CITY OF Fort Lupton EST 1836

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PLANNING COMMISSION

Planning Commission Agenda
Regular Meeting
Fort Lupton City Hall – 130 S. McKinley Ave.
Thursday, February 13, 2020
6:00 P.M.
(Order & Contents Subject to Change by Action of the Commission)

Call to Order – Roll Call

Approval of Agenda

Consent Agenda – Consent Agenda items are considered to be routine and will be enacted by one motion and vote. There will be no separate discussion of Consent Agenda items unless a Commission member so requests, in which case the item may be removed from the Consent Agenda and considered at the end of the Consent Agenda.

a. Approval of the Minutes of the January 23, 2020 Meeting

Public Comment – This portion of the Agenda is provided to allow members of the audience to present comments to the Planning Commission related to items not otherwise listed on the Agenda.

Action Items

b. **P2020-006: Fulton Ranch Sketch PUD Plat**

Discussion Items

c. Review of Meeting Discussion
d. Development Code Update

Future Business

e. Planning Commission Meeting on Thursday, March 26, 2020 at 6:00 PM

Adjourn

MINUTES

RECORD OF PROCEEDINGS
FORT LUPTON PLANNING COMMISSION
January 23, 2020

The Planning Commission of the City of Fort Lupton met in session at the City Complex, 130 South McKinley Avenue, the regular meeting place of the Planning Commission, on Thursday, January 23, 2020. Chair Mike Simone called the meeting to order at 6:02 p.m.

ROLL CALL

Roll was taken and those present were Chair Mike Simone, Vice-Chair Bushrod White and Commission Members Lynne Derby, Kathy Kvasnicka, Thomas Meyers, and Paul Weber. Also in attendance was Planning Director Todd Hodges, City Planner II Alyssa Knutson, and Planning Technician Stephanie Darnell.

APPROVAL OF AGENDA

Chair Simone called for a motion to approve the agenda. Vice-Chair Bushrod White moved to approve the agenda, it was seconded by Member Paul Weber.

Motion carried unanimously by voice vote.

CONSENT AGENDA

Chair Simone called for a motion to approve the consent agenda. It was moved by Vice-Chair Bushrod White and it was seconded by Member Lynne Derby.

Motion carried unanimously by voice vote.

PUBLIC COMMENT

The Chair asked if anyone from the audience was present to make comments not otherwise related to the agenda. Seeing none, the public comment portion was closed at 6:03 p.m.

ACTION ITEMS

Fort Lupton Fire District Station 3 Site Plan

City Planner II Alyssa Knutson introduced the project and stated that the Fire District is proposing a third fire station at the corner of County Road 8 and South Rollie Avenue, situated just north of Halliburton. She stated that the zoning is I-2 Heavy Industrial and the use complies with that zoning. She stated that the project requires a site plan, and everything is in compliance. She stated that all notification requirements have been met and there was a representative present to give a brief presentation and answer any questions.

Fire Chief Phil Tiffany with the Fort Lupton Fire District, 1121 Denver Ave, Fort Lupton, CO 80621, stated that the third fire station has been in the works for about three years. He stated that the Fire District is seeing a need for a third station due to growth, and the number of

calls. He stated that in the next few years, the demand will be there for a full fire station running out of the proposed area. He stated that there is a lot of development in the south portion of their district and they think the new fire station can help to facilitate additional growth. He stated that the Fire District has always looked toward the future and tries to be prepared to not fall behind in the development and growth pattern. He stated that the project stems from a master plan that was conducted in 2009 that projected this area or location be the next location for a fire station. He stated that they project the fire station would be fully in service by about July 2021 and it would be fully staffed with a staff of three or four fire fighters 24 hours a day, 7 days per week. He stated that the fire station will house an engine, water tender, and a brush truck. He stated that the fire station will be approximately 13,500 square feet and have three bays. He stated that the size of the station would allow for growth if they were to move in an ambulance or additional staff. He stated that the location allows for great access to Highway 85, and the east and west boundaries of the district, and in addition to allow aide to the neighboring towns. He stated that they have also received a million dollar Department of Local Affairs (DOLA) grant to assist in the construction of the station, and that should be finalized within the next week or two. He concluded by stating that their architect group is also available to answer the technical questions of the project, and the Fire District feels this is a very good project for the entire community.

Chair Simone opened the Public Hearing to public comments at 6:06 p.m.

Dallas Horton, no address given, stated that he lives up near Windsor, and that he owns the land surrounding the area that will be discussed later for the Wade projects. Mr. Horton asked what the total cost of the project was, and how much would be supplemented from the DOLA grant.

Chair Simone asked if anyone else would like to speak; seeing no one, he closed the public comments portion at 6:07 p.m.

Fire Chief Tiffany stated that currently there is not an exact cost for the project, but the estimated cost is about $380.00 to $500.00 per square foot. He stated that project would be out for formal proposal as soon as there are further steps in the process. He stated they are estimating the cost to be around $6,500,000.00.

Chair Simone asked the Commissioners if they had any questions; seeing no one, he requested a motion to approve Resolution P2020-003. It was moved by Vice-Chair Bushrod White and it was seconded by Member Paul Weber.

Motion carried by unanimous voice vote.

Wade Annexation & Initial Zoning

Planning Director Todd Hodges introduced the project and stated that the submittal was for an annexation and initial zoning along the stretch at County Road 19 and County Road 24,

with a land use application following the annexation application. He stated that the site is 2.85 acres and is proposed to be zoned Agricultural, which is consistent with the surrounding uses. He stated that the site is contiguous to the County Road 24 annexation from prior. He stated that notifications were sent and the site was posted. He concluded by stating the applicant representative was present to give a presentation and answer any questions.

Kelsey Bruxvoort with AGPROfessionals, 3050 67th Avenue, Greely, CO 80634, stated they were representing the applicant, Jacqueline Wade. She stated that the applicant is requesting the annexation of 2.85 acres with an Agricultural zone designation. She stated that the site is located adjacent to the Terra Constructors parcel, and in close proximity to the Ten Eyck-Campbell parcel along County Road 24. She stated that, as with the other lots, this annexation request meets the annexation and zoning requirements. She stated that districts and services are adequate and unchanged, with the exception of police protection, which will be provided by the Fort Lupton Police, rather than the Weld County Sheriff. She concluded by stating that, as agreed by staff, they have met the standards for annexation and zoning, and ask for recommendation of approval.

Chair Simone opened the Public Hearing to public comments at 6:11 p.m.; seeing no one he closed the public comments portion at 6:11 p.m.

Mr. Horton wished to address the board on the layout of the lot.

Chair Simone stated without objection, he would reopen the public comment portion of the hearing at 6:12 p.m.

Mr. Horton stated that his property is just south of the site. He stated that right near the property line, he has his turkey barn where he has cattle. He stated they believed they have already worked something out, but he needs a little notch of land to allow his feed truck to pull out and turn around and go back in the building. He stated that he is unsure of the distance, but he needs to be at least 100 feet to do a U-turn with the feed truck.

Chair Simone asked if anyone would like to speak; seeing no one, he closed the public comments portion at 6:13 p.m.

Ms. Bruxvoort stated that the applicant is open to discussions of a potential easement.

Chair Simone asked the Commissioners if they had any questions; seeing no one, he requested a motion to approve Resolution P2020-004. It was moved by Member Paul Weber and it was seconded by Member Lynne Derby.

Motion carried by unanimous voice vote.

Chair Simone asked Mr. Hodges to explain what a special use permit was.

Mr. Hodges explained that a special use permit is not an allowed use by right, but would be considered under special review and would typically have conditions of approval. He stated that in the City of Fort Lupton special use permits are non-transferrable, so if someone were to purchase the property and take over the business, they would have to come to the City to discuss the option and potentially go through the special use review process again.

Wade Special Use Permit

Mr. Hodges introduced the project. He stated on the portion that was just annexed the 2.58 acre site would be zoned Agricultural if the application is successful. He stated that a vehicle repair and enhancement business would be located on the site. He stated that there are existing structures on the site that the applicant obtained when they purchased the property. He stated that the applicant has been working through Weld County to rectify some of the items that have come up. He stated that the applicant is operating within the site, and their options were to work through the County with a change of zone, or work with the City of Fort Lupton. He stated that with the prior annexation, it made sense for the site to come into the City with the City's new presence in the area. He stated that this is another commercial operation that the City believes through the review and approval process, and conditions being addressed, mitigation can be made. He stated that a lot of concern that the City heard prior to this application was during other projects; this site has been the focus of the annexation of County Road 24 when it was not part of the annexation project. He stated that this would be the time for anyone in objection to be present at the public hearing, or provide their comments in written or verbal form. He stated that referrals were sent out, the site was posted, and the conditions of approval adequately address the operation. He stated that if it is found that the operation cannot meet the conditions, or do not operate appropriately, then the City can revoke the special use permit. He concluded by commenting the special use permit is easier to reverse than a site plan since a special use is not a use by right. He concluded by stating that the applicant is present for any questions, and their representative will give a presentation.

Ms. Bruxvoort stated that the application was prepared with the adjacent residential uses in mind. She stated that the application contains their recommendations for the mitigation of potential noise and other nuisances. She stated that the recommendations were also included as conditions of approval in the resolution. She stated that the special use permit request is for PFI Speed to operate out of the existing shop. She stated that PFI Speed is a vehicle service business, including automotive dyno tuning, performance, mechanical, and custom fabrication services. She stated that the lot was created in 2018 when the site was split from the Butterball Turkey facility to the south, and Longmont Foods used the existing site as a fleet maintenance shop. She indicated to a concrete pad that used to have a turkey barn on it, but is now just a concrete pad. She stated that there are two existing access points, and some existing landscaping. She stated that the business primarily services vehicles that compete at sanctioned racing events, at venues like Bandimere Speedway. She stated that about 90% of the vehicles serviced would be racecars that are brought to the site on trucks, and about 10% of the vehicles serviced would be personal vehicles. She stated the PFI uses

a dyno to calibrate what modifications need to be made to cars to enhance their performance. She stated that light welding and metal fabrication will take place on site, but there would be no powder coating, spray painting, or vehicle washing.

Ms. Bruxvoort stated that PFI's primary business is offsite and they have an online business, which includes YouTube videos, merchandise sales, and competing in various events across the country. She stated that the goal of the online business is to share their knowledge, inspire young people, and promote their brand. She stated that PFI wishes to expand their online business and use their property less and less over time; they do not wish to be a full time service shop. She stated that representatives from PFI are present to explain their goals further after her presentation. She stated that the shop would be open from 9:00 a.m. to 7:00 p.m. Monday through Saturday, although typically they do not open until 11:00 a.m. She stated that there would be up to nine full-time employees, and tuning and fabrication would be by appointment only. She stated that business owners and employees may be on site after hours, but the noisy operations will be limited to business hours. She stated that PFI is often travelling for competitions or shooting YouTube videos off site, and the shop is closed when they are gone.

Ms. Bruxvoort then gave a brief description of what dyno tuning is and indicated to a standard dyno set up. She stated that a dyno measures vehicle performance in real time, displays the performance on screen, and grasps various data. She stated that there are mechanical rollers underneath the wheels and anchor straps that hold the car in place. She stated that the engine is revved, simulating driving scenarios and sensors test how the car performs during a simulation. She stated that typically an engine is revved for a period of 15 to 20 seconds at a time with 15 minutes in between tests. One of the great benefits of using a dyno is the elimination of the need for road testing. She stated that the dyno can simulate a race track without the vehicle ever having to drive on the road. She indicated to a picture that showed the existing building taken from the south with County Road 24 behind the building. She stated that there are ten bays for vehicle service and repair, and all the bay doors face south away from the properties along County Road 24. She stated that the shop is well equipped for PFI given the historical use of the building. She stated that Longmont Foods historically used the existing garage as a fleet maintenance building, and the service bays are accessed on the south side of the building. She stated that an office is proposed on the north side of the building with a new parking area and the office is expected to be similar in construction and character to the existing shop. She stated that a new six-foot solid wood fence is proposed around the front of the property and chain link fencing is proposed around the back. She stated that additional trees are proposed along County Road 24 to allow for additional screening and the vehicles brought in for service will be parked either within the building or to the south. She stated that the site is surrounded by similar uses: Terra Constructors, a recently approved special use permit for storage of construction equipment, is west of the site; Ten Eyck-Campbell parcels, which does vehicle repair and storage, is just east of the site; a Weld County Use by Right is just north of the property for an equestrienne facility; and there are also residential uses along County Road 24.

Ms. Bruxvoort continued that AGPROfessionals recognizes that dyno tuning does generate noise and that the operation of a business here does have impacts, so several recommendations have been included in preparation of the application to address those impacts. She stated that a noise mitigation report was prepared for the special use permit. She stated that PFI would be required to adhere to the residential noise standards as defined by State statute, which is 55 decibels during the day, and 50 decibels at night; this is measured at 25 feet from the property line. She stated that the greatest source of noise identified in the report is the revving of engines during the dyno tuning process. She stated this typically occurs at 15 second intervals with about four tests per hour during a busy day. She stated that given the current insulating factor of the building and the distance that sound travels as it leaves the property, the result is about 70 decibels at 25 feet from the nearest property line during those short bursts. She stated that just for reference, vehicles traveling on the nearby roadways would be at about 70 to 80 decibels. She indicated to a picture that reflected a 25-foot buffer around the property, and the nearest point on the property line affected by noise. She stated that the most effective method to control noise is to mitigate it at the source. She stated that the noise study recommended either adding additional insulation or installing custom dyno tuning test cells; both options would result in a significant reduction in sound leaving the property. She stated that PFI plans to add insulated partition walls to the bays where the dynos are located. In addition to the noise recommendation, PFI has agreed to limit their operation to 9:00 a.m. to 7:00 p.m. and to be closed on Sundays.

Ms. Bruxvoort continued by stating that a nuisance management plan was also prepared, and the outdoor lights will be shielded and down directional. She stated that PFI will be responsible for disposing of waste appropriately and dust mitigation. She stated that a sign is proposed at each access point; the signs will direct traffic to County Road 19 for north-south travel and will remind visitors not to rev engines, and be respectful of the neighborhood as they exit the property. She stated that a neighborhood meeting was held on December 3rd at the Fort Lupton Recreation Center; two neighbors attended, Roy and Debora Spitzer who live directly across the street. She stated that Mr. And Mrs. Spitzer's main concerns were noise and the current conditions of the roadways; it was stated that the repurposing of the building is beneficial given that the buildings have sat vacant for some time. She stated that Mr. and Mrs. Spitzer also mentioned that the limited hours of operation, and the proposed noise mitigation measures went a long way to mitigating their concerns. She stated that the meeting was also a good opportunity for PFI and the Spitzer's to exchange contact information and start a dialogue. She stated that, as agreed by staff, the request does meet the approval criteria, the current use is consistent with the historical use of the site, the use is consistent with the comprehensive plan and uses in the surrounding area. She added that the site can adequately support the use, and AGPRO believes that if PFI Speed implements the necessary site improvements and addresses the conditions of approval they can operate in compliance. She concluded by offering to take any questions the Commission may have.

Chair Simone opened the Public Hearing to public comments at 6:26 p.m.; seeing no one he closed the public comments portion at 6:27 p.m.

Member Paul Weber asked if the dyno is going to be in the center bay and they are considering having sound insulating walls put in.

Ms. Bruxvoort stated that was correct and it is a condition of approval.

Member Lynne Derby asked if the sound would be during business hours; 9:00 a.m. to 5:00 p.m.

Ms. Bruxvoort stated that the hours would be 9:00 a.m. to 7:00 p.m.

Chair Simone asked that usually things don't get started until 11:00 a.m.

Ms. Bruxvoort stated typically, yes.

Member Thomas Meyers asked that the average tests were four times a day.

Ms. Bruxvoort stated that on the busiest day, if PFI is operating the dyno, the tests will usually be about four times an hour; PFI could attest that wouldn't necessarily occur four times an hour every single day.

Chair Simone commented that the application was very good, and the noise mitigation was a very good step to rectify any issues with neighbors, as there were none present. He also commented that the reference of the decibel readings for traffic was similar to what was seen in the Halliburton application. He then asked if the bay door would be open when the dyno testing is happening.

Ms. Bruxvoort stated that it would not be open.

Mr. Hodges stated that typically if the hours of operation were agreed to with the adjacent property owners, then it should be added on the resolution to be a note on the map.

A brief discussion of the language of the note took place.

Ms. Knutson recommended the language under Section I. Subsection G. 5 "The Site shall maintain compliance with State residential noise standards, and dyno tuning shall be limited to 9:00 AM to 7:00 PM Monday through Saturday."

There was a general consensus of approval of the language is specific to noise mitigation, but allows for PFI to do work on Sunday.

Ms. Bruxvoort stated that they are agreeable to that change.

Chair Simone asked the Commissioners if they had any other questions; seeing no one, he requested a motion to approve Resolution P2020-005 with the friendly amendment from Ms. Knutson. It was moved by Vice-Chair Bushrod White and seconded by member Paul Weber.

Motion carried unanimously by voice vote.

DISCUSSION ITEMS

Review of Meeting Discussion

Chair Simone briefly discussed the expectations of the Planning Commission with the new Board members, the areas of the code to be familiar with, recusing, design standards, and potential training.

Discussion of the Ten Eyck Lot 2 Site Plan, and the Colorado Transmission & Diesel Special Use Permit took place.

Vice-Chair Bushrod White left the meeting at 6:44 p.m.

Development Code Update

This item was not discussed.

FUTURE BUSINESS

Next Meeting of the Planning Commission

The next meetings will be held Thursday, February 13, 2020 at 6:00 p.m.

ADJOURNMENT

It was moved by Member Paul Weber and seconded by Member Lynne Derby to adjourn the January 23, 2020 Planning Commission meeting at 6:47 p.m.

Motion carried unanimously by voice vote.

_____
Stephanie Darnell, Planning Technician

Approved by Planning Commission

_____

Mike Simone, Chair

FULTON RANCH SKETCH PUD PLAT

RESOLUTION P2020-006

RESOLUTION NO. P2020-006

A RESOLUTION OF THE PLANNING COMMISSION OF FORT LUPTON RECOMMENDING TO CITY COUNCIL APPROVAL OF THE FULTON RANCH SKETCH PUD PLAT TO CREATE A SINGLE LOT RESIDENTIAL SUBDIVISION LOCATED IN A PART OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO.

WHEREAS, the Planning Commission held a public hearing on February 13, 2020, for the purpose of reviewing the Fulton Ranch Sketch PUD Plat; and

WHEREAS, the Sketch PUD Plat proposes to develop a property for a single lot residential development with 466 lease spaces, with associated amenities that will include an amenity center, pocket parks and interconnecting trails; and

WHEREAS, after review of the application for a Sketch PUD Plat, and consideration of staff comments, applicant's presentation, and any public input, the Planning Commission finds the request for the Fulton Ranch Sketch PUD Plat conforms with City codes, and requirements and policies therein; and

WHEREAS, all legal requirements for the public hearing have been met, including mailing of public hearing notices to adjacent property owners within 500 feet; and

NOW THEREFORE BE IT RESOLVED, the Planning Commission has considered the application and has taken into consideration all referral comments and any citizen testimony in response to this application. Based upon the facts presented on this date, the Planning Commission hereby recommends approval of the Fulton Ranch Sketch PUD Plat located in a part of Section 33, Township 2 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado with the following conditions:

I. Prior to submittal of a Preliminary PUD Plat:

A. The title of the Sketch PUD Plat map shall be updated to include the Project No. LUP2019-0039 & Plan No. SPL2019-0005.

B. Any redline comments provided by City staff shall be made to the sketch PUD plat.

C. Applicant shall submit a pre-application meeting request within 2 weeks of the City Council hearing, and meet with City staff to determine requirements of the submittal.

II. As a part of the Preliminary PUD Plat submittal:

A. Applicant shall adequately address the referral comments from the Department of the Army Corps of Engineers.

B. Applicant shall adequately address the referral comments from CDOT.

C. Applicant shall adequately address the referral comments from Colorado Parks and Wildlife.

D. Applicant shall adequately address the referral comments from the Fort Lupton Fire Protection District.

E. Applicant shall adequately address the referral comments from the Public Works Director.

F. Applicant shall adequately address the referral comments from United Power.

G. Applicant shall adequately address the referral comments from the Weld County Planning Department.

H. Applicant shall provide a plan for how existing trees and vegetation will be preserved.

I. Applicant shall provide proposed street names.

J. Applicant shall provide information concerning any existing surface use agreements and provide details on how the agreements have been addressed on the design of the development.

