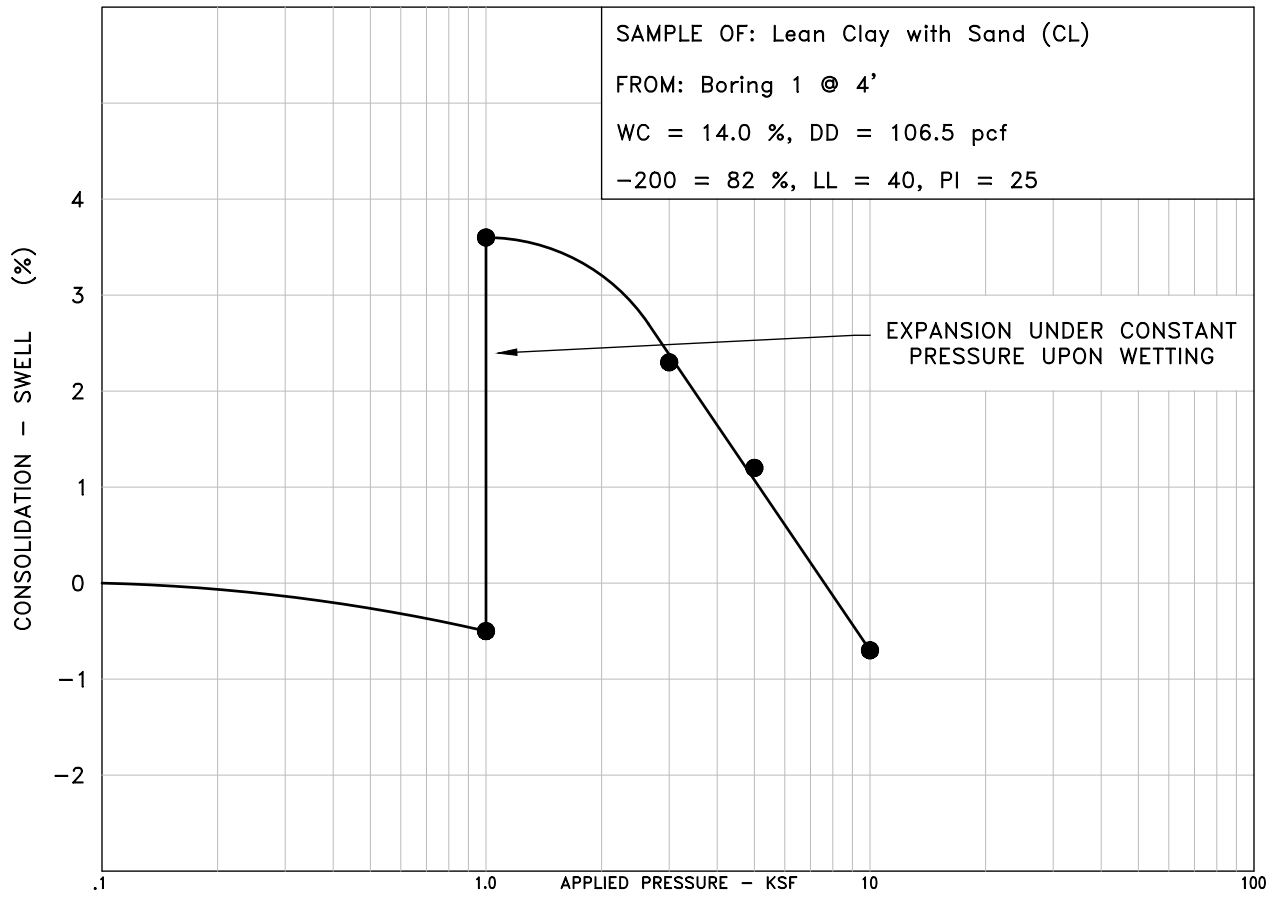
3. THE ELEVATIONS OF THE EXPLORATORY BORINGS WERE NOT MEASURED AND THE LOGS OF THE EXPLORATORY BORINGS ARE PLOTTED TO DEPTH.

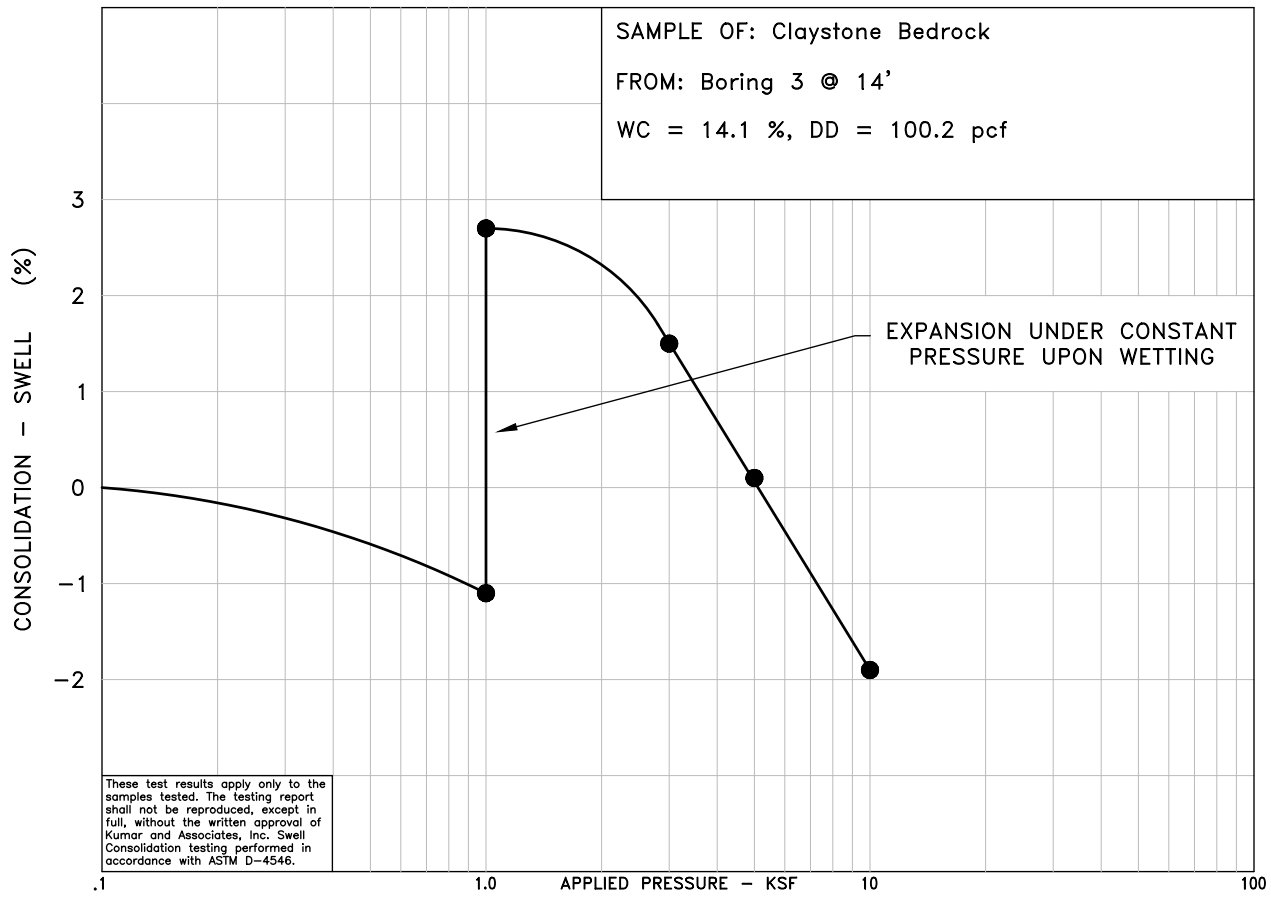
4. THE EXPLORATORY BORING LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