K. Applicant shall provide information concerning any existing metro district and/or homeowners' association.

L. Applicant shall address high ground water on the site and how ground water affects proposed site layout.

M. Applicant shall address the Fort Lupton Parks and Trails Master Plan, specifically addressing the Main Fulton Ditch Trail and a trail head located on 14th Street.

N. Applicant shall provide description of any deviations from residential design standards and regular zone district requirements, including setbacks, lot sizes & dimensions, height, lot coverage, etc.

DONE THIS 13TH DAY OF FEBRUARY, 2020 BY THE PLANNING COMMISSION FOR THE CITY OF FORT LUPTON, COLORADO.

Chairman

ATTEST:

Planning Director

STAFF REPORT

CITY OF
Fort Lupton
EST 1836
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FULTON RANCH SKETCH PUD PLAT
PROJECT NO. LUP2019-0039 / PLAN NO. SPL2019-0005

PROJECT DESCRIPTION

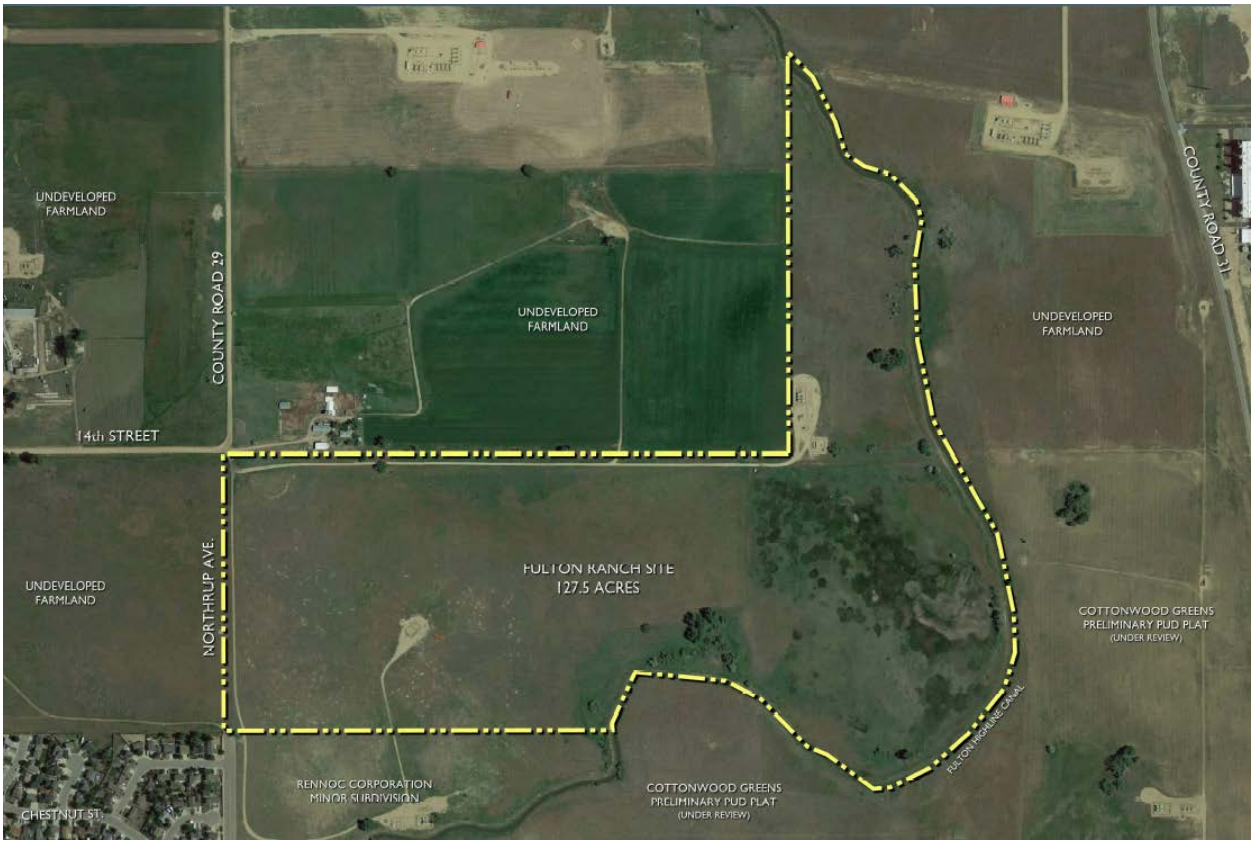
Project No.: LUP2019-0039 / Plan No. SPL2019-0005

Project name: Fulton Ranch Sketch PUD Plat*

Applicant's Name: Sun Communities ("Applicant")

Location of Request:

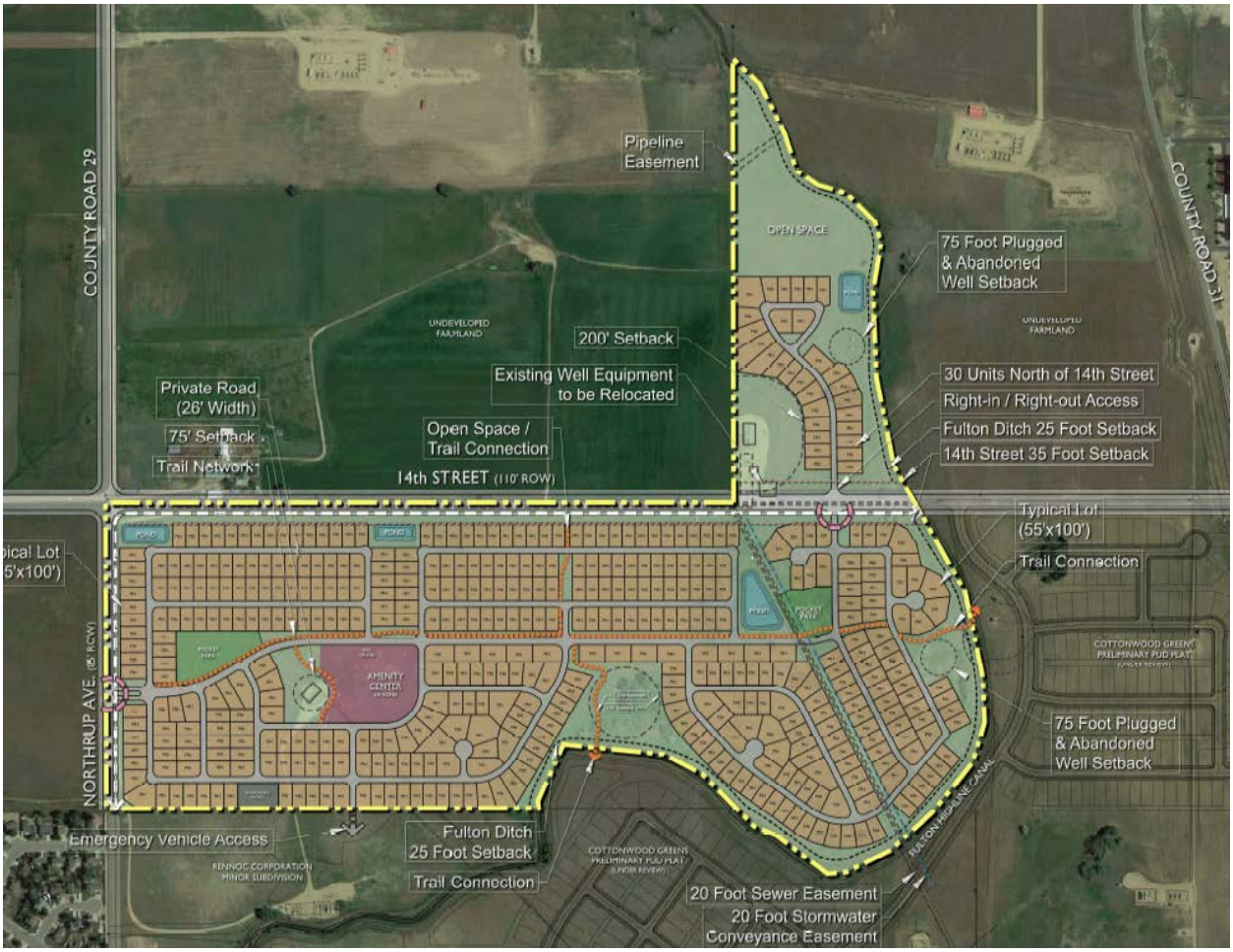
The site consists of a parcel of land located east and adjacent to County Road 29 (also known as Northrup Avenue), and south and adjacent to 14th Street right of way in Fort Lupton (the "Property"). The Property is located in a Part of Section 33, Township 2 North, Range 66 West of the Sixth Principal Meridian, City of Fort Lupton, County of Weld, State of Colorado.



*The term sketch PUD plan and sketch PUD plat are used interchangeably throughout this staff report.

Nature of Request:

The Applicant has submitted a request for a sketch PUD plan for a residential subdivision that will include one parcel of land with 466 lease spaces for single-family manufactured homes. Associated amenities will include an amenity center, pocket parks, and interconnecting trails.



Site Size: 127.5 acres, more or less.

Zone District: PUD Planned Unit Development

Proposed Use: A single parcel residential subdivision that will provide 466 lease spaces for single-family manufactured homes.

Existing Use: Vacant/agricultural.

Hearing Dates: Planning Commission – February 13, 2020 at 6:00 PM; and
City Council – March 3, 2020 at 7:00 PM.

Hearing Location: Fort Lupton City Hall – Council Chambers, 130 S. McKinley Ave., Fort Lupton, Colorado.

Staff Recommendation: Approval with conditions, as shown on the proposed resolution.

SUMMARY OF PREVIOUS APPLICATIONS

In 2006, the City Council approved a metropolitan district, final plat, subdivision improvement agreement, and PUD development plan for this property. However, the subdivision was never developed, and the property ownership became fragmented. The metropolitan district remains in effect, however each separate ownership parcel(s) will be required to start the development process over.

APPLICATION PROCESS

The Planning Commission's review of the sketch PUD plan is intended to be an open exchange of ideas where the Commission members are encouraged to discuss any issues, questions or concerns with the applicants and staff. After the project has been presented, and public input and staff comments have been considered, the Planning Commission shall make a recommendation to the City Council to approve, approve with conditions or deny the sketch PUD plan.

NOTIFICATION REQUIREMENTS

All notification requirements were met, including mailing notice to property owners within 500 feet of the site and sending notice to mineral owners and lessees of record on the properties.

CONFORMANCE WITH CITY STANDARDS, REGULATIONS AND POLICIES

The Applicant has submitted a request for a sketch PUD plan for a residential subdivision that will include one parcel of land with 466 lease spaces for single-family manufactured homes. The zoning of the Property is PUD Planned Unit Development Zone District.

Pursuant to the Fort Lupton Municipal Code Section 16-45, a sketch PUD plan is an initial review of a proposed Planned Unit Development and is processed per Section 17-21 of the Code. The sketch PUD plan phase is required prior to submitting a preliminary PUD plan and final PUD plan. The sketch PUD plan should generally define the layout of streets, lots and location of any public uses, such as schools and parks, and proposed zoning classifications.

The intent of the sketch PUD plan is to provide a general concept that describes the applicant's development vision and plan for a proposed PUD. The sketch PUD plan gives the City an opportunity to describe the community's vision to the applicant, provides basic information to the City that will affect the planning and design of the site, and gives the applicant an opportunity to hear comments and concerns from the public prior to proceeding with detailed project design. A sketch PUD plan is *not* intended to provide final comments or requirements, or restrict the City's discretion in subsequent stages of the review process.

CONFORMANCE WITH THE COMPREHENSIVE PLAN

The Future Land Use Map designates this area as Single Family Detached land use. This designation allows for neighborhoods of predominately single-family detached homes on individual lots. This can consist of a variety of development types, including higher density homes within the City's urban core and planned subdivisions within the residential growth areas.

The proposed development plans for smaller lots that are adjacent to the City's urban core, and therefore complies with the Comprehensive Plan.

REFERRALS

Referrals were provided to the list below. Any comments received are enclosed with the Planning Commission packet.

Buildings/Grounds Manager	City Attorney	Police Chief
Public Works Director	Building Inspector	Recreation Manager
Golf Course Manager	Wastewater Plant Supervisor	GIS Specialist
Finance Director	Fort Lupton Fire Protection District	CDOT
Colorado Parks and Wildlife	Army Corp of Engineers	United Power
Comcast	CenturyLink	Xcel Energy
Postmaster	Weld County Department of Planning	Weld County School District RE-8
NWCWD	Fulton Ditch Company	

RECOMMENDATION

Staff recommends conditional approval of the Fulton Ranch Sketch PUD Plat. Conditions are listed on the proposed Resolution provided to Planning Commission.

For more information on this development, please refer to the Planning Commission packet provided. Additional documents are available for review at the Fort Lupton City Hall.

LAND USE APPLICATION &
PROJECT DESCRIPTION

Form PLAN002

CITY OF Fort Lupton EST 1836

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Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortlupton.org

Project No. _____

Land Use Application Form

A. CONTACT INFORMATION

1) Property Owner Name: Coyote Creek North, LLC

Company: _____

Phone: 720-339-8841 Email: bleino@fullerre.com

Address: 5300 DTC Parkway, #100 Greenwood Village, CO 80111

Preferred method of contact? Email: ☑ Phone: ☐ Mail: ☐

2) Representative Name: Chris Sveum

Company: Atwell, LLC

Phone: 303-928-6733 Email: csveum@atwell-group.com

Address: 143 Union Blvd., Suite 700 Lakewood, CO 80228

Preferred method of contact? Email: ☑ Phone: ☐ Mail: ☐

3) Billing Contact *(where invoices should be directed to)*: Chris Sveum

Billing Company: Atwell, LLC

Phone: 303-928-6733 Email: csveum@atwell-group.com

Address: 143 Union Blvd., Suite 700 Lakewood, CO 80228

B. SITE DESCRIPTION

Site Address: Southeast corner of 14th Street and Northrup Avenue

Parcel Number: 130933000043

Existing Zone Classification: PUD Proposed Zone Classification: PUD

Water Type: Municipal Name: City of Fort Lupton

Sewage Type: Municipal District Name or Location Hauled to: City of Fort Lupton

C. APPLICATION TYPE (CHECK ALL THAT APPLY)

☑ Sketch Plat	☐ Administrative Site Plan	☐ PUD Plan (Preliminary & Final)
☐ Preliminary Plat	☐ Special Use Permit	☐ Variance
☐ Final Plat	☐ Oil & Gas Permit	☐ Administrative Variance
☐ Minor Subdivision	☐ Annexation & Initial Zone	☐ Appeal
☐ Amended Plat	☐ Change of Zone	☐ Other: _____
☐ Site Plan	☐ Comp Plan Amendment	

Project No. _____

D. PROJECT DESCRIPTION

Project Name: Fulton Ranch

Please provide a short description of the proposed project in the space provided below:

A manufactured housing community is proposed for the site. The project will have private internal roadways, a clubhouse and privately maintained parks and an internal trail system. The project will utilize City water and sewer and construct the adjacent half of both 14th Street and Northrup Avenue.

E. REQUIRED DOCUMENTS

For an application to be considered complete, and for planning staff to begin review and schedule any applicable public hearings, this Land Use Application Form must be fully completed and all required attachments included. Planning staff will review the application for completeness and will provide notice to the representative and/or owner whether the application has been deemed complete.

F. CERTIFICATIONS

Representative Certification

By signing this application, I attest that I am acting with the knowledge and consent of all owners of the property that is the subject of this application, and that I have been designated to act as the representative for the project described in this land use application. I further certify that all information submitted with this application is true and accurate to the best of my knowledge.

Representative: Christina Sueur Date: 11-20-19

Owner Certification

I hereby certify that I am the legal owner of record of the property that is the subject of this application. I hereby authorize the representative listed on this application, if any, to communicate directly with City officials and to submit documentation and information regarding this application on my behalf.

Owner: Robert R. Klein, Managing Member for Coyote Creek North, LLC Date: 11-13-19

For Office Use Only

Received Date: _____

If the application is not complete, state reasons why it is incomplete:

_____

_____

_____

Deemed Complete Date: _____

Fees Submitted: _____ Escrow Submitted: _____

Instructions for Submitting the Land Use Application Form

DEFINITIONS

Words in the singular include the plural and words in the plural include the singular.

Application refers to the official submittal to the City of Fort Lupton's Planning Department for review of the proposed land use development identified in the land use application form. The application includes the form, all materials submitted for review of the project, including those documents required under the Land Use Regulations of the Municipal Code, and any additional information provided.

Project refers to the land use development identified on the land use application form and application materials.

Property refers to the land that is being proposed for development as described in the land use application form and application materials.

A. CONTACT INFORMATION

1) Provide contact information for all owners of any property that is the subject of the application. If the contact information for all property owners will not fit on the space provided, submit a separate sheet for the additional owners.
2) Provide contact information for all persons, firms or businesses that are authorized by the owners identified in Section A(1) to work on the land use application, including, but not limited to, discussing the project, submitting application materials, and attending meeting and hearings. If the contact information for all representatives will not fit on the space provided, submit a separate sheet for the additional representatives.
3) Provide contact and mailing information for the person that should receive all invoices for the project. If this person changes at any time, contact the Planning Department immediately to update this information.

B. SITE DESCRIPTION

Provide all information requested. Parcel numbers and address information may be found at the Weld County Property Portal at https://www.co.weld.co.us/maps1/propertyportal/. Current zoning can be found at http://www.fortlupton.org/405/Zoning.

C. APPLICATION TYPE

Select the land use application that is applicable to the project. If there are multiple land use application types being submitted to run concurrently, select all that apply. The land use application types will be identified during the required pre-application meeting. If you have any questions about this, please contact the Planning Department at 303.857.6694 or planningdept@fortlupton.org.

D. PROJECT DESCRIPTION

Please select a project name that will be referenced throughout the project and a description of what the project entails. If you need more space for the project description, please attach a separate sheet.

E. REQUIRED DOCUMENTS

Required documents will be discussed during the pre-application meeting with the Planning Department. If any documents are missing, the acceptance of the application may be delayed until the submittal is complete.

F. CERTIFICATIONS

Representative Certification. Provide the signature of all authorized representatives in this section.
Owner Certification. Provide the signature of all owners of properties included in the application in this section.

For any other questions, please contact the Planning Department at 303.857.6694 or planningdept@fortlupton.org.

ATWELL

CONSULTING. ENGINEERING. CONSTRUCTION.

Fulton Ranch: Sketch Plan Narrative
November 27, 2019

General Description/Site Features and Proposed Land Uses

The property (Site) is located on the south side of future 14th street and east of future Northrup Avenue. The eastern and southern property boundaries are constrained by the Fulton Ditch. The property is approximately 127.5 acres with existing PUD zoning. There is currently one producing gas well on the Site, which will be plugged and abandoned by the operator in the first quarter of 2020. There are gas collection facilities on the north side of future 14th Street that will be relocated with the development plans for the Site. There are two plugged and abandoned gas wells on the Site, which have a 75-foot setback associated with the well locations.

A wetlands investigation was completed and a request for Jurisdictional Determination was submitted to the US Army Corps of Engineers. The determination concluded that the wetlands present on the Site are not jurisdictional and do not need to be preserved with development. A copy of the determination is included with the submittal package. There has been high groundwater historically on the Site as noted in the geotechnical report prepared by AG Wassenaar. Additional geotechnical investigation is scheduled to confirm the groundwater levels.

The proposed land use includes 466 single family manufactured homes with associated amenities that will include an amenity center, pocket parks and interconnecting trails. The overall project density is 3.66 du/ac. The Site will be operated as a land lease manufactured home community built to HUD standards.