5. THE LINES BETWEEN MATERIALS SHOWN ON THE EXPLORATORY BORING LOGS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES AND THE TRANSITIONS MAY BE GRADUAL.

6. GROUNDWATER WAS NOT ENCOUNTERED IN THE BORINGS AT THE TIME OF DRILLING.

7. LABORATORY TEST RESULTS:
   WC = WATER CONTENT (%) (ASTM D2216);
   DD = DRY DENSITY (pcf) (ASTM D2216);
   +4 = PERCENTAGE RETAINED ON NO. 4 SIEVE (ASTM D6913);
   -200= PERCENTAGE PASSING NO. 200 SIEVE (ASTM D1140);
   LL = LIQUID LIMIT (ASTM D4318);
   PI = PLASTICITY INDEX (ASTM D4318);
   WSS = WATER SOLUBLE SULFATES (%) (CP-L 2103);
   A-6 (19) = AASHTO CLASSIFICATION (GROUP INDEX) (AASHTO M 145);
   OMC = OPTIMUM MOISTURE CONTENT (%) (ASTM D698);
   MDD = MAXIMUM DRY DENSITY (pcf) (ASTM D698).





These test results apply only to the samples tested. The testing report shall not be reproduced, except in full, without the written approval of Kumar and Associates, Inc. Swell Consolidation testing performed in accordance with ASTM D-4546.

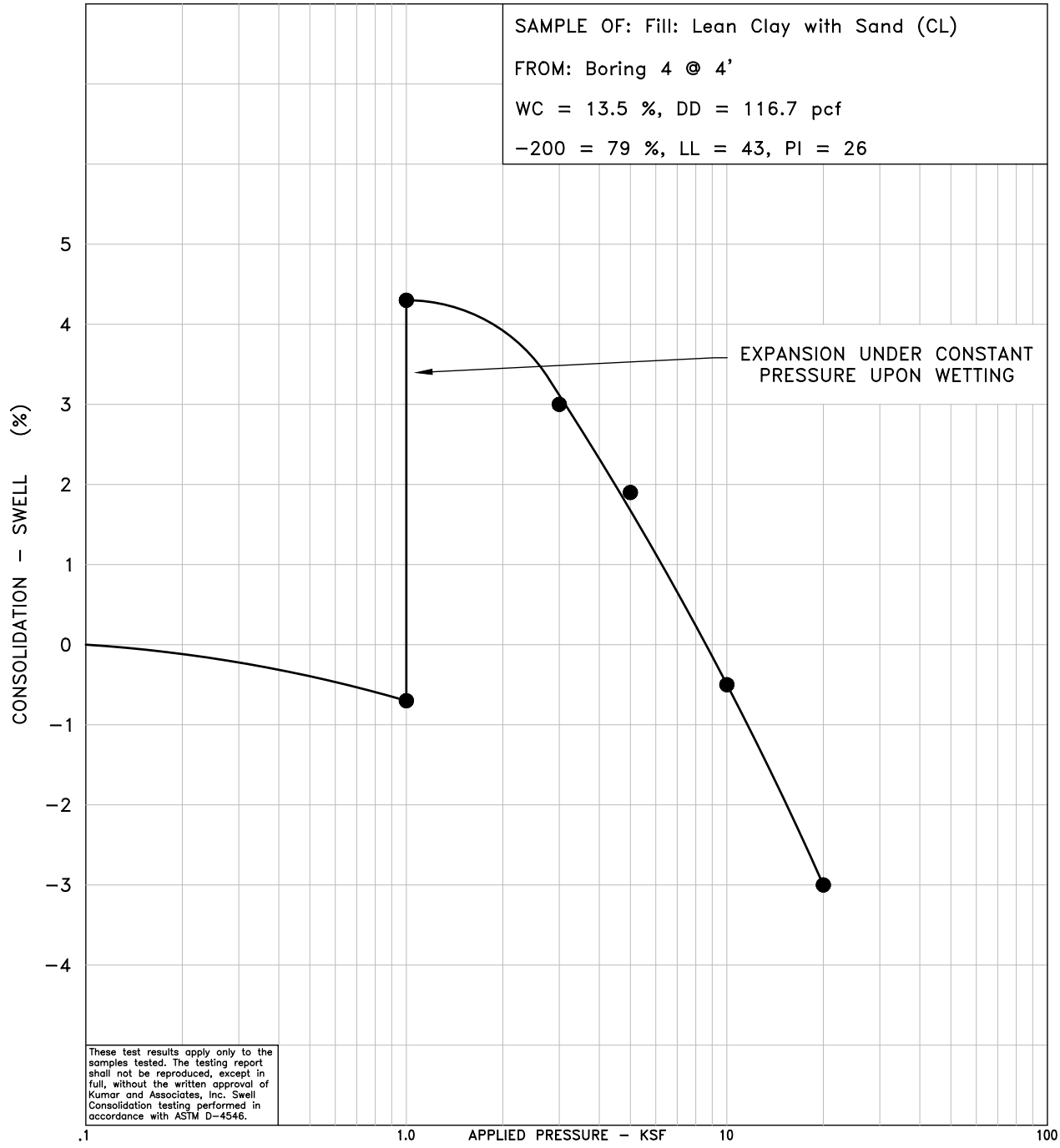
24-3-115	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULTS	Fig. 4