Compliance with the City of Fort Lupton Comprehensive Plan

The proposed development integrates the goals set out in the Comprehensive Plan in the following ways:

Growth and Development

The Site is designated as single family residential in the Fort Lupton 2018 Comprehensive Plan and meets the intent of the stated goal of providing greater housing diversity in the City. The Site is designated as a Residential Growth Area in the Comprehensive Plan.

The Site will have trail connections to the proposed Cottonwood Greens development, which is adjacent to the Site on the east side of the Fulton Ditch. The Site has a similar density to the Mountview Subdivision, informally known as the Trees subdivision, which is adjacent to the Site at the southwest corner. The Site is designed to provide connections to existing and adjacent

neighborhoods. In addition, the layout provides continuous, direct, convenient, and safe pedestrian pathways to adjacent subdivisions and proposed parks.

Transportation and Mobility

The Site includes the construction of the south half of 14th Street along the Site's frontage, which is identified as a need in the Comprehensive Plan. The construction of 14th Street will be coordinated with the proposed Cottonwood Greens development, providing a paved roadway section from County Road 29 to County Road 31. The Site will also construct the east half of Northrup Avenue, providing a paved connection from 9th Street to 14th Street.

This plan provides a safe and efficient transportation network that accommodates pedestrians, vehicles and bicycles. The main entrance is located on Northrup Avenue. The internal roads and trails will be private and maintained by the Owner. The Site is planned to encourage walking and biking through the community with connections to future adjacent neighborhoods.

Parks, Open Space and Environmental Features

The proposed parks, open space and trails within the development will provide high quality recreational opportunities for neighborhood residents and also create connections to future neighborhoods and uses beyond the project boundaries. As shown on the Fort Lupton Proposed Trails Map, the Main Fulton Ditch Trail will be constructed with the Cottonwood Greens development, with proposed connections from the Site and eventually providing pedestrian access to Aims Community College and other destinations surrounding Fort Lupton. In addition, this project will construct the public sidewalks along 14th Street and Northrup Avenue.

Public Facilities and Services

The proposed development is a logical extension of the City of Fort Lupton public services without placing additional burdens on existing residents and businesses. Infrastructure will be provided to meet the requirements of the Comprehensive Plan and/or the Land Use Code. Water will be provided by the City of Fort Lupton. The existing 8" water main in Northrup Avenue will be extended north and routed through the Site in a utility easement. The water main will be upsized to a 12" main in 14th Street and connect to the extension by the Cottonwood Greens project. All water mains outside of the public lines described above and serving the individual home sites will be privately owned and maintained by the Owner.

A non-potable water line will be constructed through the Site, paralleling the 8-inch potable water line from Northrup Avenue to 14th Street and connect to the extension of the Cottonwood Greens system. The open space and park sites will be irrigated with the non-potable system.

Sewer will be provided by the City of Fort Lupton through connections to an existing 10" sanitary sewer main that runs diagonally through the Site and flows west in 14th Street. All sewer mains serving the individual home sites will be privately owned and maintained by the Owner.

Stormwater will be treated using appropriate water quality measures, with on-site detention being utilized throughout the site to maintain stormwater releases at or below historic rates from the Site. Stormwater will be conveyed using a series of storm drains and swales to roadside ditches along 14th Street where it will be conveyed to the west into Golden's Pond, which provides regional drainage detention in this area.

Planned Phasing

The project is proposed to be constructed in four phases. Each phase will include the necessary infrastructure for the lots, including the private roads, water quality ponds and utilities. Each phase will include the portion of the trail system through the project.

Phase 1 consists of 147 lots. Phase 1 will include the construction of the east half of Northrup Avenue and the south half of 14th Street as well as the connection of the off-site utilities. Phase 1 will also include construction of the amenity center and west pocket park.

Phase 2 consists of 156 lots and the required infrastructure for the lots.

Phase 3 consists of 133 lots and the required infrastructure for the lots and the east pocket park.

Phase 4 consists of 30 lots and the required infrastructure for the lots.

Forecast of Projected Construction Timing

The construction of Fulton Ranch infrastructure is described above, with the first phase of development anticipated to take nine months, and the subsequent phases anticipated to be constructed in six months. The commencement of the initial phase of infrastructure is anticipated to occur shortly after approval of the required entitlements/permits from the City of Fort Lupton. While the ultimate commencement of future phases of construction will be based on the market absorption of delivered lots and time of year, the final phase of development is currently expected to be completed by the middle of 2024.

Public Services

Fire and Police Protection

Law enforcement for the property will be provided by the Fort Lupton Police Department. It is not anticipated that there would be special security needs or a specific need for additional officers.

Fire protection for the property will be provided by Fort Lupton Fire Department. Fort Lupton Fire Station #2 is located southeast of the Site at the corner of County Road 31 and 9th Street. It is not anticipated that the project would pose special fire hazards. Fire prevention requirements, fire detection, fire lanes, emergency access, etc. will be provided as required by code.

Schools

The project is within the Weld RE-8 School District. We will work with the District to identify and address any impacts of this project.

Recreation and Open Space

The project will include pocket parks, an amenity center, including open spaces and trails, and active and passive recreation opportunities.

Traffic Statement

The property is bordered by future 14th Street to the north, future Northrup Avenue to the west and the Fulton Ditch to the south and east. A traffic impact study is included with this submittal. The key conclusions from the report are summarized below:

- The Project is expected to generate approximately 2,330 daily trips, 120 trips during the AM peak hour and 215 trips during the PM peak hour.
- Currently the two study intersections of US 85 at 14th Street and Northrup Avenue at 9th Street are operating at acceptable levels.
- Under the future 2040 conditions it was assumed that Northrup Avenue would be extended north of 14th Street as a two-lane collector. 14th Street would be improved to a 4-lane arterial street.
- Under 2040 projected conditions, the traffic at US 85 and 14th Street will experience long delays. A future junior interchange was suggested for this location in the CDOT *US 85 Planning and Environmental linkages (PEL) Study.* The findings of this study support that recommendation.
- Under 2040 projected conditions, the north and southbound traffic at Northrup Avenue and 14th Street will experience long delays. The future traffic volumes at this location suggest that signalization may be appropriate. With a signal, this intersection would operate acceptably in 2040.
- The northbound direction of traffic at the proposed Access Street B at 14th Street will experience long delays during the PM peak hour. These volumes are very low and this is typical for intersections of local streets with 4-lane arterials. The City Engineer has indicated that this location may need to be restricted to right-in/right-out only for both the north and southbound directions. If the applicant desires full movement for the northbound direction, it is suggested that this intersection be moved to the west. This location should be approximately midway between Northrup Avenue and the proposed Cottonwood Greens access to the east.

- Under 2040 conditions a southbound left-turn lane would be needed on Northrup Avenue at the proposed Access Street A.

Statement of Commercial Mineral Deposits

There are currently oil & gas facilities within the property but there are no known commercial mineral deposits on-site.

Public Land Dedication

Land dedication for Parks is calculated at 3 residents per single family detached unit and 2.5 residents per Townhome unit. Based on historic data from the developer, the average occupancy of a manufactured home is less than 3 residents and the land dedication is based on the townhome rate. With the current site plan, the total number of manufactured housing units is 466, resulting in 1,165 residents. Calculating the land dedication at 10 acres / 1000 persons, the required dedicated open space would be 11.65 acres. Open space to be dedicated to the City includes the trail corridor along the Fulton Ditch which meets the required open space dedication.

The developer will work with the School District to determine the school site requirement. It is anticipated that cash-in-lieu will be the means to meet the school site dedication requirement.

LETTER OF AUTHORIZATION

LETTER OF AUTHORIZATION
COYOTE CREEK NORTH, LLC

November 13, 2019

COYOTE CREEK NORTH, LLC
Robert R. Leino, Principal
5300 DTC Parkway, Suite 100
Greenwood Village, CO 80111

Attn: City of Fort Lupton

I, Robert R. Leino, Managing Member of Coyote Creek North, LLC, property owner, hereby authorize Sun Communities and/or their appointed consultant Atwell, LLC to prepare and sign application materials and otherwise represent the owner(s) regarding Coyote Creek North, LLC, for the Fulton Ranch Sketch Plat Submittal, located at the southeast corner of County Road 14, and Northrup Avenue, Fort Lupton, CO 80621, parcel number 130933000043.

By: Robert R. Leino, Managing Member

Owner: Coyote Creek North, LLC
Managing Member (Printed Name)

Robert R Leino 11-13-19
Signature Date

State of Colorado
County of Arapahoe

The foregoing instrument was acknowledged before me this 13th day of November, 2019, by Deborah Sanchez as Notary Public of Colorado, a N/A corporation.

(SEAL)

DEBORAH SANCHEZ
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID # 20164013079
MY COMMISSION EXPIRES 04-05-2020

WITNESS my hand and official seal.

Notary Public

My commission expires: 4/5/2020

MAPS

FULTON RANCH

A PART OF SECTION 33, TOWNSHIP 02 NORTH, RANGE 66 WEST
OF THE SIXTH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
SKETCH PLAT

SUN COMMUNITIES, INC.

LEGAL DESCRIPTION:

AS DESCRIBED IN AMROCK INC. TITLE COMMITMENT DATED APRIL 30, 2019, ORDER NO 65710251:
A PARCEL OF LAND LOCATED IN SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE WEST 1/4 CORNER OF SAID SECTION 33 WHENCE THE SOUTHWEST CORNER OF SAID SECTION 33 BEARS SOUTH 00°09'06" EAST A DISTANCE

PROPERTY DESCRIPTION:

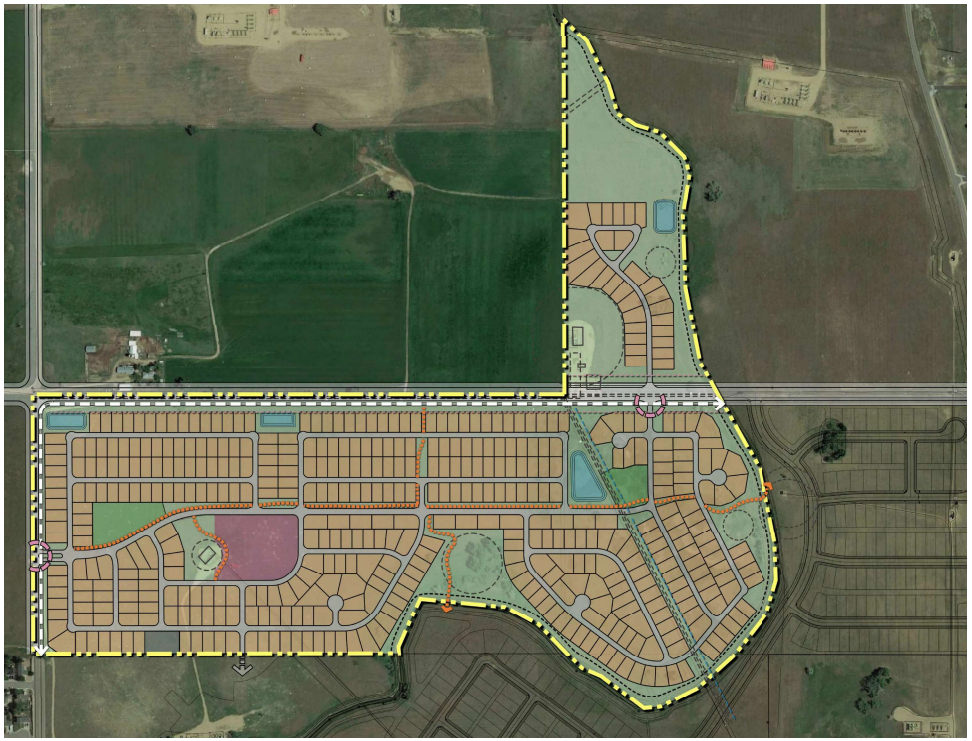
AS DESCRIBED IN AMROCK INC. TITLE COMMITMENT DATED APRIL 30. 2019, ORDER NO. 65710251:

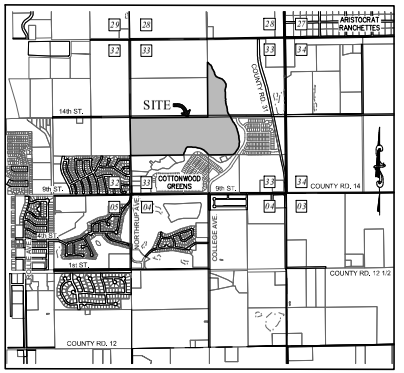
A PARCEL OF LAND LOCATED IN SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE WEST 1/4 CORNER OF SAID SECTION 33 WHENCE THE SOUTHWEST CORNER OF SAID SECTION 33 BEARS SOUTH 00°09'06" EAST A DISTANCE OF 2642.24 FEET; THENCE SOUTH 00°09'06" EAST ALONG THE WESTERLY LINE OF THE SOUTHWEST 1/4 OF SAID SECTION 33, A DISTANCE OF 30.00 FEET TO A POINT ON THE SOUTHERLY RIGHT OF WAY LINE OF A COUNTY ROAD AS DESCRIBED IN BOOK 76 AT PAGE 126 IN THE OFFICE OF THE WELD COUNTY CLERK AND RECORDER; THENCE NORTH 89°58'58" EAST ALONG SAID SOUTHERLY RIGHT OF WAY LINE A DISTANCE OF 2645.56 FEET TO A POINT ON THE EASTERLY LINE OF SAID SOUTHWEST 1/4 OF SAID SECTION 33; THENCE NORTH 00°07'27" WEST ALONG THE EASTERLY LINE OF THE SOUTHWEST 1/4 OF SECTION 33, A DISTANCE OF 30.00 FEET TO THE CENTER 1/4 CORNER OF SAID SECTION 33; THENCE NORTH 00°07'27" WEST ALONG THE WESTERLY LINE OF THE NORTHEAST 1/4 OF SAID SECTION 33. A DISTANCE OF 1842.72 FEET TO THE CENTER LINE OF FULTON DITCH; THENCE ALONG THE CENTERLINE OF FULTON DITCH THE FOLLOWING 27 COURSES:

THENCE SOUTH 46°07'25" EAST, A DISTANCE OF 161.55 FEET; THENCE SOUTH 26°35'05" EAST A DISTANCE OF 237.68 FEET;
THENCE SOUTH 17°04'05" EAST, A DISTANCE OF 155.48 FEET; THENCE SOUTH 56°15'25" EAST, A DISTANCE OF 109.68 FEET;
THENCE SOUTH 74°00'07" EAST, A DISTANCE OF 122.26 FEET; THENCE SOUTH 45°23'07" EAST, A DISTANCE OF 173.34 FEET;
THENCE SOUTH 15°59'13" EAST, A DISTANCE OF 92.72 FEET; THENCE SOUTH 09°12'24" WEST, A DISTANCE OF 208.15 FEET;
THENCE SOUTH 02°08'23" EAST, A DISTANCE OF 360.18 FEET; THENCE SOUTH 11°11'43" EAST, A DISTANCE OF 382.01 FEET;
THENCE SOUTH 29°30'23" EAST, A DISTANCE OF 84.81 FEET; THENCE SOUTH 29°30'23" EAST, A DISTANCE OF 525.26 FEET;
THENCE SOUTH 11°44'38" EAST, A DISTANCE OF 367.91 FEET; THENCE SOUTH 02°12'33" EAST, A DISTANCE OF 191.55 FEET;
THENCE SOUTH 16°43'32" WEST, A DISTANCE OF 177.03 FEET; THENCE SOUTH 39°02'35" WEST, A DISTANCE OF 270.24 FEET;
THENCE SOUTH 47°57'25" WEST, A DISTANCE OF 237.78 FEET; THENCE NORTH 63°34'45" WEST, A DISTANCE OF 205.14 FEET;
THENCE SOUTH 85°20'22" WEST, A DISTANCE OF 82.20 FEET; THENCE NORTH 53°16'08" WEST, A DISTANCE OF 266.98 FEET;
THENCE NORTH 67°18'03" WEST, A DISTANCE OF 102.80 FEET; THENCE NORTH 44°43'06" WEST, A DISTANCE OF 119.52 FEET;
THENCE NORTH 44°08'03" WEST, A DISTANCE OF 187.15 FEET; THENCE NORTH 82°30'08" WEST, A DISTANCE OF 185.25 FEET;
THENCE NORTH 84°26'58" WEST, A DISTANCE OF 426.35 FEET; THENCE SOUTH 24°35'52" WEST, A DISTANCE OF 259.75 FEET;
THENCE SOUTH 04°38'28" EAST, A DISTANCE OF 31.90 FEET TO A POINT ON SOUTHERLY LINE OF THE NORTH 1/2 OF THE SOUTHWEST 1/4 OF SAID SECTION 33; THENCE SOUTH 89°55'18 WEST ALONG SAID SOUTHERLY LINE OF THE NORTH 1/2 OF THE SOUTHWEST 1/4 OF SECTION 33, A DISTANCE OF 1818.84 FEET TO A POINT ON THE WESTERLY LINE OF THE SOUTHWEST 1/4 OF SECTION 33; THENCE NORTH 00°09'06" WEST ALONG SAID WESTERLY LINE OF THE SOUTHWEST 1/4 OF SECTION 33 A DISTANCE OF 1219.12 FEET TO THE POINT OF BEGINNING.

EXCEPT THAT PORTION LYING WITHIN COUNTY ROAD DESCRIBED IN BOOK 76 AT PAGE 126.

LAND USE STATISTICS			
USE	ACREAGE	TOTAL UNITS	TOTAL %
MANUFACTURED HOUSING	66.30	466	52.0%
AMENITY CENTER	3.00	1	2.4%
MAINTENANCE FACILITY	0.40	1	0.3%
PRIVATE ROADS	13.70	NA	10.7%
PUBLIC ROW DEDICATION	3.80	NA	3.0%
POCKET PARKS	2.10	2	1.6%
OPEN SPACE	38.20	NA	30.0%
TOTAL	127.50		100%





VICINITY MAP
SCALE: 1" = 2000'

Sheet List Table	
SHEET NUMBER	SHEET TITLE
01	COVER
02	EXISTING SITE
03	CONCEPTUAL LAYOUT
04	UTILITY PLAN
05	AMENITY KEY
06	AMENITY DETAILS
07	ARCHITECTURAL ELEVATIONS

CONTACT LIST

APPLICANT
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CONTACT: JOHN B. MCLAREN
248-208-2556

CIVIL ENGINEER
ATWELL, LLC
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PLANNER
RVI PLANNING AND LANDSCAPE ARCHITECTURE
712 CONGRESS AVENUE
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JOHN B. MCLAREN

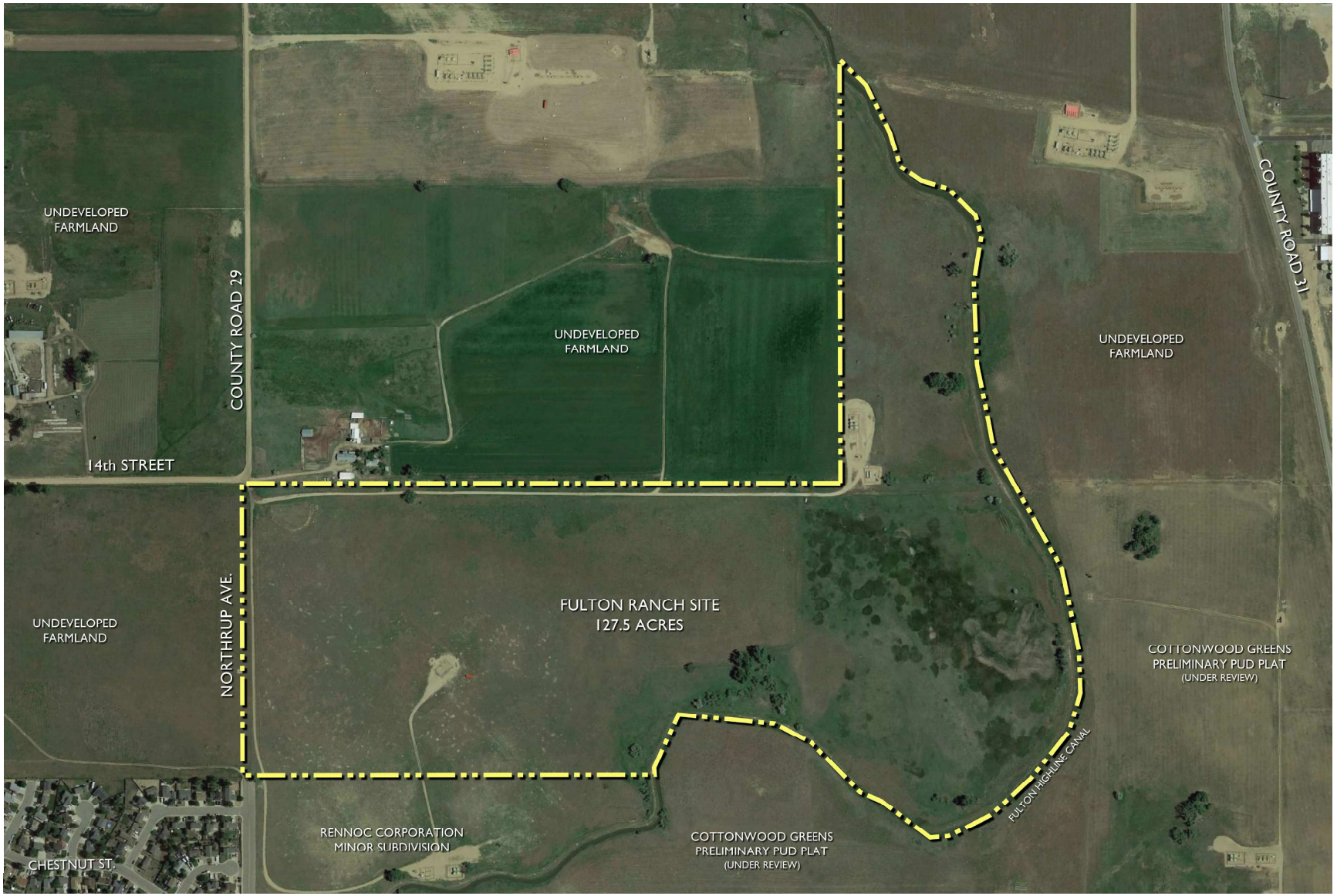
CLIENT
SUN COMMUNITIES
FULTON RANCH
FORT LUPTON, COLORADO
SKETCH PLAT
COVER

DATE 10/10/2019

REVISIONS	
A	for SUBMITTAL TO JURISDICTION 11/27/2019 – CBS

DR. KJK | CH. CBS
P.M. CSB
JOB 19001956
SHEET NO. 01

CAD FILE: 19001956-SKETCH PLAN.DWG



(IN FEET)
1 inch = 200 ft.

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CLIENT
SUN COMMUNITIES
FULTON RANCH
FORT LUPTON, COLORADO
SKETCH PLAT
EXISTING SITE

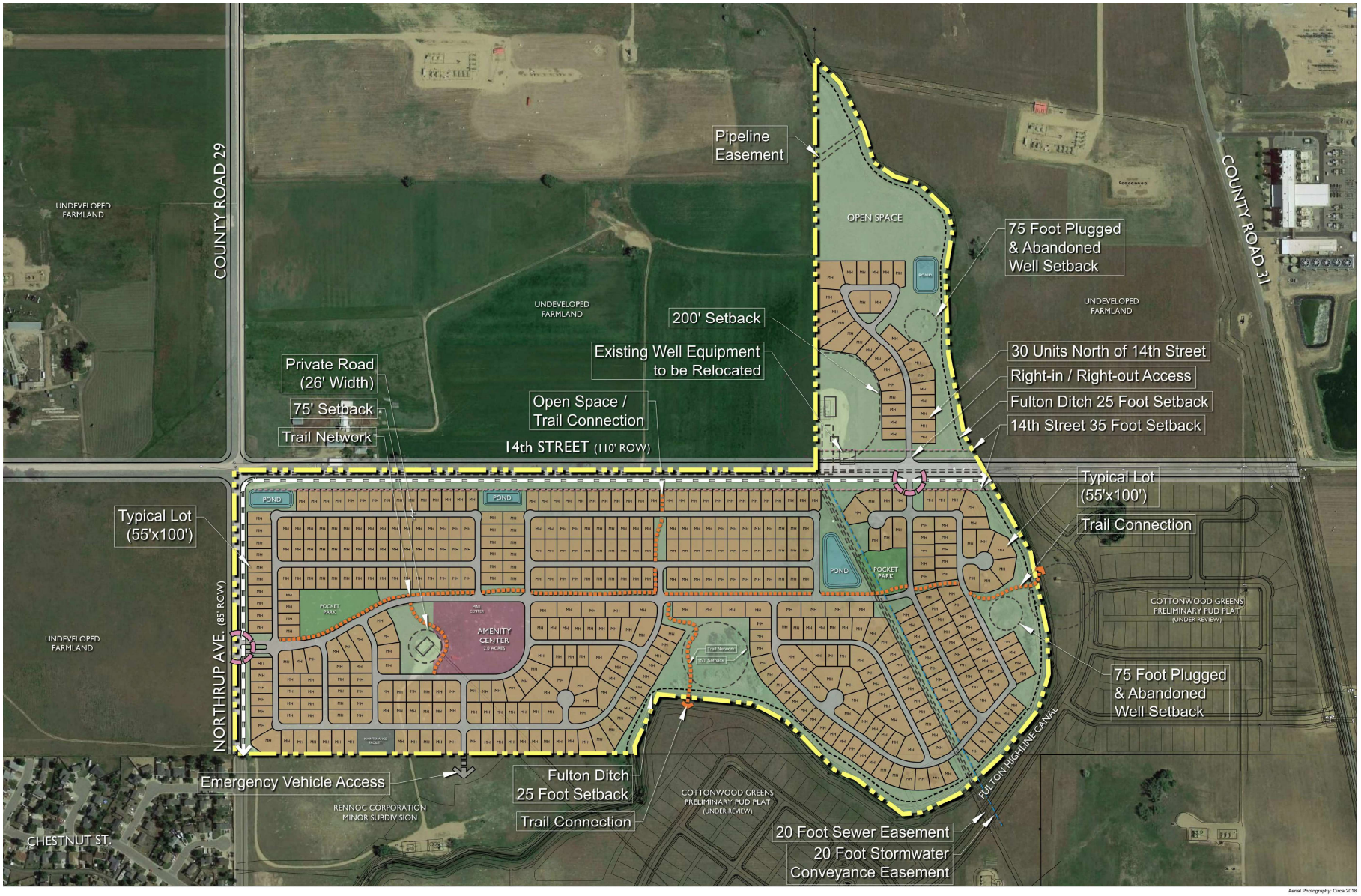
DATE 10/10/2019

A	for SUBMITTAL TO JURISDICTION 11/27/2019 – CBS

REVISIONS

DR. KJK | CH. CBS
P.M. CBS
JOB 19001956
SHEET NO. 02

CAD FILE: 19001956-SKETCH PLAN.DWG



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FORT LUPTON, COLORADO
SKETCH PLAT
CONCEPTUAL LAYOUT

DATE 10/10/2019

A	for SUBMITTAL TO JURISDICTION 11/27/2019 – CBS

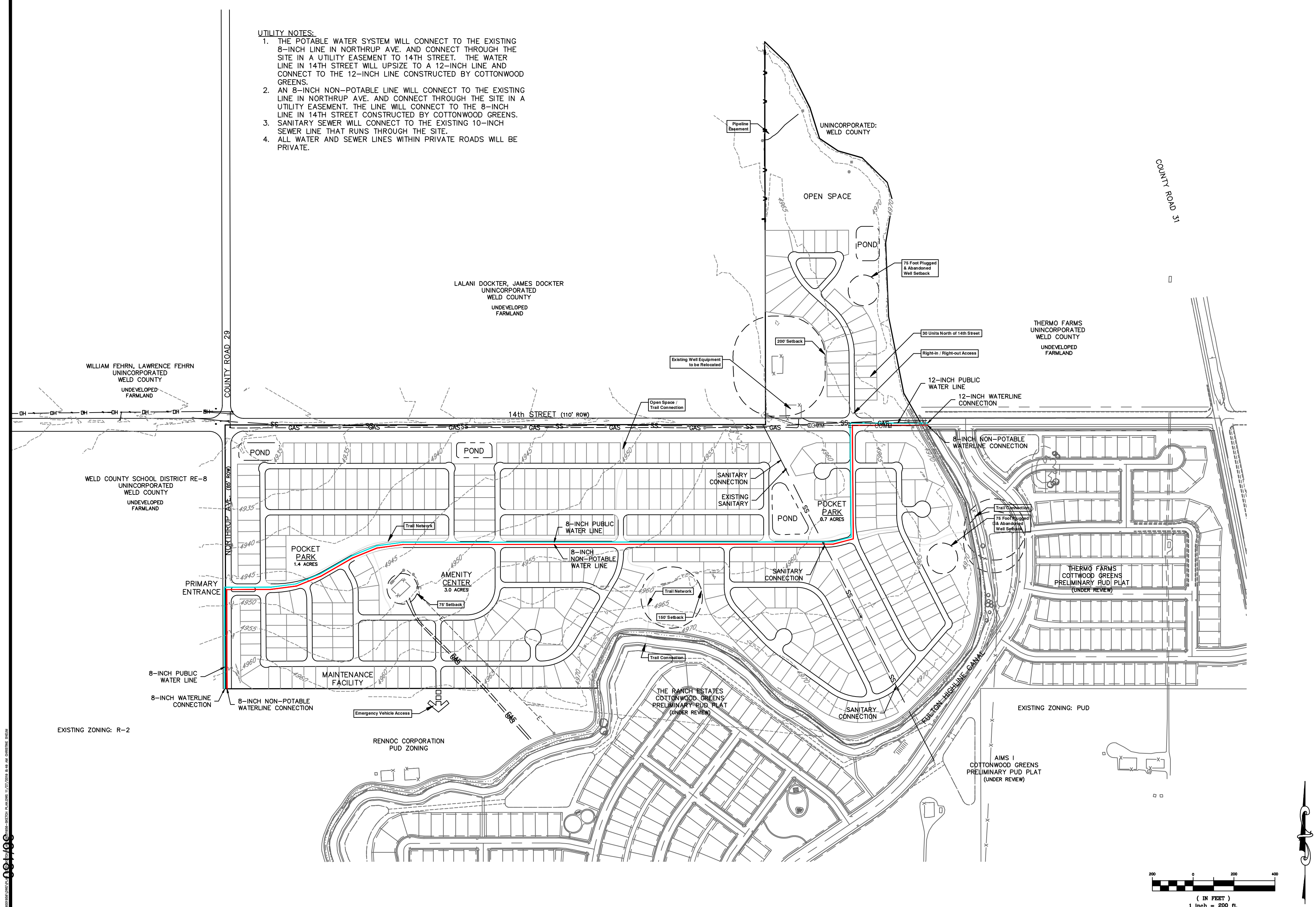
REVISIONS

DR. KJK | CH. CBS
P.M. CSB
JOB 19001956
SHEET NO. 03

CAD FILE: 19001956-SKETCH PLAN.DWG

UTILITY NOTES:

1. THE POTABLE WATER SYSTEM WILL CONNECT TO THE EXISTING 8-INCH LINE IN NORTHRUP AVE. AND CONNECT THROUGH THE SITE IN A UTILITY EASEMENT TO 14TH STREET. THE WATER LINE IN 14TH STREET WILL UPSIZE TO A 12-INCH LINE AND CONNECT TO THE 12-INCH LINE CONSTRUCTED BY COTTONWOOD GREENS.
2. AN 8-INCH NON-POTABLE LINE WILL CONNECT TO THE EXISTING LINE IN NORTHRUP AVE. AND CONNECT THROUGH THE SITE IN A UTILITY EASEMENT. THE LINE WILL CONNECT TO THE 8-INCH LINE IN 14TH STREET CONSTRUCTED BY COTTONWOOD GREENS.
3. SANITARY SEWER WILL CONNECT TO THE EXISTING 10-INCH SEWER LINE THAT RUNS THROUGH THE SITE.
4. ALL WATER AND SEWER LINES WITHIN PRIVATE ROADS WILL BE PRIVATE.



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CLIENT
SUN COMMUNITIES
FULTON RANCH
FORT LUPTON, COLORADO
SKETCH PLAT
UTILITY PLAN

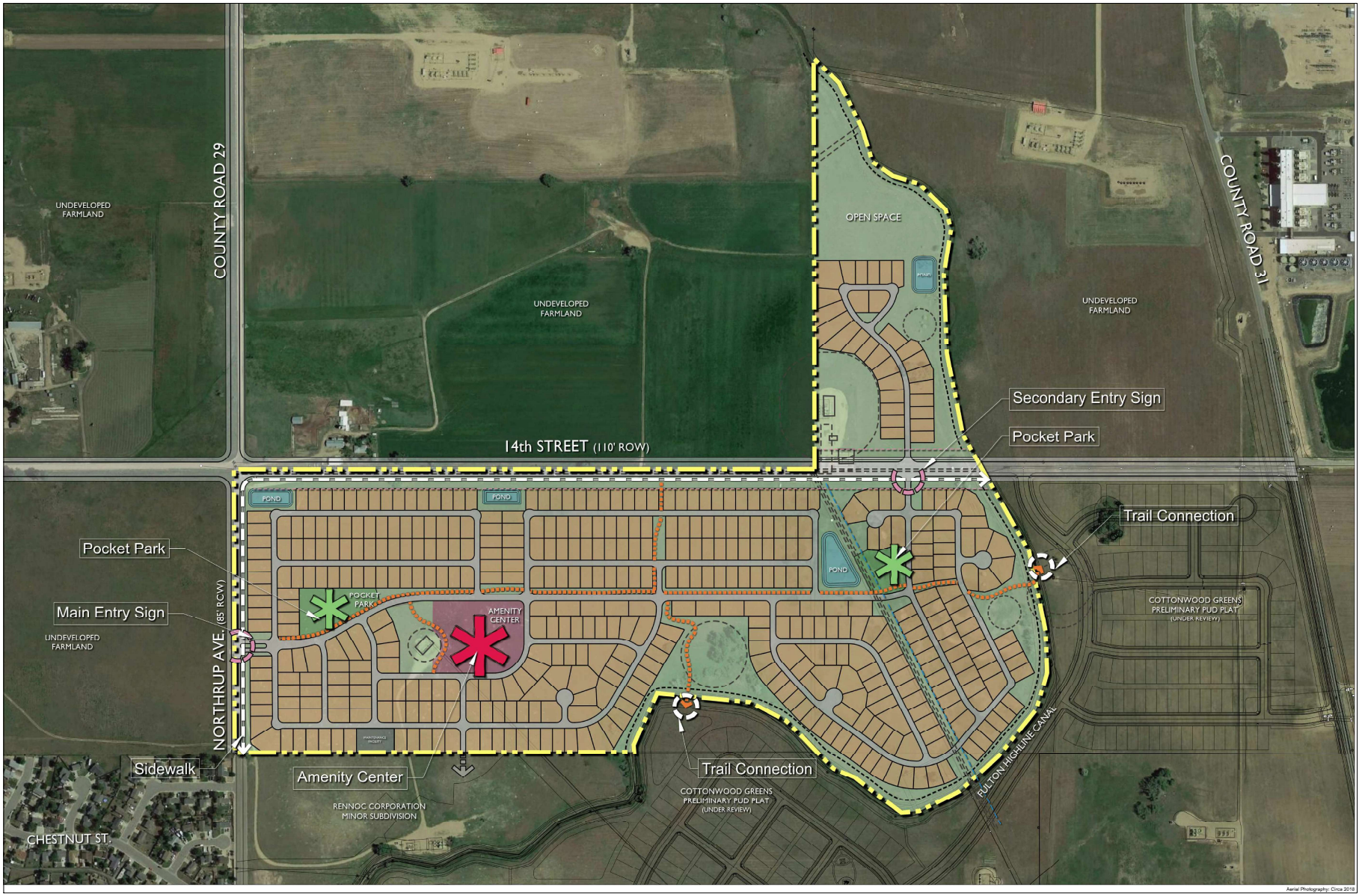
DATE 10/10/2019

A 1st SUBMITTAL TO JURISDICTION 11/27/2019 - CBS

REVISIONS

DR. KJK	CH. CBS
P.M. CSB	
JOB 19001956	
SHEET NO. 04	

CAD FILE: 19001956-SKETCH PLAN.DWG



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CLIENT
SUN COMMUNITIES
FULTON RANCH
FORT LUPTON, COLORADO

SKETCH PLAT
AMENITY KEY

DATE 10/10/2019

A	for SUBMITTAL TO JURISDICTION 11/27/2019 – CBS

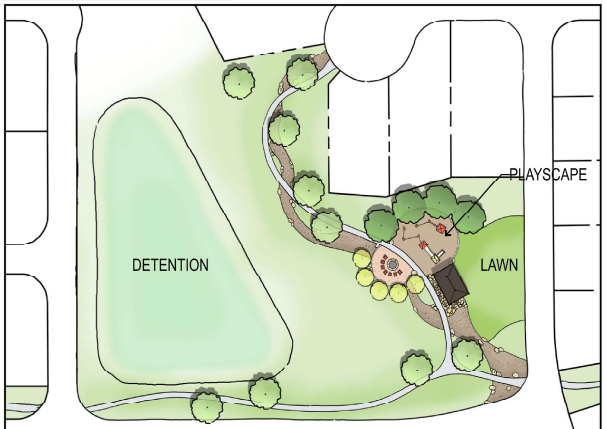
REVISIONS

DR. KJK | CH. CBS
P.M. CSB
JOB 19001956
SHEET NO. 05

CAD FILE: 19001956-SKETCH PLAN.DWG

DOG PARK AND TRAILHEAD (N.T.S.)

SECONDARY ENTRY SIGN (N.T.S.)



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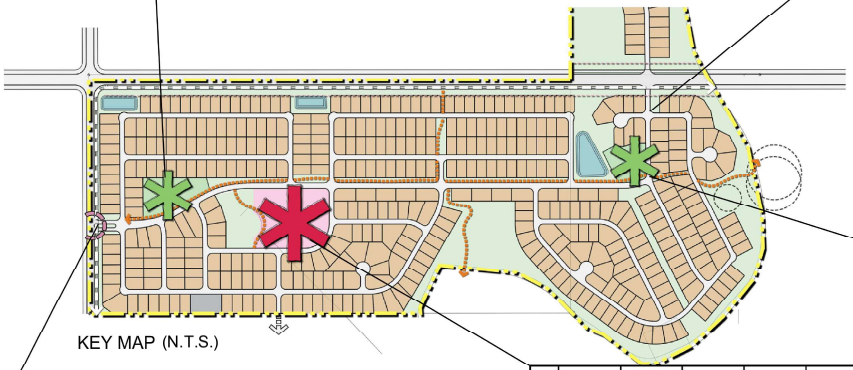
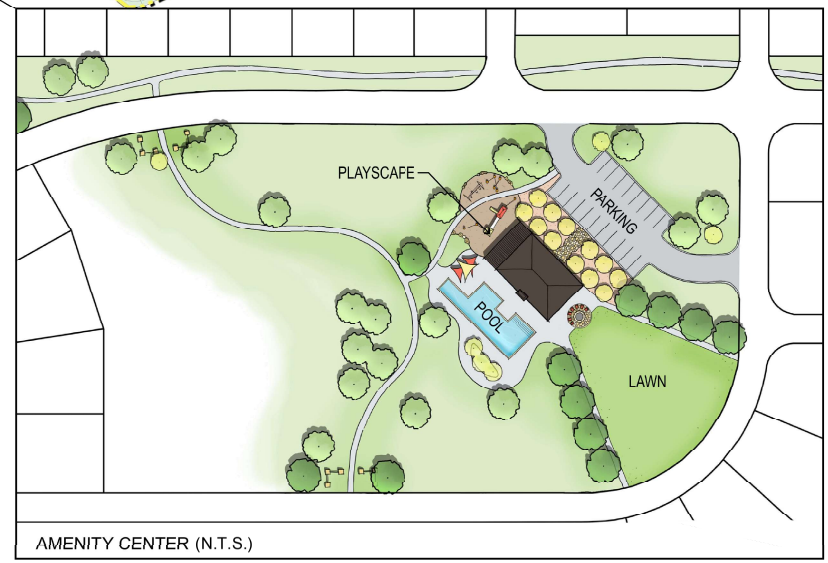


KEY MAP (N.T.S.)