SAMPLE OF: Fill: Lean Clay with Sand (CL)

FROM: Boring 4 @ 4'

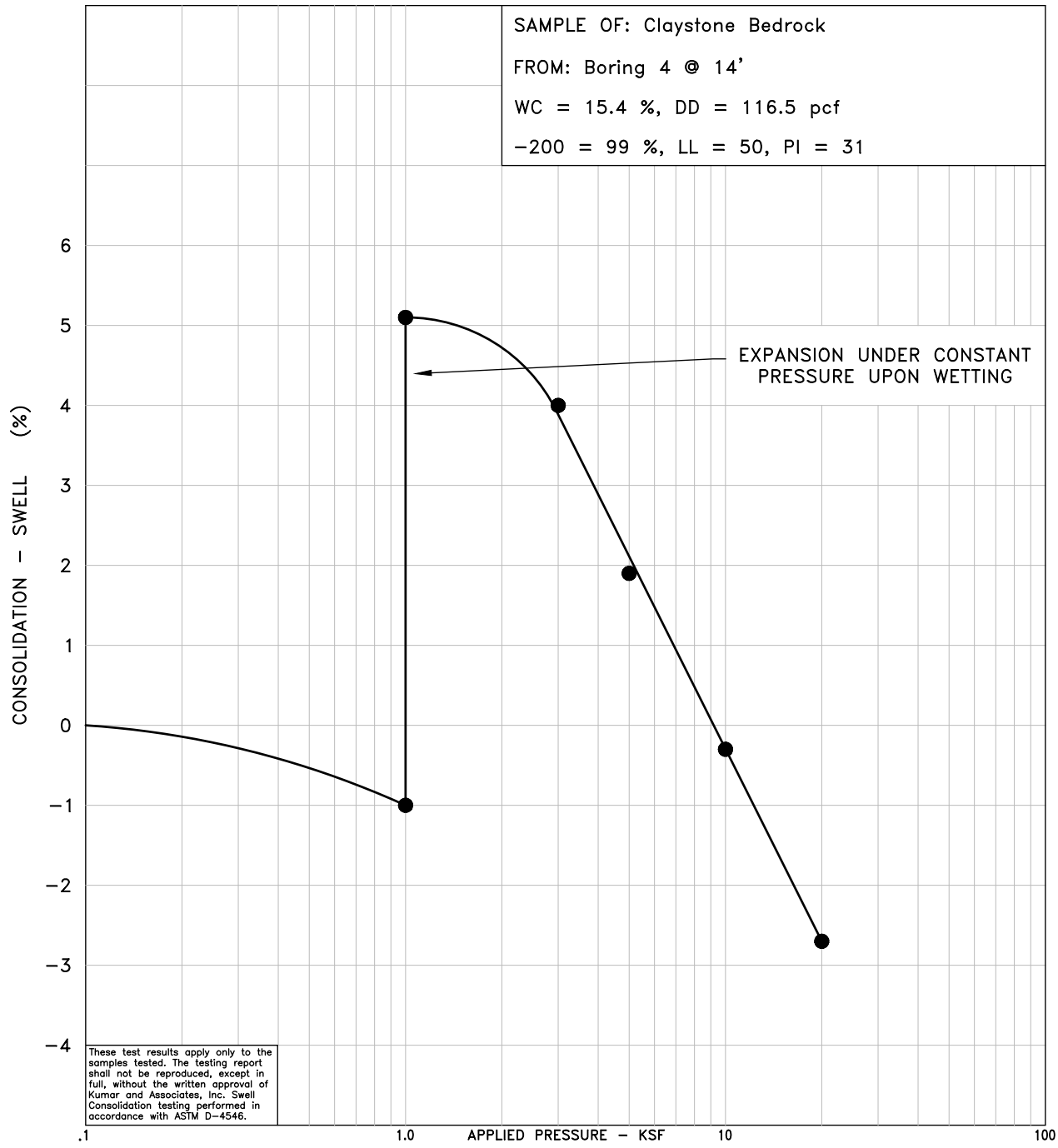
WC = 13.5 %, DD = 116.7 pcf

−200 = 79 %, LL = 43, PI = 26



These test results apply only to the samples tested. The testing report shall not be reproduced, except in full, without the written approval of Kumar and Associates, Inc. Swell Consolidation testing performed in accordance with ASTM D−4546.