MAIN ENTRY SIGN (N.T.S.)



AMENITY CENTER (N.T.S.)

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SUN COMMUNITIES, INC.

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JOHN B. MCLAREN

CLIENT
SUN COMMUNITIES
FULTON RANCH
FORT LUPTON, COLORADO

SKETCH PLAT
AMENITY DETAILS

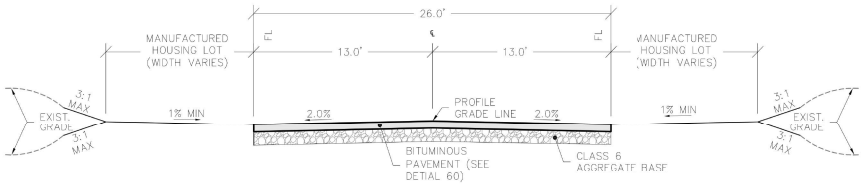
DATE 10/10/2019

A	for SUBMITTAL TO JURISDICTION 11/27/2019 – CBS

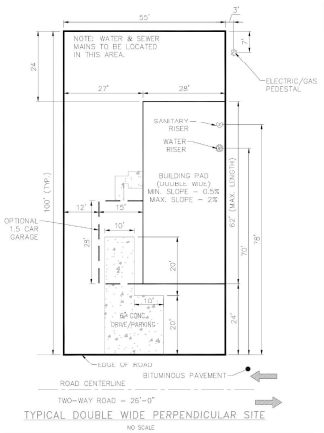
REVISIONS

DR. KJK | CH. CBS
P.M. CSB
JOB 19001956
SHEET NO. 06

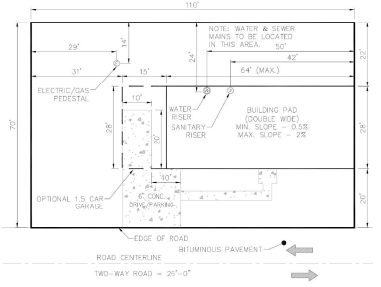
CAD FILE: 19001956-SKETCH PLAN.DWG



TYPICAL PRIVATE ROAD
1:5 HOR.



TYPICAL DOUBLE WIDE PERPENDICULAR SITE
NO SCALE



TYPICAL DOUBLE WIDE PARALLEL SITE
NO SCALE

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FORT LUPTON, COLORADO

SKETCH PLAT
ARCHITECTURAL ELEVATIONS

DATE 10/10/2019

A	for SUBMITTAL TO JURISDICTION 11/27/2019 – CBS

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CAD FILE: 19001956-SKETCH PLAN.DWG

GEOTECHNICAL REPORT

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Geotechnical and Environmental Consultants
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Denver, Colorado 80222-5710
303-759-8100 Fax 303-756-2920
www.agwassenaar.com

GEOTECHNICAL SITE DEVELOPMENT STUDY FOR

PROPOSED RESIDENTIAL DEVELOPMENT
COYOTE CREEK NORTH
SOUTHEAST OF WELD COUNTY ROAD 14½ AND WELD COUNTY ROAD 29
FORT LUPTON, COLORADO

PREPARED FOR

COYOTE CREEK NORTH, LLC
% CIMARRON CONSULTANTS, INC.
6551 SOUTH REVERE PARKWAY, SUITE 265
ENGLEWOOD, COLORADO 80111

JANUARY 22, 2018
PROJECT NUMBER 174095

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January 22, 2018

Coyote Creek North, LLC
% Cimarron Consultants, Inc.
6551 South Revere Parkway, Suite 265
Englewood, Colorado 80111

Attention: Mr. O. Karl Kasch

Subject: Geotechnical Site Development Study
Proposed Residential Development
Coyote Creek North
Southeast of Weld County Road 14½ and Weld County Road 29
Fort Lupton, Colorado
Project Number 174095

Dear Mr. Kasch:

We have conducted the geotechnical site development study for the proposed residential development at the subject site. Our summary of the data collected during our field and laboratory work and our analysis, opinions, and conclusions are presented in the attached report. The purpose of our study is to provide design criteria for planning and site development, and preliminary design concepts for foundation systems, interior floor support, and streets for the proposed development.

In general, the subsurface materials encountered consist of natural topsoil, sand, clay, and weathered claystone overlying sedimentary bedrock. Claystone or sandstone bedrock was encountered at depths ranging from 1½ to 27½ feet. Ground water was measured at depths ranging from ½ to 24½ feet in during this study.

Site development considerations should include provisions for the presence of shallow ground water and associated loose soils, and shallow weathered claystone and claystone bedrock with high to very high expansion potential. Where shallow weathered claystone and claystone bedrock is present, the option for overexcavation of the site and replacement of the excavated materials as moisture treated fill can be considered. A barrier system and/or other dewatering techniques will be necessary to control ground water on the site. Raising the elevation of the site may also be considered. Difficulty developing the site must be anticipated due to the depth of ground water.

Based upon the results of this preliminary study, we anticipate 65% to 70% of the structures will be founded on straight shaft piers drilled into competent bedrock. Casing of the drilled piers will likely be necessary. Alternatively, soil modification may be considered. This will be difficult due to the shallow ground water. Where sufficient sand is found (30% to 35% of the site) footings may be possible. Stabilization of the loose soils will likely be necessary. This must be reviewed once grading plans have been completed and the depth of foundations have been decided. Preliminary foundation design concepts are presented in the report.

Slabs-on-grade will require some special consideration because of the expansion potential the shallow weathered claystone and claystone bedrock. Where the structures are founded upon straight shaft piers, engineered structural floors can be anticipated. Where footings are constructed, slabs-on-grade may be possible depending on the expansion potential and the Client's expectations.

Perimeter subsurface drainage systems will be necessary for all below grade areas. Extensive subsurface drainage systems can be anticipated on 85% to 90% of the structures.

Sulfate test results indicate that foundation concrete should be designed for severe (S2) sulfate exposure. Preliminary pavement guidelines and other recommendations are presented in the following report.

If you have any questions regarding the contents of this report or our analyses of the subsurface conditions which will influence the proposed development, please call us. We have appreciated the opportunity to provide this service for you.

Sincerely,

A. G. WASSENAAR, INC.

Ashley A. McDaniels, P. E.
Project Engineer

Reviewed by:

Keith D. Seaton, P. E.
Senior Engineer

AAM/KDS/aam/bab

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(continued)

ATTACHMENTS

GEOTECHNICAL SITE DEVELOPMENT STUDY

Proposed Residential Development
Coyote Creek North
Southeast of Weld County Road 14½ and Weld County Road 29
Fort Lupton, Colorado
January 22, 2018

PURPOSE

This report presents results of a geotechnical site development study for a proposed residential development to be located southeast of Weld County Road 14½ and Weld County Road 29 in Fort Lupton, Colorado (see Figure 1). The study was made to assist in determining preliminary design criteria for planning and site development, and preliminary design concepts for foundation systems, slabs-on-grade, and drainage. Preliminary geotechnical design concepts are also presented for street construction. Factual data gathered during the field and laboratory work is summarized on Figures 1 through 29 and Table I. Our opinions and recommendations presented in this report are based on the data generated during this field exploration, laboratory testing, our experience with similar type projects, and our understanding of the proposed project.

This report was performed in general accordance with our Proposal Number 174095, dated October 4, 2017. This report is not intended to provide design criteria for individual foundations or street construction. Additional geotechnical studies will be required to develop these types of final design criteria and construction recommendations.

PROPOSED CONSTRUCTION

We understand the proposed 127-acre development will consist of 222 single-family residential structures and the associated utility and roadway infrastructure. The west half of the site will

consist of lots sized between 50 to 70 feet wide. The east half of the site will consist of lots sized from ½ to 4 acres. The approximate locations of our test borings are shown on Figure 1. Preliminary overlot grading plans were not available at the time of this study. Existing elevations were provided by the civil engineer at each of our boring locations. We have assumed maximum cut/fill depths will not exceed 5 to 10 feet across the site. The recommendations in this study should be reviewed once grading plans are available.

SITE CONDITIONS

The parcel is bounded by undeveloped agricultural land to the north and northeast, Fulton Ditch to the east and south, and County Road 29 to the west. Vegetation consists of natural grasses, weeds, cattails (in the southeast portion) and sparsely located mature trees along the ditch. Water was observed in Fulton Ditch at the time of our field work. Two existing oil and gas wells are located on the site in the center of the western half and in the northeast portion of the site. An additional three oil and gas wells are located adjacent to the site to the south, southeast and east. The site slopes gently to the north and west. No bedrock outcrops were observed.

FIELD EXPLORATION

Subsurface conditions were explored by drilling 23 test borings at the approximate locations indicated on Figure 1. The test borings were advanced using a 4-inch diameter, continuous flight auger powered by truck-mounted and all terrain vehicle-mounted drill rigs. At frequent intervals, samples of the subsurface materials were obtained using a Modified California sampler and a split spoon sampler which were driven into the soil by dropping a 140-pound hammer through a free fall of 30 inches. The Modified California sampler is a 2.5-inch outside diameter by 2-inch inside diameter device. The split spoon sampler is a 2.0-inch outside diameter by 1.5-inch inside diameter device. The number of blows required for the sampler to penetrate 12 inches and/or the

number of inches that the sampler is driven by 50 blows gives and indication of the consistency or relative density of the soils and bedrock materials encountered. Results of the penetration tests and locations of sampling are presented on the "Test Boring Logs", Figures 2 through 6. Ground water measurements were made at the time of drilling and subsequent to drilling. Slotted PVC was installed in 12 of the 23 test borings to prevent caving prior to ground water level measurements. The PVC was removed after the subsequent measurements were obtained.

LABORATORY TESTING

The samples obtained during drilling were returned to the laboratory where they were visually classified by a geotechnical engineer. Laboratory testing was then assigned to specific samples to evaluate their engineering properties. The laboratory tests included 26 swell-consolidation tests to evaluate the effect of wetting and loading on the selected samples. The results of the swell-consolidation tests are presented on Figures 7 through 19. Twenty gradation analysis and Atterberg limits tests were conducted to evaluate grain size distribution and plasticity. These results are presented on Figures 20 through 29. In addition, four representative samples were tested for water soluble sulfates, pH, resistivity, and chlorides. The test results are summarized on Figures 2 through 6 and on Table I.

SUBSURFACE CONDITIONS

Our test borings indicate the subsurface materials encountered consist of natural topsoil, sand, clay, and weathered claystone overlying sedimentary bedrock. Claystone or sandstone bedrock was encountered at depths ranging from 1½ to 27½ feet. Ground water was measured at depths ranging from ½ to 24½ feet in during this study. A more complete description of the subsurface conditions is shown on Figures 2 through 6 and in the following sections.

NATURAL SOIL

Topsoil was encountered in all of the test borings. The topsoil encountered consisted of sandy clay and was up to 1½ feet thick. It was organic, moist, and dark brown. The topsoil is not considered capable of supporting structures and should be removed. Construction on topsoil is at the sole risk of the Owner.

Sand was encountered in all of the test borings. The sand encountered was loose to dense, slightly silty to very silty, clean to very clayey, with clay lenses, moist to wet, and brown to light brown. The sand is considered to possess low expansion potential and low to moderate settlement potential.

Clay was encountered in 6 of the 23 test borings. The clay encountered was medium stiff to stiff, silty, sandy to very sandy, with sand lenses, very moist to wet, and brown. This clay is considered to possess low expansion and compression potential.

Weathered claystone was encountered in eight of the 23 test borings. The weathered claystone encountered was stiff, silty, trace sand to sandy, moist to very moist, and brown to olive to gray to rust. The weathered claystone is considered to possess high expansion and low compression potential.

BEDROCK

Claystone bedrock was encountered in 19 of the 23 test borings at depths ranging from 1½ to 27½ feet. The claystone was firm to hard, silty, trace sand to very sandy, with sandstone lenses, iron stained, slightly moist to moist, and brown to olive to rust to gray. The claystone is assessed to posses high to very high expansion potential.

Sandstone was encountered in six of the 23 test borings at depths ranging from 9½ to 29 feet. The sandstone encountered was medium hard to hard, poorly cemented, silty to very silty, clean to very clayey, with claystone lenses, moist to wet and brown to light brown to light gray to olive to rust. The sandstone is assessed to possess low expansion potential. Plans showing estimated depth and elevation of bedrock are presented on Figures 30 and 31.

GROUND WATER

Ground water was measured at depths of ranging from ½ to 32 feet in 18 of the 23 test borings at the time of drilling. When we returned 19 to 43 days after drilling, ground water was measured at depths ranging from ½ to 24½ feet in 21 of the 23 test borings. Test Boring 14 was caved at a depth of 1 foot when checked 20 days after drilling. Test Boring 6 was dry 43 days after drilling. Maps indicating the estimated depth and elevation of the ground water are shown on Figures 32 and 33.

GEOTECHNICAL CONCERNS

GROUND WATER

Ground water was encountered at depths ranging from ½ to 24½ feet in 21 of the 23 test borings 19 to 43 days after drilling (see Figures 32 and 33). The shallowest ground water was encountered in the eastern two thirds and northern boundary of the site. The ground water was found at depths that will influence construction across the majority of the site. This water appears to be influenced by the irrigation ditch located along the south, southeast, and east perimeter of the site. The ground water will pose significant problems during site grading, utility construction, and pavement construction. We typically recommend that foundations be constructed at least 3 or preferably 4

feet of more above ground water level. Site development should be planned to avoid (e. g., raise the site grade, only at-grade construction) or remove the ground water. A Geohydrologist specializing in ground water issues should be consulted regarding dewatering the site. These issues are discussed more fully in the following sections.

SOFT SOILS

Loose natural sandy soils were encountered across the site. The loose sand will present soil stability concerns for site grading, foundation excavations, and during pavement construction. As stated previously, the sand exhibited low to moderate settlement potential. It is likely that large, rubber tired equipment will cause severe rutting and may not be able to traverse the area. It will likely be necessary to stabilize the loose, wet areas prior to fill placement. It may also be necessary to stabilize the soils prior to foundation construction. These issues are discussed more fully in the following sections.

EXPANSIVE SOILS

Weathered claystone and claystone bedrock with high to very high expansion potential were encountered across the site. The bedrock and weathered claystone was found at depths of less than 20 feet across approximately 70% of the site. The average measured swell in the claystone bedrock across the site was +4.7% under a 1,000 psf surcharge with a range from 1.6% to 9.5%. Approximately 90% of the tests in the bedrock exhibited moderate to very high (2% or more) swell. The average measured swell in the clay and weathered claystone across the site was +3.5% under a 1,000 psf surcharge with a range from –0.7% to 9.9%. Approximately 80% of the tests exhibited moderate to very high (2% or more) swell. Therefore, we believe that completing development of the site using traditional overlot grading techniques will result in a portion of the subdivision being supported upon straight shaft piers bottomed in bedrock. Using current risk

analysis techniques, all of the interior floors for these structures will be supported structurally. An alternative to drilled piers and structural floors is ground modification with an overexcavation and replacement process to reduce swell potential to possibly allow for shallow foundations and slab-on-grade construction. This will be difficult due to the ground water encountered across the site.

SITE DEVELOPMENT

OVERLOT GRADING

We assume the fill materials used at the site will be from on-site cut areas. In general, suitable inorganic on-site or off-site soils may be used for structural fill. Any existing fill, topsoil, or soil containing vegetation or other organic or deleterious material should be removed prior to placement of new fill. Off-site material considered for new fill should be evaluated by our office prior to hauling to the site.

Construction of the fill embankments throughout the site will consist of proper foundation preparation, constructing embankment benching where necessary, disposition of strippings, proper fill placement and compaction, and designing and vegetating slopes in accordance with the analysis performed and the applicable governing regulations. Following are general site grading recommendations:

1. It is recommended that we be called to observe and test the fill placement so that a uniform, compacted fill will be placed.
2. Based upon the subsurface information and our assumption that the near surface soils will be used for fill, we have attached general specifications.
3. All topsoil and vegetation beneath planned fill areas should be thoroughly stripped and removed prior to fill placement. The organic soils or topsoil should be wasted from the site or stockpiled for future use in revegetating exposed

slopes. In no case should these materials be used in new fills or where the stability of slopes will be affected by their low shear strength.

4. Where soft, rutting soils are found beneath planned fill areas, in-place drying or stabilization may be necessary. Stabilization prior to fill placement may be accomplished by placing 6-inch minus crushed rock or equivalent material, which should be evaluated by A. G. Wassenaar, Inc. (AGW) prior to use. The material should be placed in approximately 8-inch loose lifts and rolled into the underlying soft or loose soils with fully-loaded rubber-tired equipment. This procedure should continue until scraper type equipment can be supported on the rock fill with no significant deformation. In some instances, a geogrid or geotextile stabilization fabric may be economical for use in conjunction with rock stabilization.
5. Where natural slopes are steeper than an existing slope of 5:1 (horizontal to vertical), benching will be required for structural integrity of any fills (see Figure 34).
6. After the fill areas have been cleared, the exposed soils should be scarified to a minimum depth of 6 inches, brought to the proper moisture content, and then compacted according to the Appendix.
7. Excavated soil will likely be wet and may require drying or mixing with drier soil to allow proper compaction.
8. The compaction and moisture control of the soils will be dependent upon material types. The specifications outlined in the Appendix are based upon providing a fill with sufficient shear strength to support structures and controlling residual swell of expansive soil used in fill sections.

10. Particular attention should be paid to compaction of the exterior faces of slopes.
11. Other specifications outlined in the Appendix should be followed.

SOIL MODIFICATION

An option to reduce the amount of swell of the expansive soils would be to remove them from beneath foundation areas and to place the excavated material as a moisture treated fill. This procedure can result in a fill that is able to support shallow foundations and involves excavating to a depth below the foundations as determined by the amount of potential swell in the soils. The excavated soil is then wetted to at or above optimum moisture content and compacted into the excavations (see Appendix). We estimate that an overexcavation of the moderate to very highly expansive soils to depths of up to 12 to 14 below the lowest foundation element would be necessary beneath structure foundations depending upon the configuration of the structure foundation (i.e., basements, crawl spaces, etc.). The actual areas of overexcavation need to be determined by drilling additional test borings once the overlot grading plans have been finalized or after grading when the geotechnical design level reports for each specific structure are performed. This procedure would be difficult at this site due to the ground water level. Dewatering the excavations would be required. At this time, we would estimate that about 20% of the site could be overexcavated without dewatering. Additionally, the excavated soils would likely need to be dried prior to placement as new fill.

SLOPES

A slope stability analysis and/or retaining wall analysis was not conducted as part of this study. Where natural slopes exceed 5 to 1, horizontal to vertical, benching to maintain structural integrity

may be required (see Figure 34). Construction of conventional fill slopes should be limited to 2 to 1 or flatter. Cut slopes steeper than 2 to 1 should be evaluated for stability.

CONSTRUCTION EXCAVATIONS

In our opinion, the majority of the site grading, utility, and foundation excavations may likely be constructed using conventional earth-moving equipment for the Front Range area. Excavations will encounter soft soils. Excavations deeper than 3 feet should be properly sloped or braced to prevent collapse of potentially caving soils. The overburden sand soils, soft to medium stiff clay soils, and any soil influenced by ground water classify as "Type C" soils, the stiff to very stiff clay soils classify as a "Type B" soil, and the underlying bedrock may be classified as a "Type A" soil according to OSHA regulations. Local, city, county, state, and federal (OSHA) regulations should be followed.

The bedrock, when encountered, should stand vertically unsupported, except where fractured or inundated with water. In the interest of safety, bedrock excavations should be sloped as outlined above. In our opinion, the utility excavations may be constructed using conventional earth-moving equipment for the Front Range area.

The presence of ground water will be a significant constraint upon excavation and utility construction. It will be necessary to dewater all excavations and trenches constructed below the ground water level. Dewatering may include pumping from the work area or construction of well points. The excavation and utility contractor must be made aware of the ground water conditions so that contract bidding will include the appropriate provisions.

Trench backfill should be well compacted to prevent future settlement. Trenches within the lots, as a minimum, should be compacted using the same methods and specifications as required for overlot grading. Trenches in streets should be compacted to the Town of Fort Lupton specifications. Observation and testing of fill placement must be performed during trench backfilling.

SUBSURFACE DRAINAGE

Shallow ground water was encountered across the site. The ground water encountered is anticipated to cause significant problems during site development, utility construction, grading, and overexcavation if the option is selected.

If basements are desired and it is not feasible to raise the site, it will be necessary to lower the ground water level. Due to the direction of flow and the relatively shallow claystone bedrock, it may be feasible to construct a barrier system along the ditch bordering the site to the south and east property lines that prevents ground water from flowing across the site. The barrier would need to be excavated into the bedrock. An interceptor drain could also be considered, provided that a gravity outfall can be located and the ditch company does not object. Another option would be to line the ditch. A Geohydrologist with experience in ground water issues should be consulted. Additionally, an area drain and permanent outfalls (discussed below) would be required.

Clay soils and claystone bedrock were encountered in the test borings. These types of materials have a relatively low permeability that contribute to the ground water conditions across the site. Additionally, after development and construction have taken place, when landscape irrigation and surface drainage conditions have changed, additional water will be added to the site. For these reasons, we recommend an overall area drain be considered for the site. An overall area drain

can also provide for a discharge and collection point for individual foundation drains. Typically, underdrains can be designed and constructed with installation of the sanitary sewer system; however, the Town of Fort Lupton should be consulted to determine where an underdrain system is allowed. The civil engineering company contracted to design the infrastructure should be able to provide this design. We are available to assist in drain design. For the system to work, the area drain must be graded to a positive discharge point. **If a permanent outfall for an area drain cannot be determined, the area drain should not be constructed.**

If the Developer elects not to install or the municipality will not allow an overall area drain, an acceptable alternative would be to establish points of positive gravity discharge for the gravel bedding beneath the sewer. We also recommend any basement or below grade area be provided with a perimeter subsurface drainage system sloped to drain to a positive gravity discharge such as a sump or connected directly to the underdrain system.

SURFACE DRAINAGE

We recommend that provisions be made to divert surface runoff away from development areas. This should reduce potential problems associated with excess water and soils which are susceptible to instability. The site should be designed such that a 10% slope can be established near the structures after foundation construction. Slopes of at least 2% should then be planned in landscaped areas once the water is away from the foundations.

SITE CONCRETE AND CORROSIVITY

Testing performed on selected soil and bedrock samples indicated water soluble sulfate contents of less than 100 parts per million (ppm) to 2,860 ppm. This is considered to be a negligible to severe concentration relative to potential corrosive attack on concrete. Therefore, all concrete in

contact with the soils on the site should be designed for severe sulfate exposure (S2) in accordance with the current American Concrete Institute (ACI) Design Manual.

The pH test results ranged from 7.6 to 7.9. Resistivity test results at in-situ moisture ranged from 273 to 1,510 ohm•cm. Chloride test results ranged from less than 0.0016% to 0.0144%. These results are summarized on Figures 2 through 6 and on Table I. The results of this testing should be used as an aid in choosing the construction materials in contact with these soils which will be resistant to the various corrosive forces. Manufacturer's representatives should be contacted regarding the specific corrosivity resistance to the stated levels of pH, resistivity, and chlorides for their particular product. In addition, municipality specifications should be consulted when selecting pipe materials.

PRELIMINARY FOUNDATION DESIGN CONCEPTS

The foundation recommendations for each structure are dependent upon the subsurface profile and engineering properties of the materials encountered at and near the depth of the proposed foundation. These are dependent upon the final configuration and construction methods used for overlot grading at the site. Therefore, foundation design recommendations for each structure cannot be presented until site grading is complete. **The information presented in the following sections presents preliminary foundation concepts which must be finalized for each building site upon completion of the overlot grading operations.** We should be retained to provide an additional soil and foundation exploration after completion of site grading to provide specific foundation design recommendations for each site.

FOOTINGS

Where there is sufficient natural soil or properly placed and compacted fill between the foundation and claystone bedrock, it is likely that a suitable foundation system for the structures would be spread footings or pad-type footings (approximately 30% to 35% of the site). Stabilization of foundation bearing soils with rock will likely be necessary for most of the site. The footings must be founded below frost depth. The footings will likely be designed for a maximum soil pressure ranging from 1,000 to 3,000 psf. A minimum dead load pressure on the order of 700 to 1,000 psf may be necessary.

PIERS

A suitable foundation system for structures founded where moderately to very highly expansive claystone bedrock is at or near the bottom of the foundation excavations would be straight shaft piers drilled into bedrock. If soil modification is not employed, we estimate that 65% to 70% of the site will require a pier foundation system. The piers will likely be designed for an end bearing pressure in the range of 15,000 to 30,000 psf, a minimum dead load pressure in the range of 10,000 to 25,000 psf, and a side shear in the range of 1,500 to 2,500 psf. The side shear would be applied for that portion of the pier in undisturbed bedrock with the exception of the upper 12 feet of each pier beneath the grade beam or foundation wall. Pier lengths on the order of 25 to 35 feet (with bedrock penetration from 16 to 22 feet) below the basement level can be anticipated. **Casing the piers should be anticipated.** As an alternative to cased piers, helical piles could be constructed to support the foundations.

LATERAL EARTH PRESSURES

Foundation walls with fill on only one side will need to be designed for lateral earth pressures. For this site, lateral earth pressures calculated based upon equivalent fluid densities on the order of 50 to 80 pcf should be anticipated.

INTERIOR FLOOR CONSTRUCTION

If the site is developed using traditional overlot grading techniques, it is likely that the sites where piers are required for foundation support will be assessed with a moderate to very high slab risk performance. If the site is developed using overexcavation and placement of moisture treated fill, it is likely that most of the sites will be assessed with a low to moderate slab risk performance evaluation. Slab-on-grade construction may be appropriate for full unfinished basement construction on sites with low or moderate evaluations. Structural floors are generally recommended on sites with higher evaluations, finished basements, or any site where floor movement or cracking cannot be tolerated. If the risk tolerance for slab movement is zero, structural floors should be constructed.

DRAIN SYSTEMS

Due to the nature of the soils encountered on the site, drain systems will be required around the lowest excavation level for each structure. Either interior or exterior drains may be used for a portion of the sites. The drains must consist of rigid perforated pipe encased in gravel and sloped to a positive gravity outfall or sump. Extensive subsurface drainage systems are anticipated on 85% to 90% of the site. Extensive drain systems will be necessary where the lowest foundation level is within 3 to 4 feet of the ground water. Waterproofing the foundation walls will likely be required. Waterproof foundation construction will be necessary if basements are constructed below existing groundwater levels.

BACKFILL AND SURFACE DRAINAGE

Backfill should be moistened and compacted to reduce potential future settlement. The site grading should consider a slope of 10% away from the foundation at the completion of construction. All other drainage swales in landscaped areas on the lots should slope at a minimum of 2%.

PRELIMINARY STREET PAVEMENT DESIGN

Pavement design procedures are based on strength properties of the subgrade and pavement materials, the assumed design traffic conditions, and the Town of Fort Lupton pavement regulations. The subgrade materials encountered on this site are potentially expansive and require additional precautions be taken to provide for adequate pavement performance. The pavement design procedures outlined address expansive subgrade materials primarily by modifying the subgrade materials in such a manner as to reduce the swell potential and then by attempting to minimize subgrade wetting after construction.

Based upon our preliminary analysis, it appears the proposed pavement subgrade materials will be a mixture of silty to clayey sand and claystone. Their AASHTO soil classification will likely be A-1-b, A-2-4, A-3, A-4, A-6, and A-7-6. From this classification, we have estimated strength values in order to determine the preliminary pavement thicknesses.

Based upon our laboratory testing and our experience in the areas, the weathered claystone and claystone bedrock encountered on this site can be expected to exhibit swell in excess of those allowed by the Town of Fort Lupton pavement regulations. Therefore, these subgrade soils will need to be moisture treated in order to reduce the potential swell of the subgrade. In order to mitigate this potential swell, we recommend that the roadways where the natural weathered

claystone and claystone bedrock are the subgrade material be overexcavated to a depth of at least 5 feet below the pavement subgrade. The excavated material should be placed as moisture treated fill (see Appendix) within the right-of-way. Any new fill within 5 feet of the subgrade elevation should be placed as moisture treated fill. Lime or other chemical treatment of the subgrade may also be required. The overexcavation should be performed during site grading prior to construction of utilities within the right-of-way. Overexcavation should cover the paved area from back of sidewalk (for attached sidewalk areas) or back of curb (for detached sidewalks).

The shallow ground water encountered on the site may cause stabilization issues for pavement construction. This may require chemical or mechanical stabilization based upon the unstable encountered on this site. Chemical stabilization includes the use of lime, fly ash, cement, or other chemical additives to the soil. Mechanical stabilization includes the use of a geogrid beneath the base course. Where soft yielding pavement subgrade is found, stabilization using rock or chemicals (fly ash or cement) may be necessary. The use of pavement drains will be necessary when ground water is within 3 feet of the subgrade to prevent frost heave (see Figure 35).

Based on this information and utilizing structural numbers as determined per the Town of Fort Lupton specifications, the alternatives presented below were calculated.

Pavement Thickness Recommendations

Traffic Category	HBP (in.)	HBP/ABC (in.)
Residential Streets	6.5 to 7.0	5.0 to 6.0 / 8.0 to 10.0
Residential Collector	8.0 to 10.0	5.0 to 6.0 / 10.0 to 12.0

HBP = Hot Bituminous Pavement ABC = Aggregate Base Course

The above preliminary thickness recommendations are based on a 5-foot overexcavation of the expansive subgrade material beneath the proposed pavement subgrade elevation. A design life of 20 years was assumed. It should be emphasized that the design alternatives provided above are preliminary for the materials anticipated. The final design thicknesses could be more or less than indicated.

Proper surface and subsurface drainage is essential for adequate performance of pavements constructed on these types of subgrade materials. It has been our experience that water from landscaped areas can infiltrate pavement subgrade soils and result in loss of subgrade integrity followed by pavement damage. Therefore, provisions should be made to maintain adequate drainage and/or contain runoff from such areas. This is especially important since composite pavement sections which include base course tend to promote further subgrade moisture infiltration and damage. In addition, water and irrigation lines should be thoroughly pressure tested for leaks prior to placement of pavement materials.

It must be reiterated that the information contained in this section is preliminary in nature. More detailed information will be required by the Town of Fort Lupton prior to issuance of a paving permit. Therefore, when overlot grading is complete at the site, a final pavement evaluation must be performed.

FINAL DESIGN CONSULTATION AND CONSTRUCTION OBSERVATION

This report has been prepared for the exclusive use of Coyote Creek North, LLC for the purpose of providing geotechnical criteria for the proposed project. The data gathered and the conclusions and recommendations presented herein are based upon the consideration of many factors including, but not limited to, the type of structures proposed, the configuration of the structures,

the proposed usage of the site, the configuration of surrounding structures, the geologic setting, the materials encountered, and our understanding of the level of risk acceptable to the Client. Therefore, the conclusions and recommendations contained in this report shall not be considered valid for use by others unless accompanied by written authorization from A. G. Wassenaar, Inc.

It is recommended that A. G. Wassenaar, Inc. be retained to provide general review of the final design and specifications in order that the recommendations presented may be properly interpreted and implemented. Our firm should also be retained to provide geotechnical engineering and material testing services during construction of the site grading, utilities, and structures. The purpose is to observe the construction with respect to the geotechnical design concepts, specifications or recommendations, and to facilitate design changes in the event that subsurface conditions differ from those anticipated prior to start of construction.

GEOTECHNICAL RISK

The concept of risk is an important aspect of any geotechnical evaluation. The primary reason for this is that the analytical methods used to develop geotechnical recommendations do not comprise an exact science. The analytical tools which geotechnical engineers use are generally empirical and must be tempered by engineering judgment and experience. Therefore, the solutions or recommendations presented in any geotechnical evaluation should not be considered risk-free and, more importantly, are not a guarantee that the interaction between the soils and the proposed structure will perform as desired or intended. What the engineering recommendations presented in the preceding sections do constitute is our best estimate, based on the information generated during this evaluation and our experience in working with these conditions, of those measures that are necessary to help the development perform in a satisfactory manner. The

Owner must understand this concept of risk, as it is they who must decide what is an acceptable level of risk for the proposed development of the site.

LIMITATIONS

We believe the professional judgments expressed in this report are consistent with that degree of skill and care ordinarily exercised by practicing design professionals performing similar design services in the same locality, at the same time, at the same site and under the same or similar circumstances and conditions. No other warranty, express or implied, is made. In the event that any changes in the nature, design or location of the facility are made, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report are modified or verified in writing. Because of the constantly changing state of the practice in geotechnical engineering, and the potential for site changes after our field exploration, this report should not be relied upon after a period of three years without our firm being given the opportunity to review and, if necessary, revise our findings.

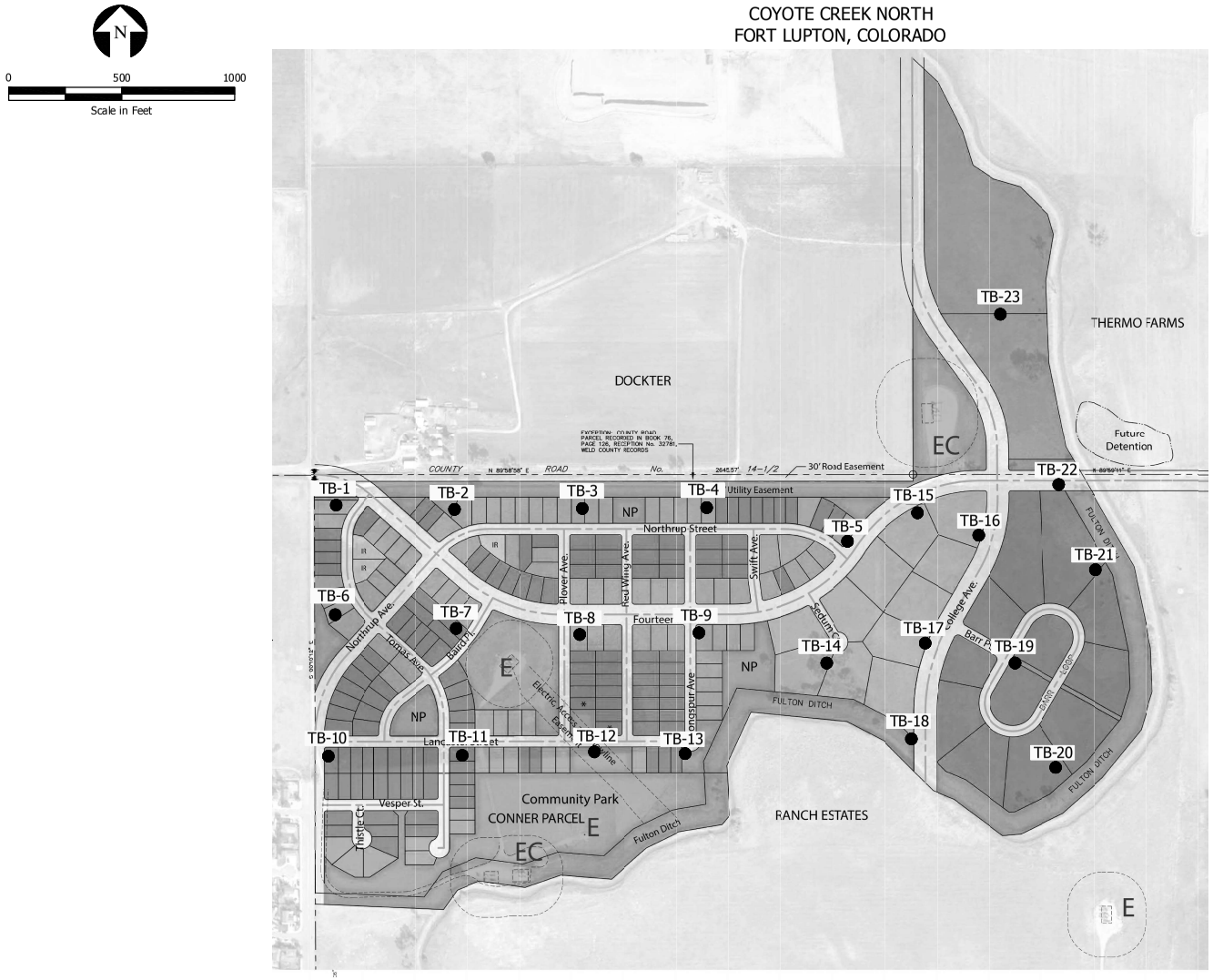
The test borings drilled for this study were spaced to obtain a reasonably accurate picture of underground conditions for design purposes. Variations frequently occur from these conditions which are not indicated by the test borings. These variations are sometimes sufficient to necessitate modifications in the designs. If unexpected subsurface conditions are observed by any party during site development, we should be notified to review our recommendations.

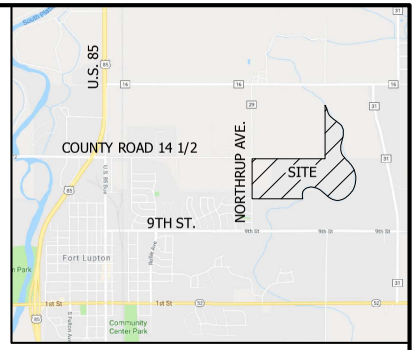
Our scope of services for this project did not include, either specifically or by implication, any research, identification, testing, or assessment relative to past or present contamination of the site by any source, including biological (i.e., mold, fungi, bacteria, etc.). If such contamination were present, it is likely that the exploration and testing conducted for this report would not reveal its

existence. If the Owner is concerned about the potential for such contamination or pollution, additional studies should be undertaken. We are available to discuss the scope of such studies with you.

Our scope of services for this project did not include a local or global geological risk assessment. Therefore, issues such as mine subsidence, slope stability, active faults, etc. were not researched or addressed as part of this study. If the Owner is concerned about these issues, we are available to discuss the scope of such studies upon your request.

COYOTE CREEK NORTH
FORT LUPTON, COLORADO





VICINITY MAP
NOT TO SCALE

NOTES:

1. TEST BORINGS ARE OVERLAID ON THE "COYOTE CREEK NORTH, FT. LUPTON, CO-115' DEPTH CONCEPT PLAN", PREPARED BY SANDERSON STEWART, DATED DECEMBER 2017.
2. ALL LOCATIONS ARE APPROXIMATE.