24−3−115	Kumar & Associates	SWELL−CONSOLIDATION TEST RESULT	Fig. 5

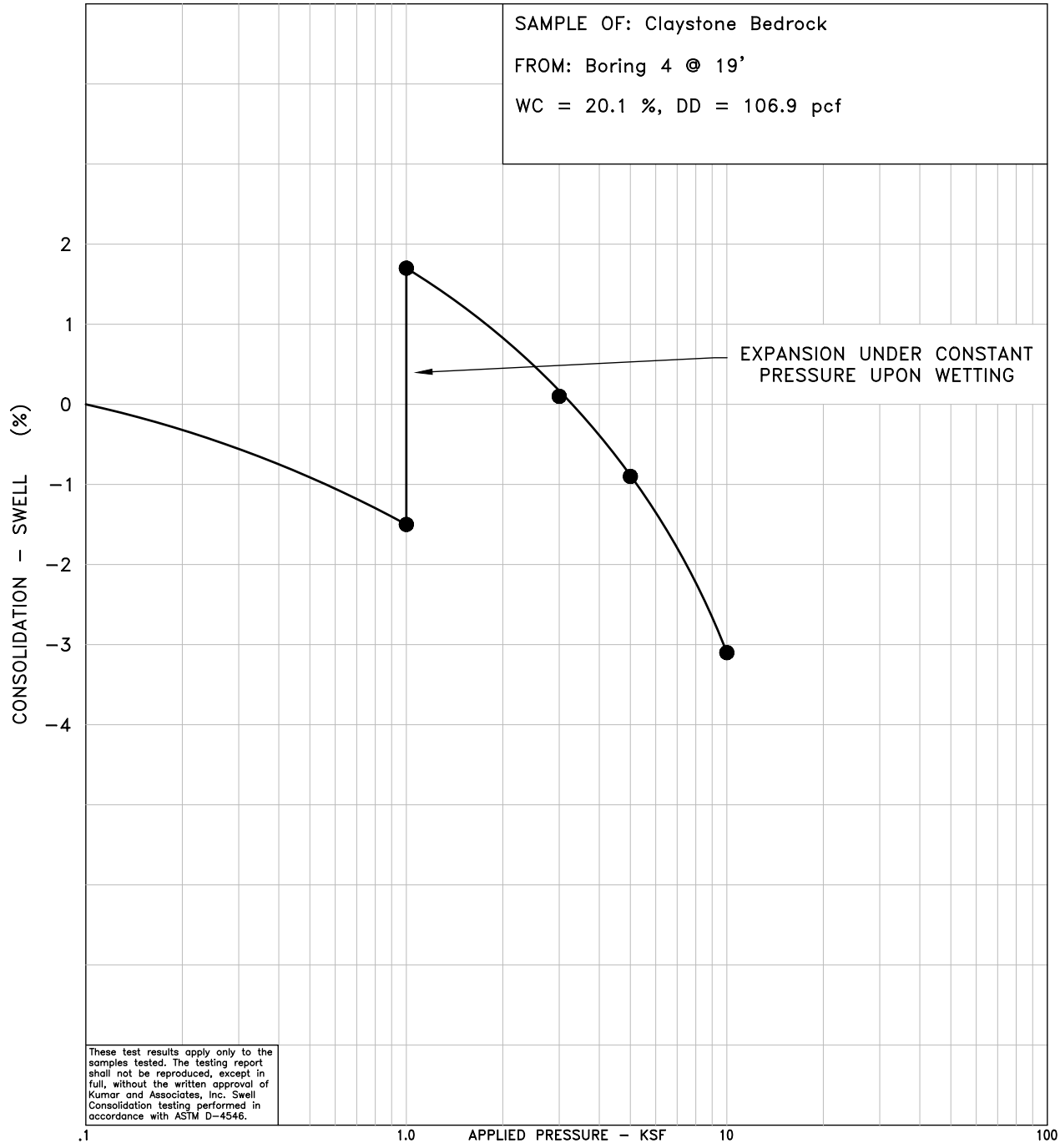


24-3-115	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULT	Fig. 6

SAMPLE OF: Claystone Bedrock

FROM: Boring 4 @ 19'

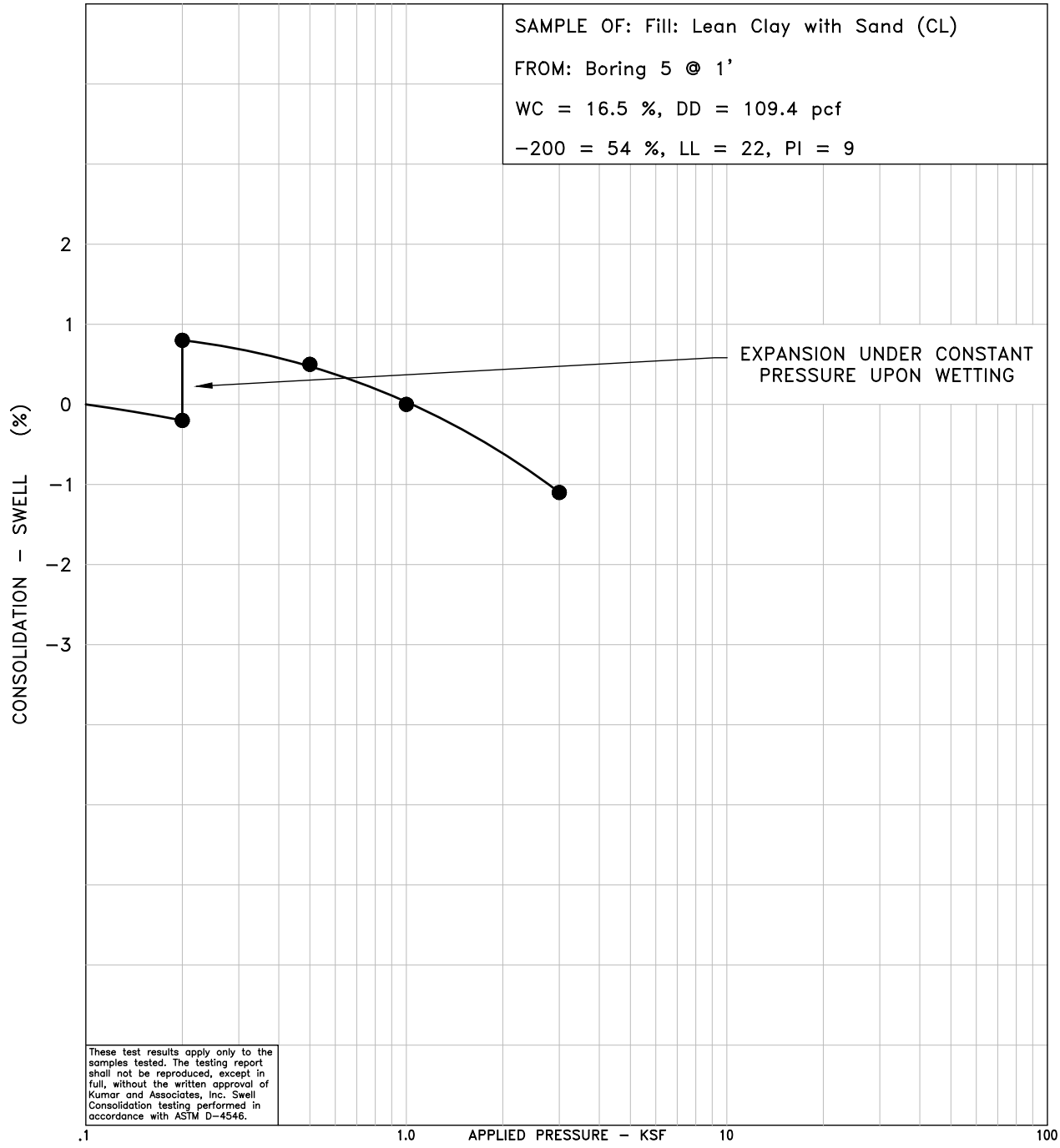
WC = 20.1 %, DD = 106.9 pcf



These test results apply only to the samples tested. The testing report shall not be reproduced, except in full, without the written approval of Kumar and Associates, Inc. Swell Consolidation testing performed in accordance with ASTM D-4546.

24-3-115	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULT	Fig. 7

April 12, 2024 - 11:33am
V:\Projects\2024\24-3-115 Mountain View Fire Rescue Fire Station - Erie (GEOT)\Drafting\24-3-115 -04 to 10.dwg



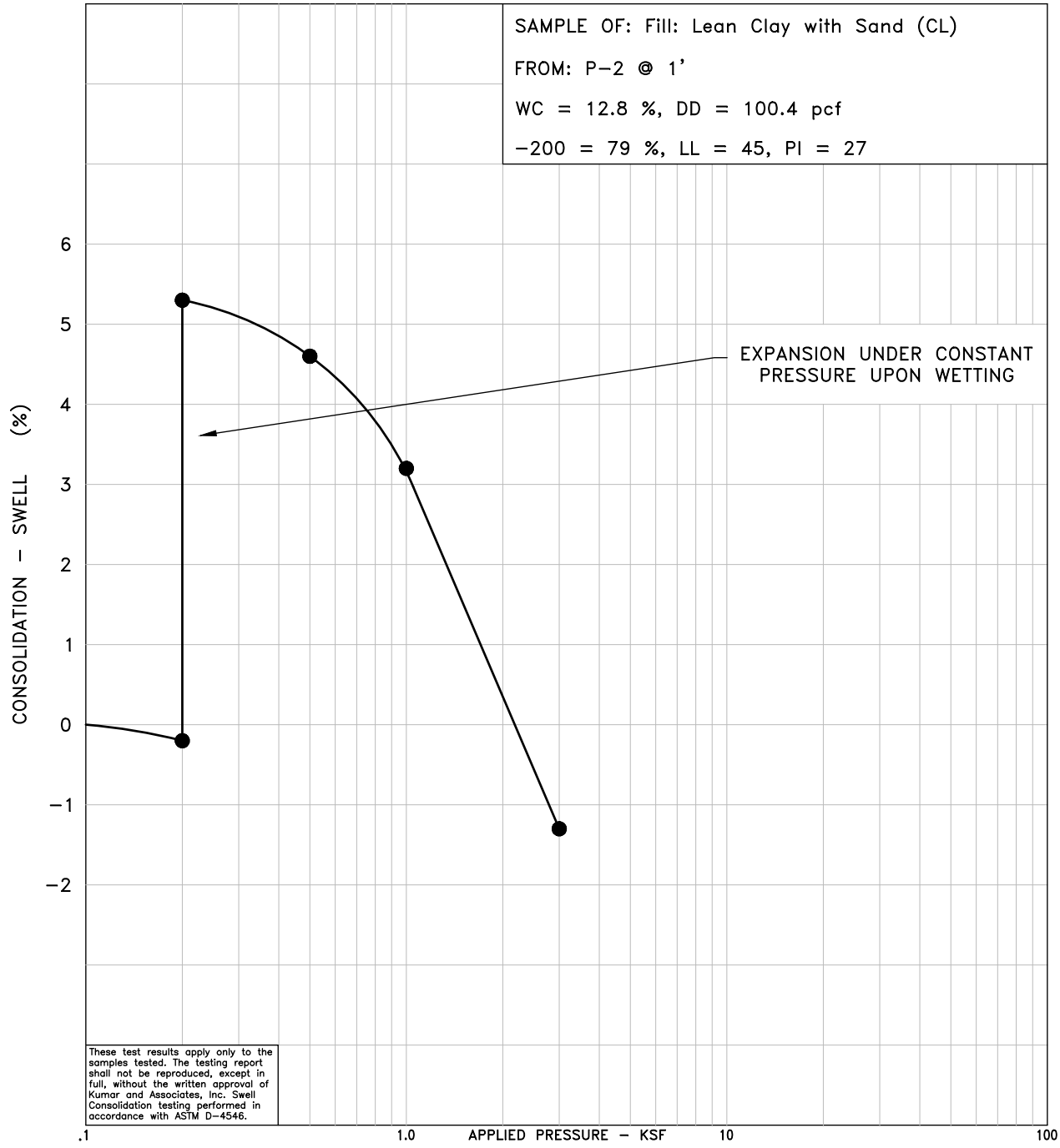
24-3-115	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULT	Fig. 8

SAMPLE OF: Fill: Lean Clay with Sand (CL)

FROM: P-2 @ 1'