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants

SITE PLAN AND VICINITY MAP	PROJECT NO. 174095 FIGURE 1

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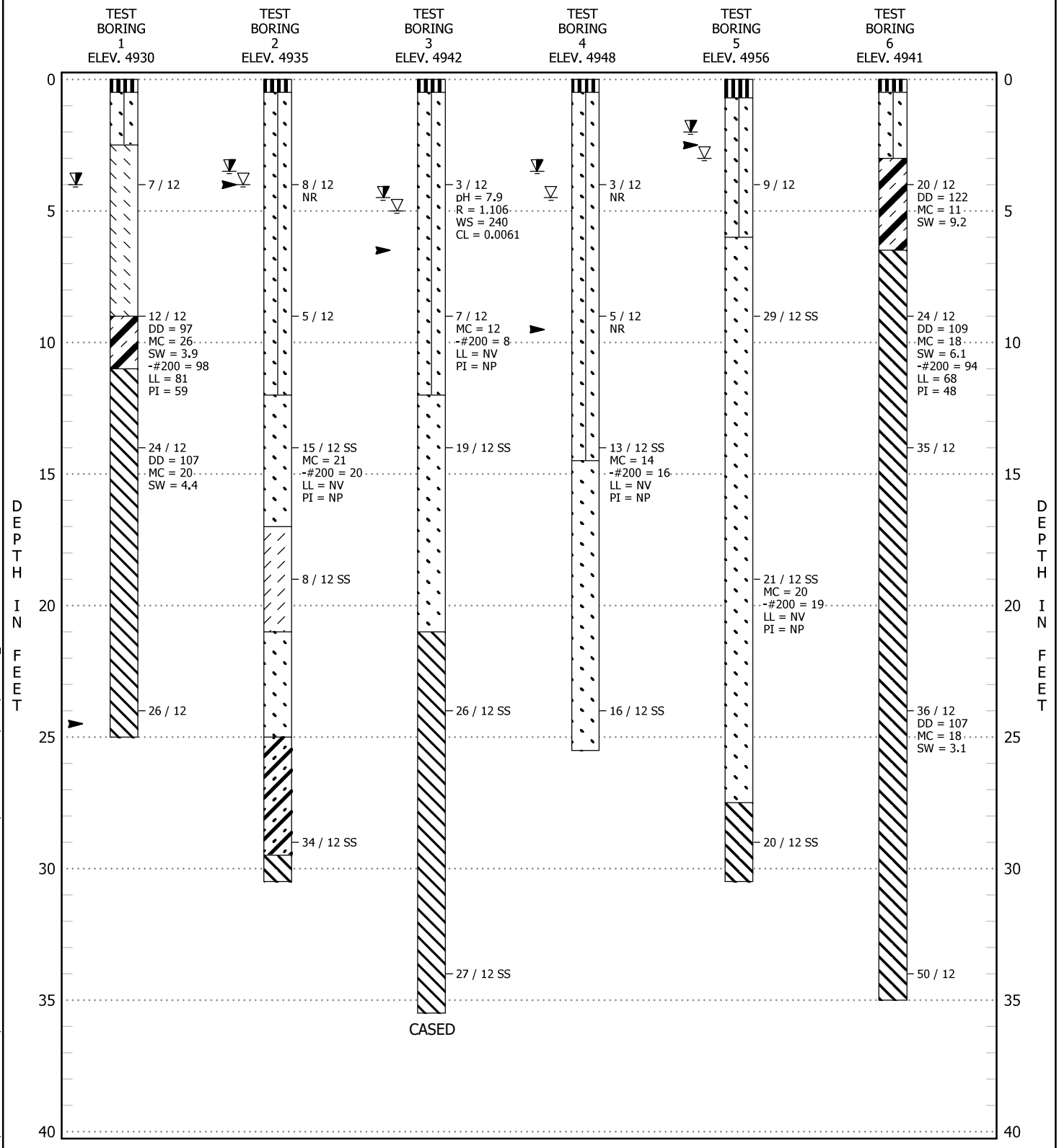
Geotechnical and Environmental Consultants

CLIENT Coyote Creek North, LLC
PROJECT NAME Coyote Creek North
PROJECT NUMBER 174095
PROJECT LOCATION Fort Lupton, Colorado



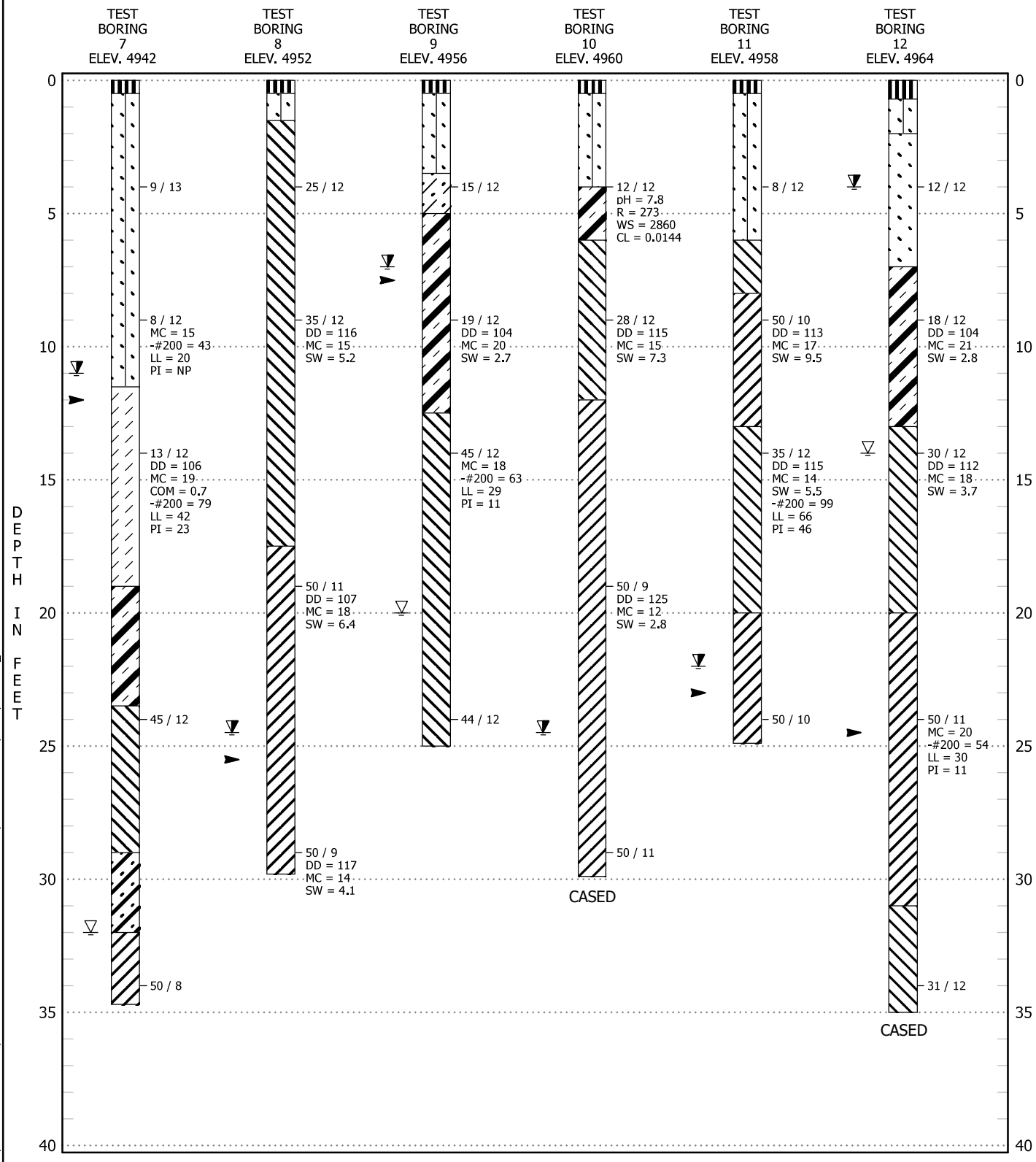
SEE FIGURE 6 FOR LEGEND AND NOTES TO TEST BORINGS

TEST BORING LOGS
FIGURE 2

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants

CLIENT Coyote Creek North, LLC **PROJECT NAME** Coyote Creek North

PROJECT NUMBER 174095 **PROJECT LOCATION** Fort Lupton, Colorado



SEE FIGURE 6 FOR LEGEND AND NOTES TO TEST BORINGS

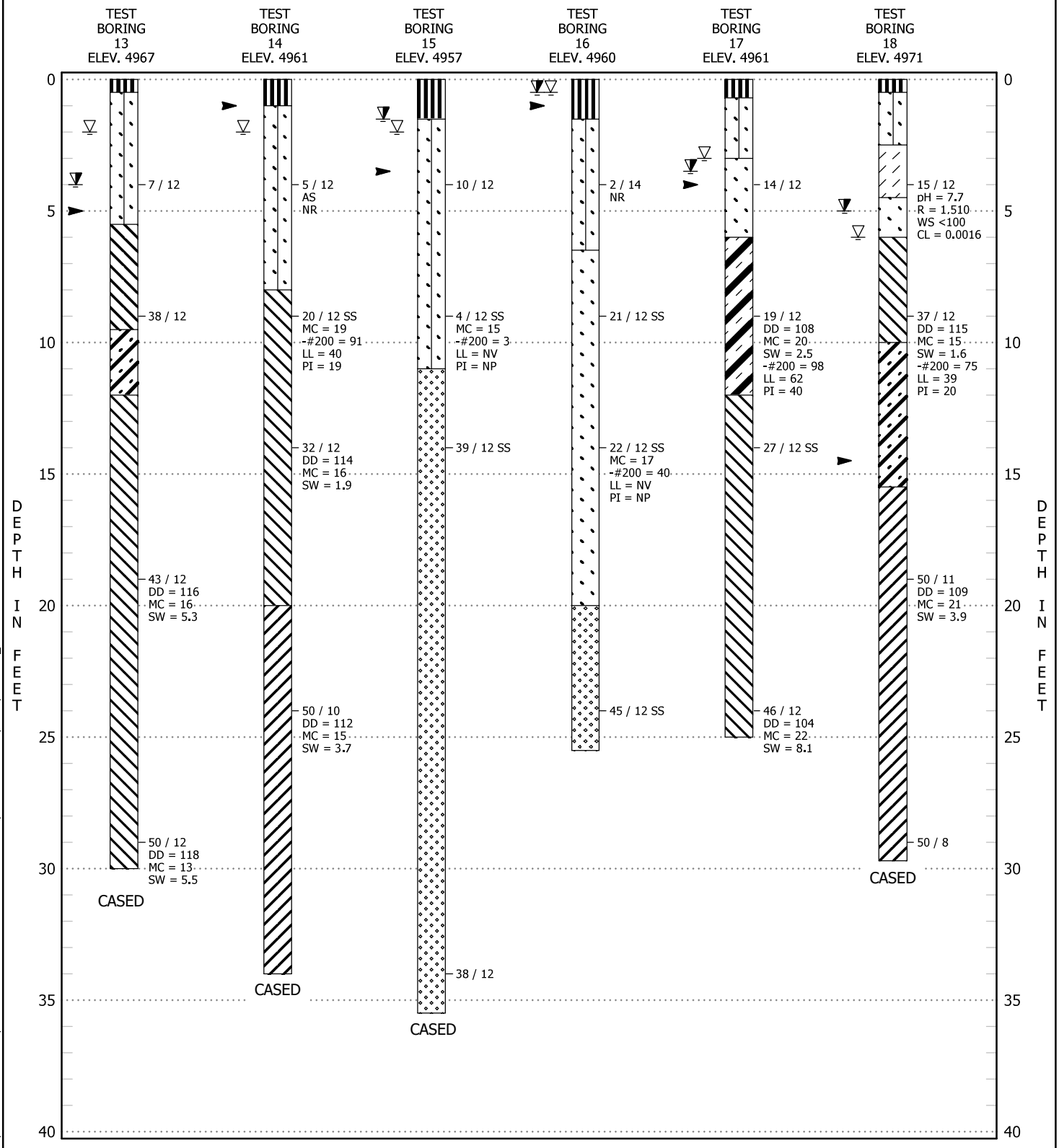
TEST BORING LOGS

FIGURE 3

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants

CLIENT Coyote Creek North, LLC **PROJECT NAME** Coyote Creek North

PROJECT NUMBER 174095 **PROJECT LOCATION** Fort Lupton, Colorado



SEE FIGURE 6 FOR LEGEND AND NOTES TO TEST BORINGS

TEST BORING LOGS

FIGURE 4

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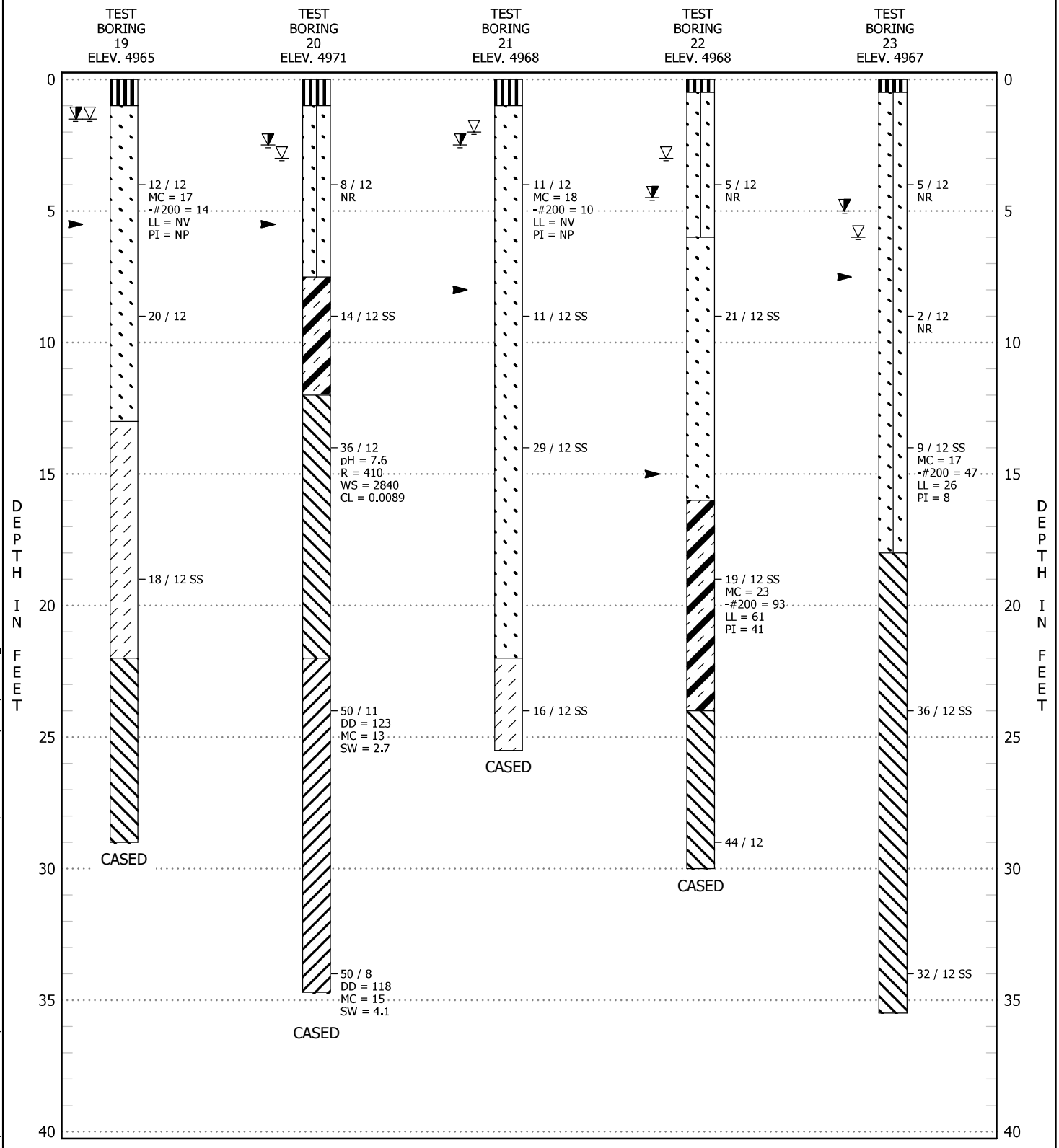
A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants

CLIENT Coyote Creek North, LLC **PROJECT NAME** Coyote Creek North

PROJECT NUMBER 174095 **PROJECT LOCATION** Fort Lupton, Colorado



SEE FIGURE 6 FOR LEGEND AND NOTES TO TEST BORINGS

TEST BORING LOGS

FIGURE 5

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A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants

CLIENT Coyote Creek North, LLC
PROJECT NAME Coyote Creek North
PROJECT NUMBER 174095
PROJECT LOCATION Fort Lupton, Colorado

SOIL DESCRIPTIONS


Topsoil, clay, sandy, organic


Clay, medium stiff


Clay, stiff to very stiff


Sand, loose


Sand, medium dense, silty


Sand, medium dense, silty, clayey


Sand, dense to very dense, silty


Clay (weathered claystone), medium stiff to stiff


Claystone (Bedrock), firm to medium hard


Claystone (Bedrock), hard to very hard


Sandstone (Bedrock), hard to very hard

ABBREVIATIONS

DD	Dry density of sample in pounds per cubic foot (pcf)
MC	Moisture content as a percentage of dry weight of soil (%)
SW	Percent swell under a surcharge of 1000 pounds per square foot (psf) upon wetting (%)
COM	Percent compression under a surcharge of 1000 pounds per square foot (psf) upon wetting (%)
UC	Unconfined compressive strength in pounds per square foot (psf)
-#200	Percent passing the Number 200 sieve (%)
LL	Liquid Limit
PI	Plasticity Index
NP	Non-Plastic
NV	No Value
pH	Acidity or alkalinity of sample in pH units
R	Resistivity in ohms.cm
WS	Water soluble sufates in parts per million (ppm)
CL	Chlorides in percent (%)
x/y	X blows of a 140-pound hammer falling 30 inches were required to drive a 2.5-inch outside diameter sampler Y inches
x/y SS	X blows of a 140-pound hammer falling 30 inches were required to drive a 2.0-inch outside diameter sampler Y inches
C-x	Depth of cut to grade (rounded to the nearest foot)
F-x	Depth of fill to grade (rounded to the nearest foot)
FG	Finished grade (rounded to the nearest foot)
NR	No sample recovered
Bounce	Sampler bounced during driving
B	Bulk sample
AS	Auger sample
	Moderately to well cemented layer
—	Approximate depth of cut
	Depth at which practical drilling refusal was encountered
	Water level at time of drilling
	Caved depth at time of drilling
	Water level 19 to 43 days after drilling
	Caved depth 19 to 43 days after drilling

Notes:

1. Test borings were drilled November 21, 2017 to December 15, 2017.
2. Location of the test borings were staked by others at locations chosen by this firm.
3. The horizontal lines shown on the logs are to differentiate materials and represent the approximate boundaries between materials. The transitions between materials may be gradual.
4. Elevations were obtained from staking provided by others and have been rounded to the nearest foot.
5. Boring logs shown in this report are subject to the limitations, explanations, and conclusions of this report.