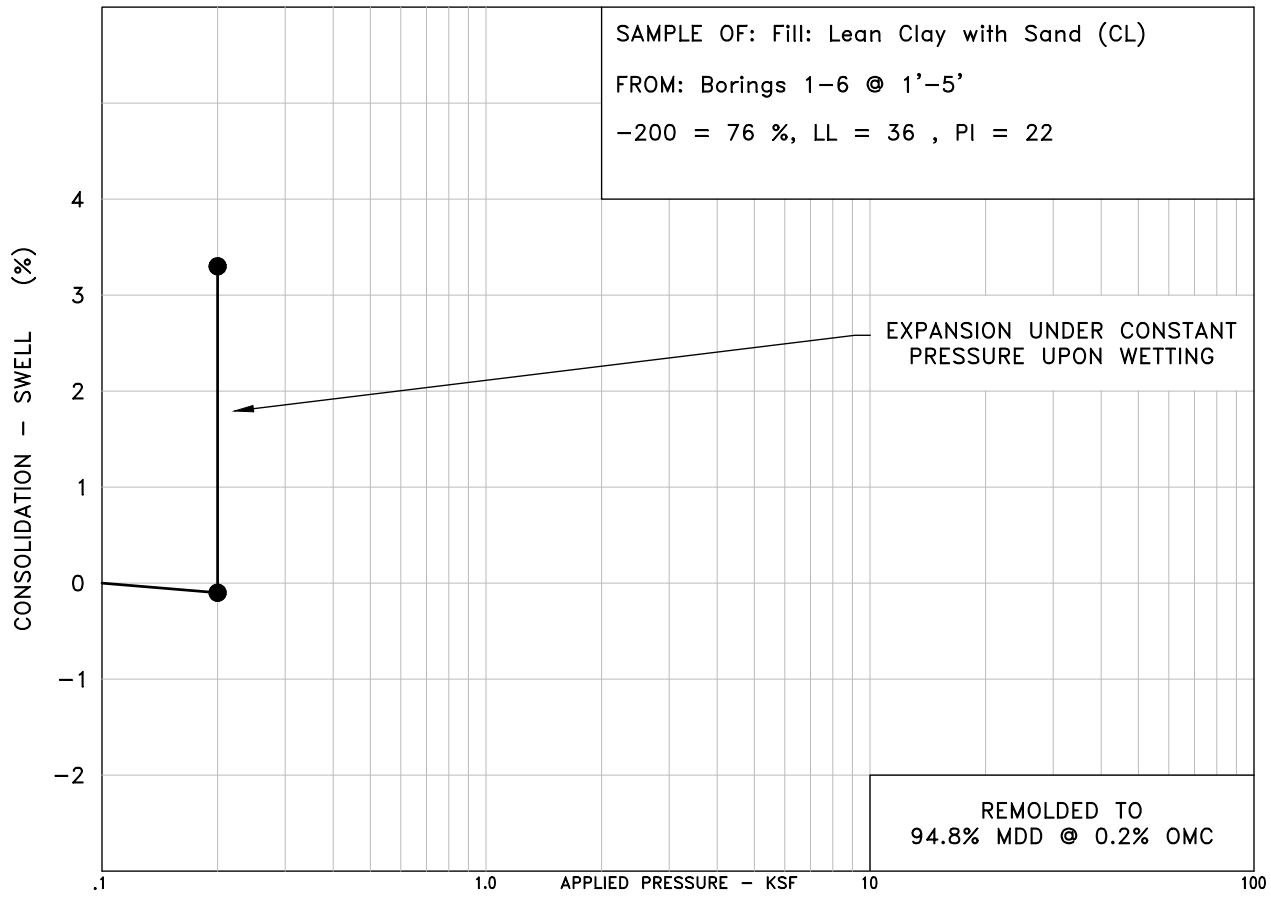
WC = 12.8 %, DD = 100.4 pcf

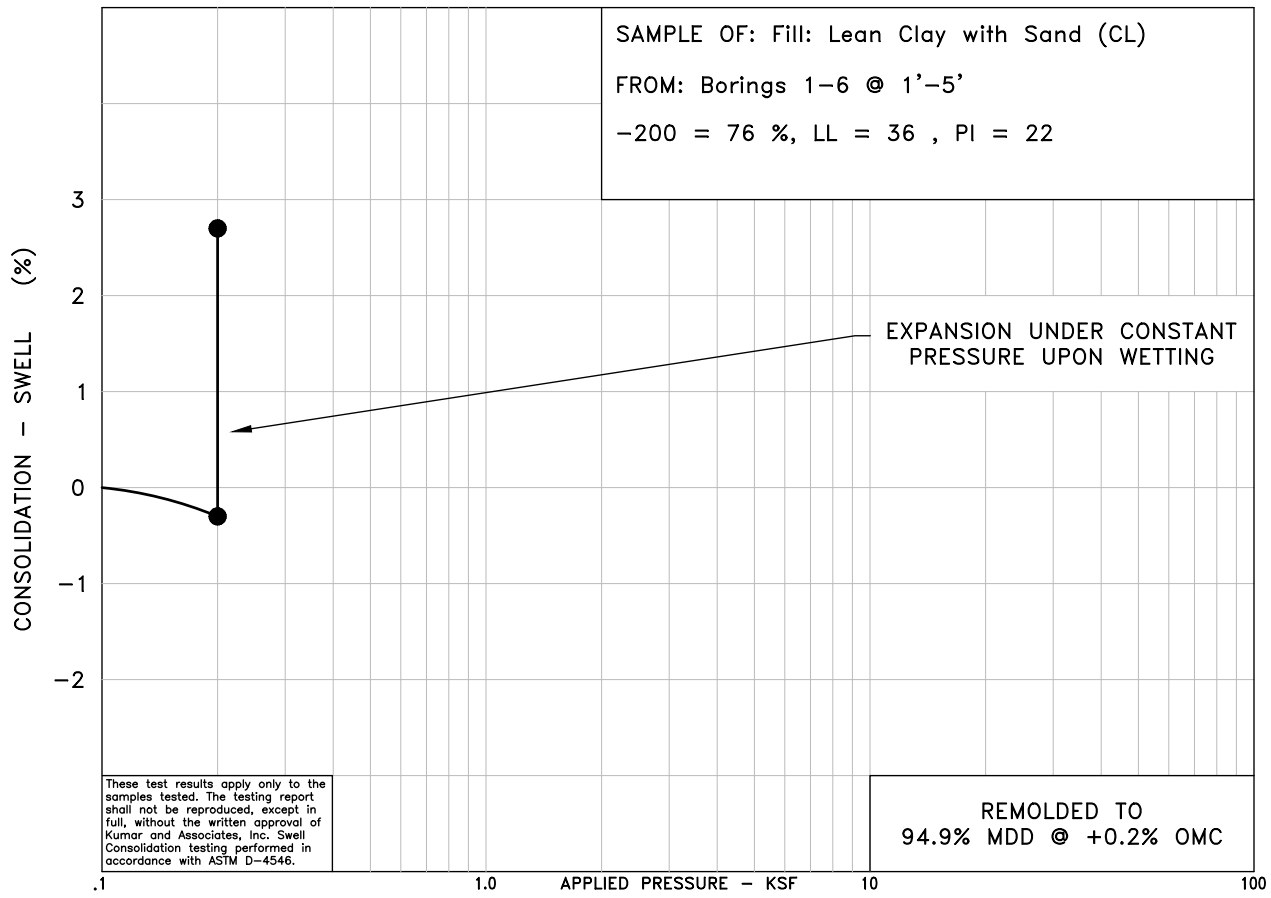
-200 = 79 %, LL = 45, PI = 27



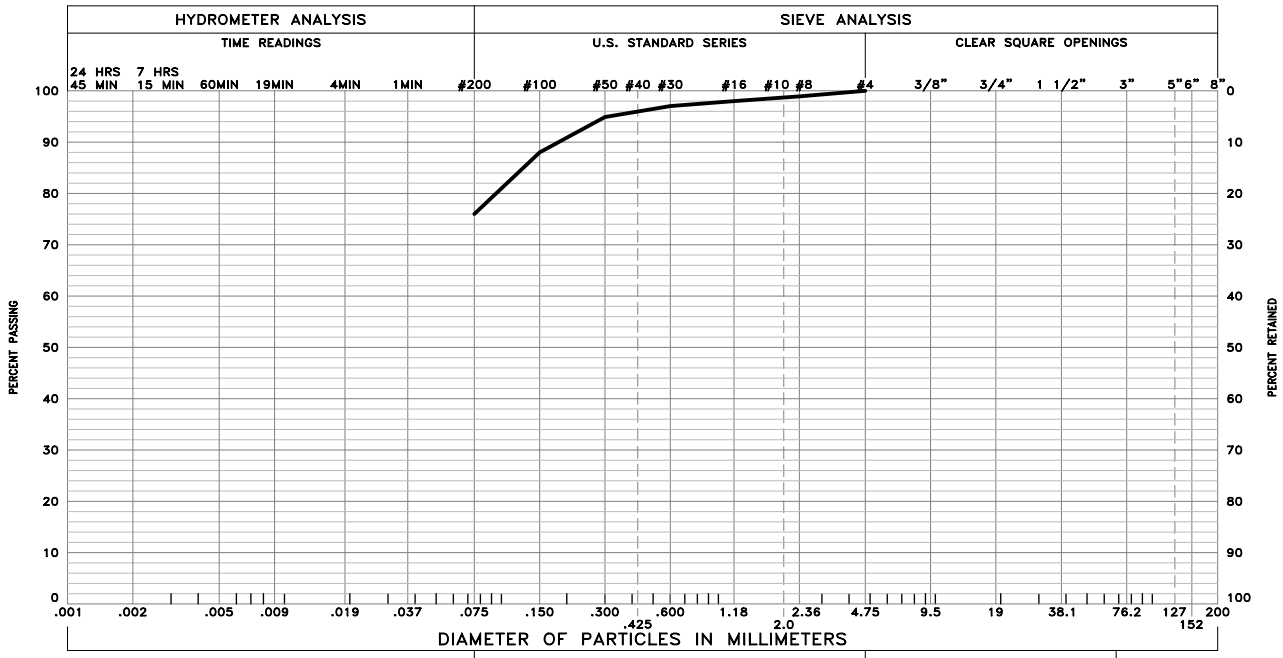
These test results apply only to the samples tested. The testing report shall not be reproduced, except in full, without the written approval of Kumar and Associates, Inc. Swell Consolidation testing performed in accordance with ASTM D-4546.

24-3-115	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULT	Fig. 9





24-3-115	Kumar & Associates	REMOLDED SWELL-CONSOLIDATION TEST RESULTS	Fig. 10



GRAVEL 0 % SAND 24 % SILT AND CLAY 76 %

LIQUID LIMIT 36 PLASTICITY INDEX 22

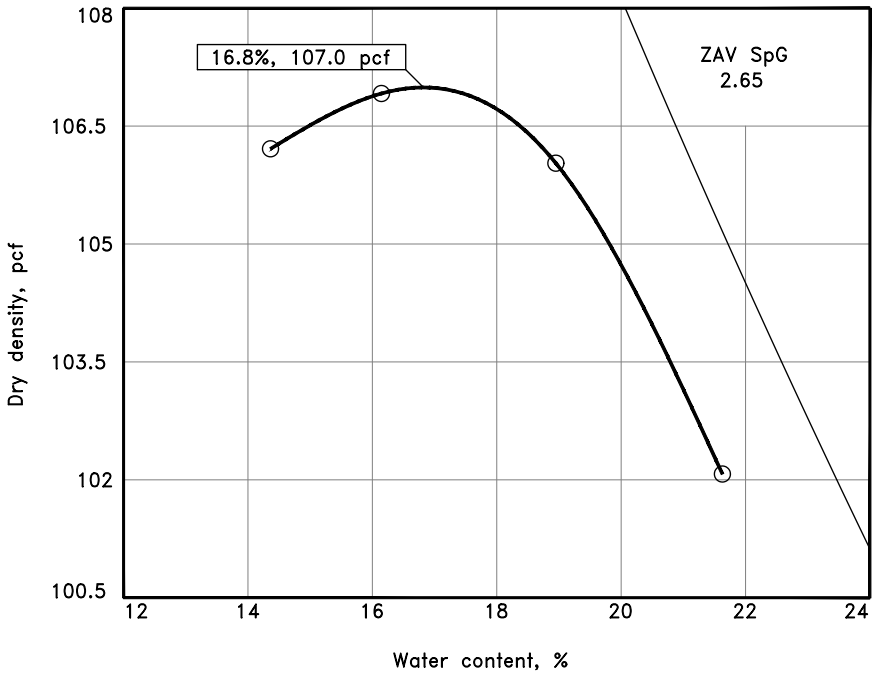
SAMPLE OF: Fill: Lean Clay with Sand (CL) FROM: Borings 1 through 6 @ 1'–5'

These test results apply only to the samples which were tested. The testing report shall not be reproduced, except in full, without the written approval of Kumar & Associates, Inc. Sieve analysis testing is performed in accordance with ASTM D6913, ASTM D7928, ASTM C136 and/or ASTM D1140.

24–3–115	Kumar & Associates	GRADATION TEST RESULTS	Fig. 11

COMPACTION TEST REPORT

Curve No. 3099



Preparation Method

Rammer: Wt. 5.5 lb. Drop 12 in.

Type manual

Layers: No. three Blows per 25

Mold Size 0.03334 cu. ft.

Test Performed on Material

Passing #4 Sieve

%>#4 0 %<No.200 76

Atterberg (D 4318): LL 36 PI 22

NM (D 2216) Sp.G. (D 854) 2.65

USCS (D 2487) CL

AASHTO (M 145) A-6(15)

Date: Sampled 4/1/24

Received 4/2/24

Tested 4/3/24

Tested By SA

COMPACTION TESTING DATA
ASTM D 698-12 Method A Standard

	1	2	3	4	5	6
WM + WS	3985.2	4026.2	4055.6	4025.8		
WM	2148.3	2148.3	2148.3	2148.3		
WW + T #1	1000.8	954.0	1012.6	920.3		
WD + T #1	915.3	847.6	902.1	790.4		
TARE #1	320.0	188.6	319.0	189.8		
WW + T #2						
WD + T #2						
TARE #2						
MOIST.	14.4	16.1	19.0	21.6		
DRY DENS.	106.2	106.9	106.0	102.1		

SIEVE TEST RESULTS
ASTM D 422 ASTM D 1140

Opening Size	% Passing	Specs.
#4	100	
#8	99	
#16	98	
#30	97	
#50	95	
#100	88	
#200	76	

TEST RESULTS

Maximum dry density = 107.0 pcf

Optimum moisture = 16.8 %

Material Description

Fill: Lean Clay with Sand (CL)

Project No. 24-3-115 Client: Wember

Project: Mountain View Fire-Erie

○ Location: Borings 1 through 6 at 1-5 ft Sample Number: 3099

Remarks:

These test results apply only to the samples which were tested. the testing report shall not be reproduced, except in full, without the written approval of Kumar and Associates, Inc. Moisture/density relationships performed in accordance with ASTM D698, D1557. Atterberg limits performed in accordance with ASTM D4318 sieve analysis performed in accordance with ASTM D422, D1140.

Checked by: JH

Title: Lab Deputy

24-3-115	Kumar & Associates	MOISTURE-DENSITY RELATIONSHIPS	Fig. 12

Table I
Summary of Laboratory Test Results

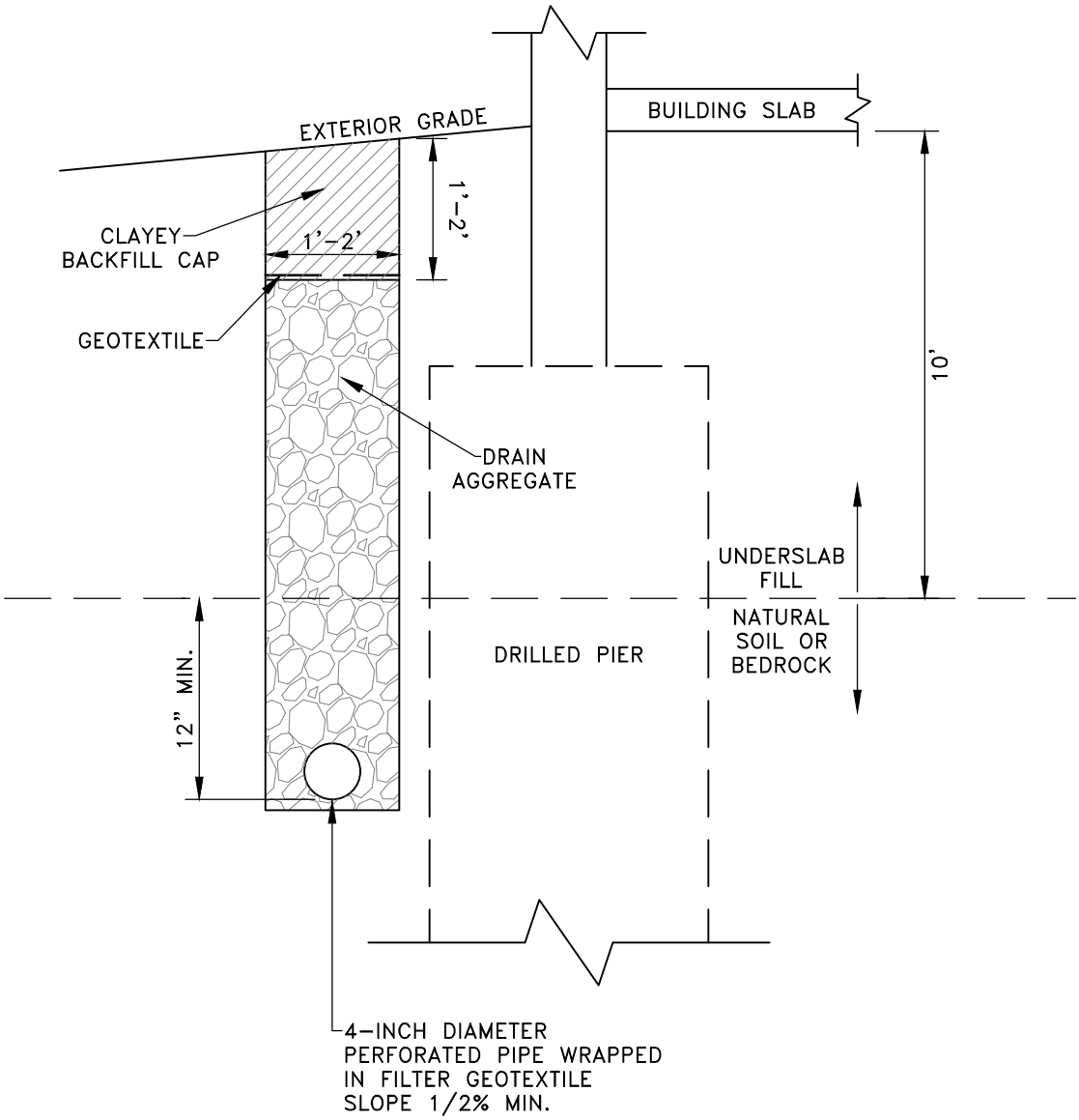
Project No.: 24-3-115
Project Name: Mountain View Fire Station-Erie
Date Sampled: April 1 and 4, 2024
Date Received: April 1 and 9, 2024

Sample Location		Date Tested	Natural Moisture Content (%)	Natural Dry Density (pcf)	Gradation		Percent Passing No. 200 Sieve	Atterberg Limits		Water Soluble Sulfates (%)	AASHTO Classification (Group Index)	Soil or Bedrock Type
Boring	Depth (Feet)				Gravel (%)	Sand (%)		Liquid Limit (%)	Plasticity Index(%)			
1	4	4/4/24	14.0	106.5			82	40	25	0.23	A-6 (19)	Lean Clay with Sand (CL)
1	19	4/4/24	21.3	102.7			99	65	43			Claystone Bedrock
2	1	4/4/24	14.0	106.1			87	43	26		A-7-6 (23)	Fill: Lean Clay (CL)
3	4	4/4/24	12.9	115.2			82	41	26		A-7-6 (20)	Fill: Lean Clay with Sand (CL)
3	14	4/4/24	14.1	100.2								Claystone Bedrock
4	4	4/4/24	13.5	116.7			79	43	26		A-7-6 (20)	Fill: Lean Clay with Sand (CL)
4	14	4/4/24	15.4	116.5			99	50	31			Claystone Bedrock
4	19	4/4/24	20.1	106.9								Claystone Bedrock
5	1	4/4/24	16.5	109.4			54	22	9		A-4 (2)	Fill: Lean Clay with Sand (CL)
6	4	4/4/24	3.7	102.5			47	24	13		A-6 (2)	Fill: Clayey Sand (SC)
P-1	4	4/4/24					80	41	26		A-7-6 (20)	Fill: Lean Clay with Sand (CL)
P-2	1	4/4/24	12.8	100.4			79	45	27		A-7-6 (21)	Fill: Lean Clay with Sand (CL)
1-6	1-5	4/4/24	16.8*	107.0*	0	24	76	36	22		A-6 (15)	Fill: Lean Clay with Sand (CL)

* - Optimum moisture content and maximum dry density as determined by standard Proctor (ASTM D 698)

APPENDIX A

CONCEPTUAL EXTERIOR PERIMETER DRAIN DETAIL



TYPICAL DETAIL - NORTH HALF OF ACTIVITIES CENTER BUILDING

(NOT TO SCALE)

24-3-115	Kumar & Associates	CONCEPTUAL EXTERIOR PERIMETER DRAIN DETAIL	Fig. A1