LEGEND AND NOTES
FIGURE 6

A.G. Wassenaar Inc.
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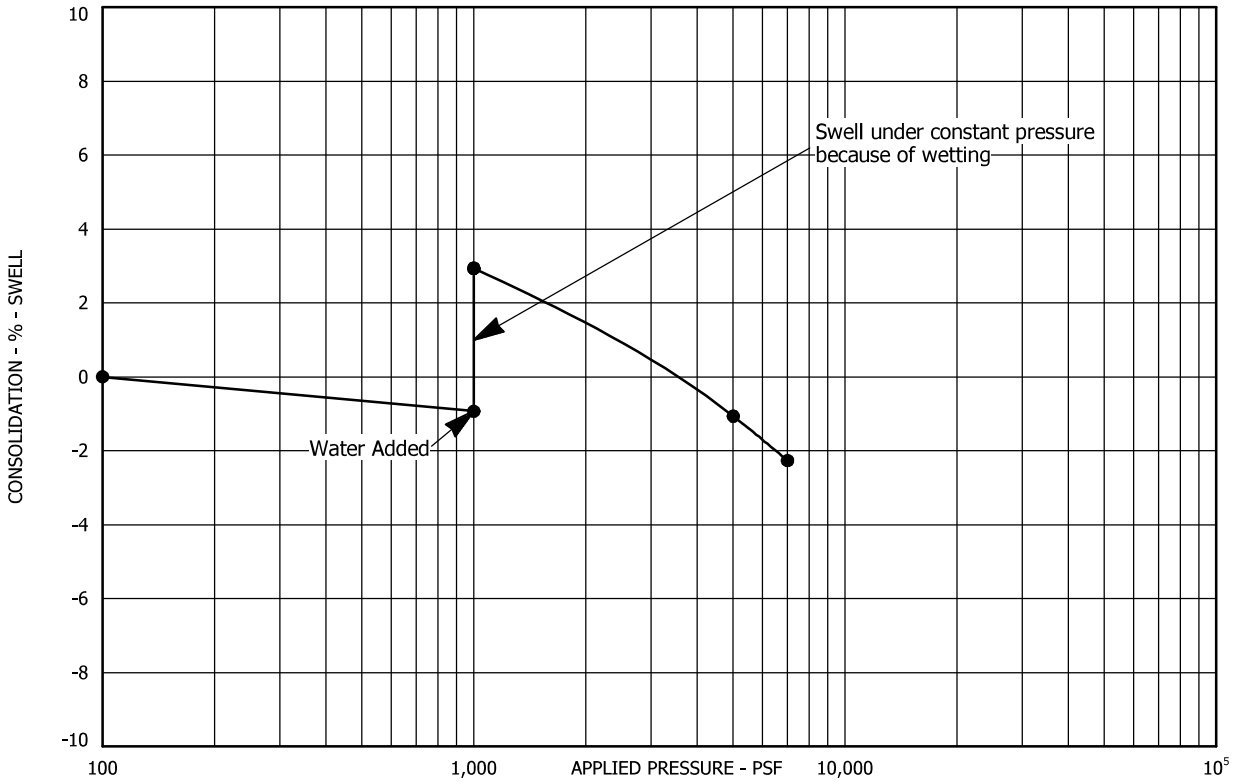
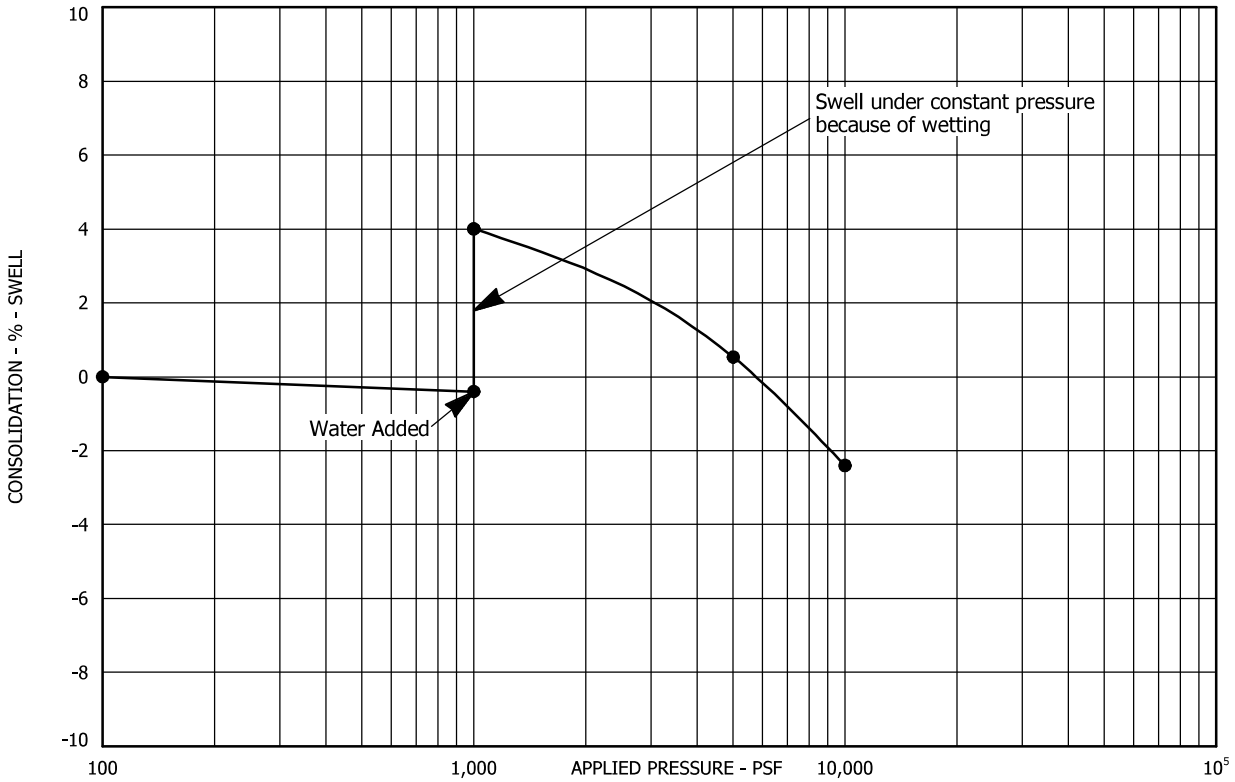


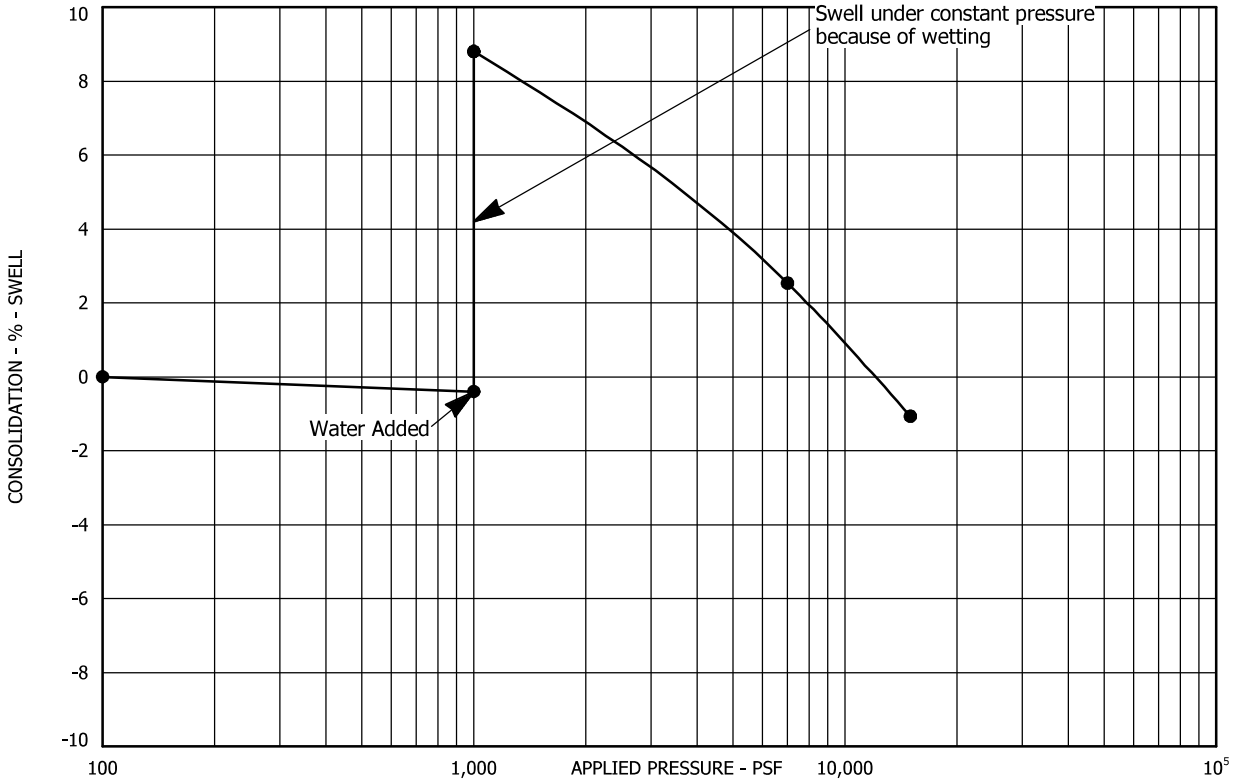
Sample Location: Test Boring No. 1 at a depth of 9 feet
Sample Description: Clay (weathered claystone), trace sand
Dry Unit Weight (pcf): 97
Moisture Content (%): 26



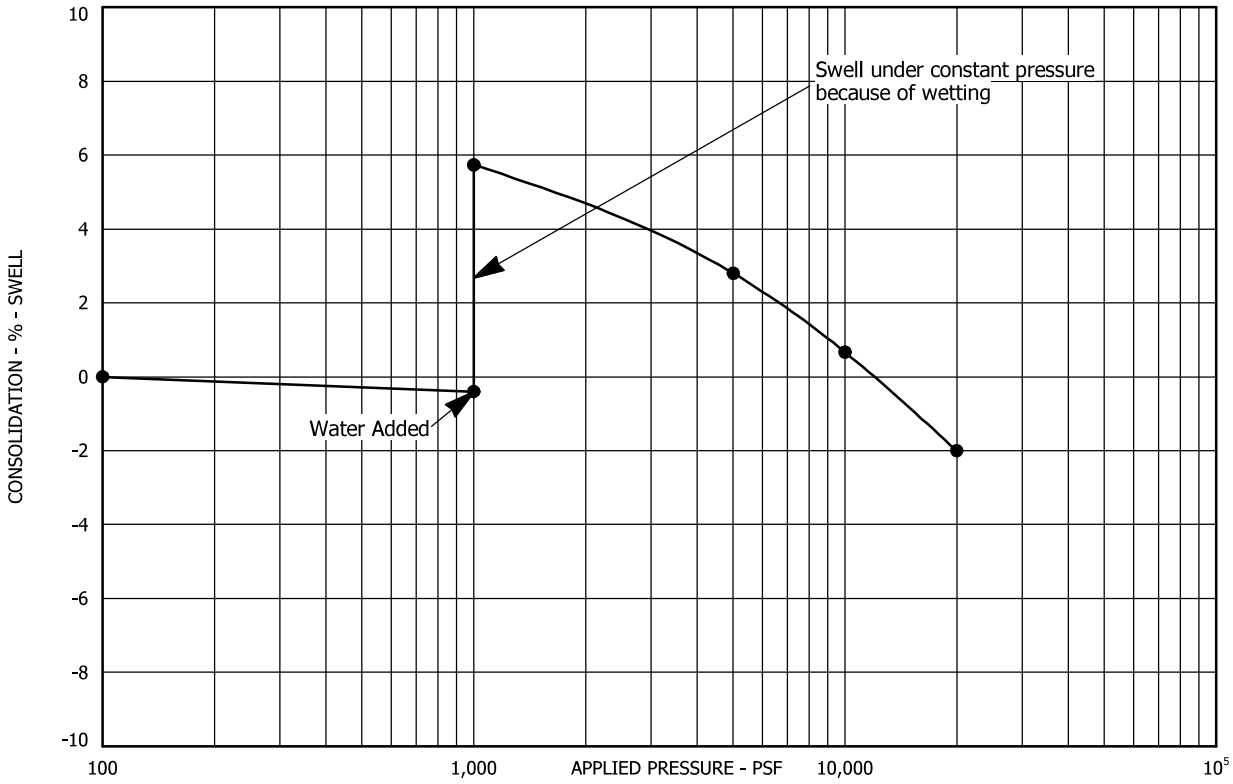
Sample Location: Test Boring No. 1 at a depth of 14 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 107
Moisture Content (%): 20

SWELL - CONSOLIDATION TEST RESULTS
FIGURE 7

PROJECT NO. 174095
73/180



Sample Location: Test Boring No. 6 at a depth of 4 feet
Sample Description: Clay (weathered claystone), sandy
Dry Unit Weight (pcf): 122
Moisture Content (%): 11



Sample Location: Test Boring No. 6 at a depth of 9 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 109
Moisture Content (%): 18

SWELL - CONSOLIDATION TEST RESULTS

FIGURE 8

PROJECT NO. 174095

A.G. Wassenaar Inc.
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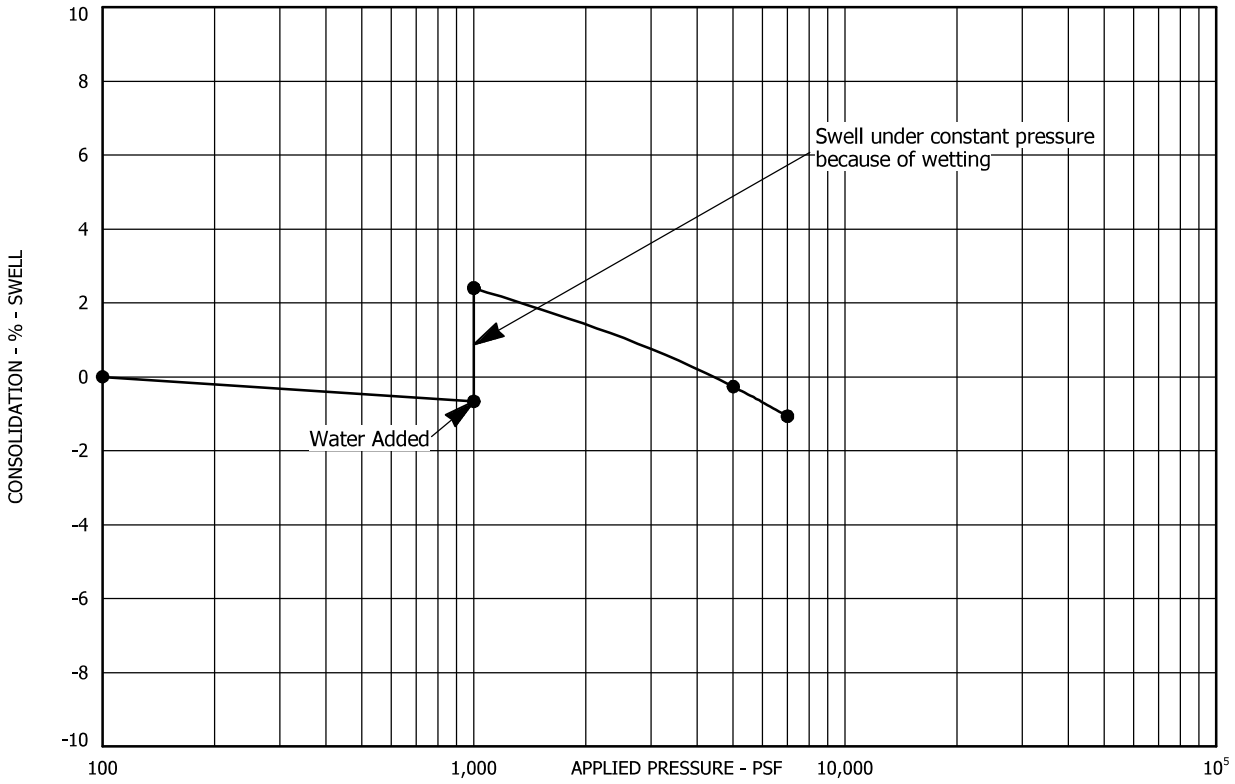
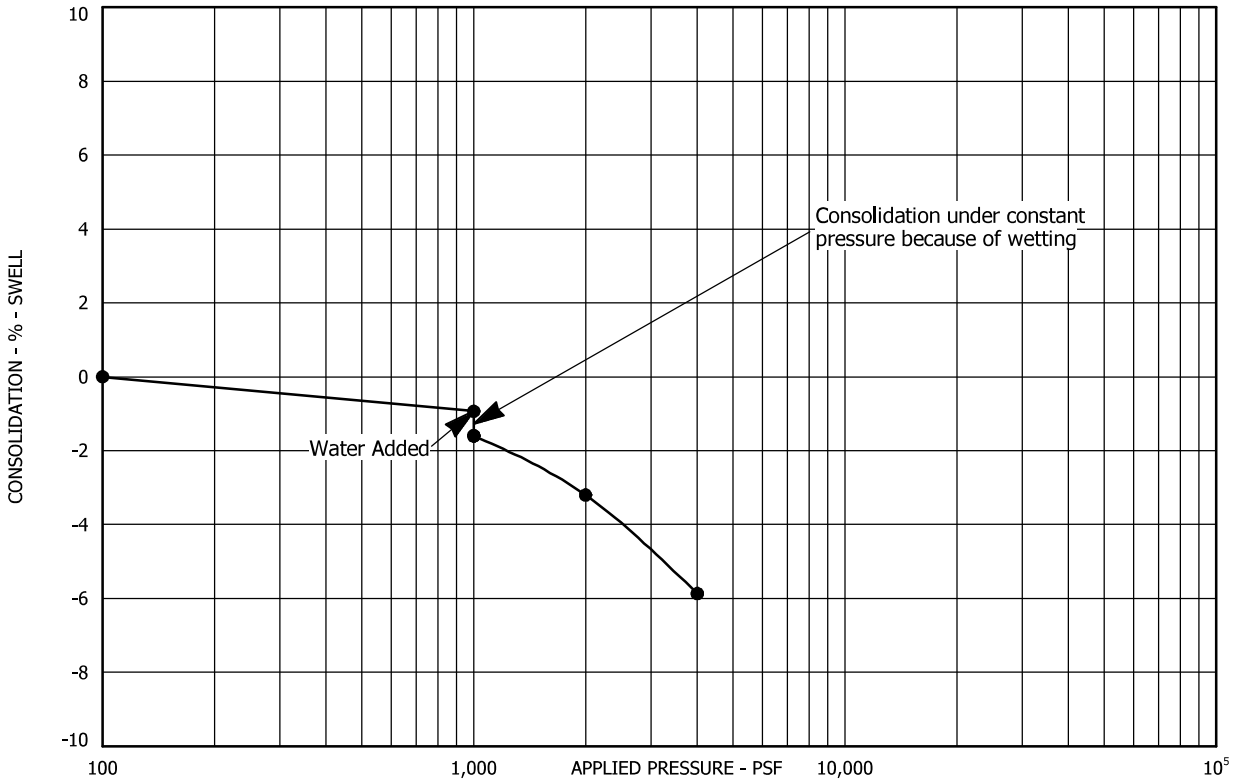


Sample Location: Test Boring No. 6 at a depth of 24 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 107
Moisture Content (%): 18

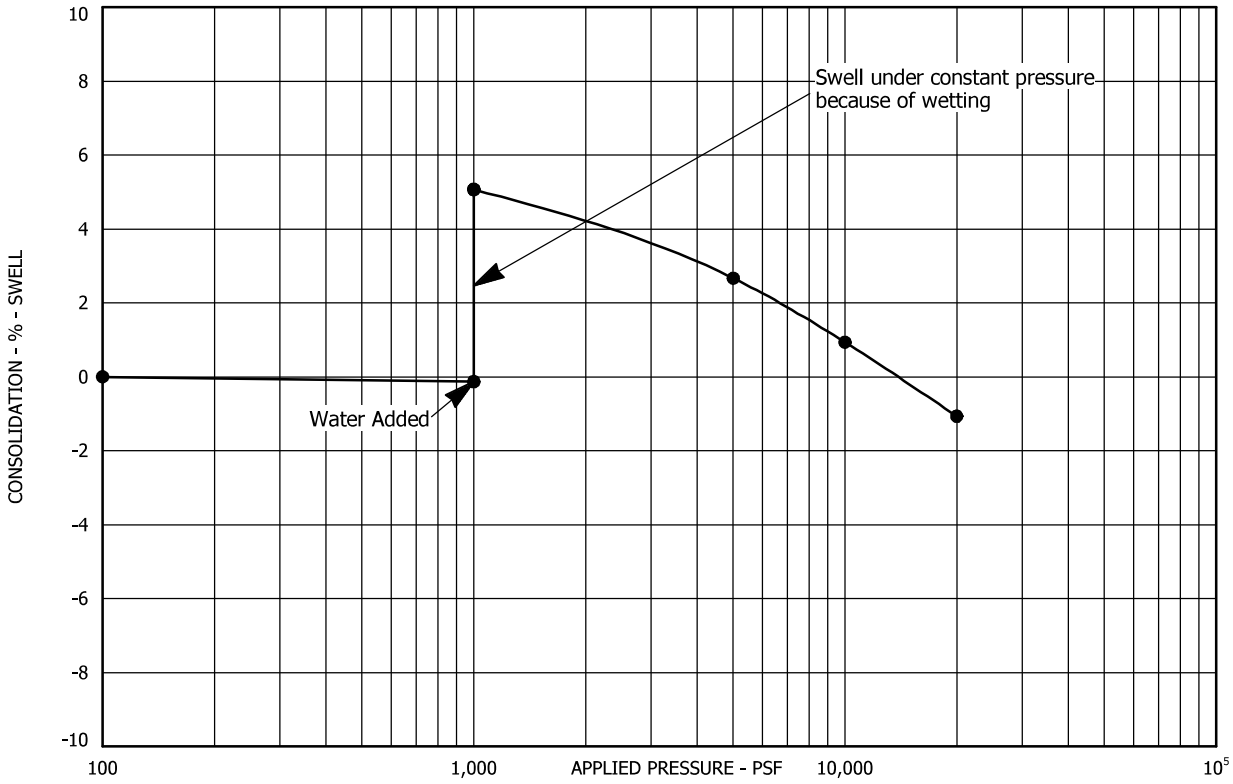


Sample Location: Test Boring No. 7 at a depth of 14 feet
Sample Description: Clay, sandy
Dry Unit Weight (pcf): 106
Moisture Content (%): 19

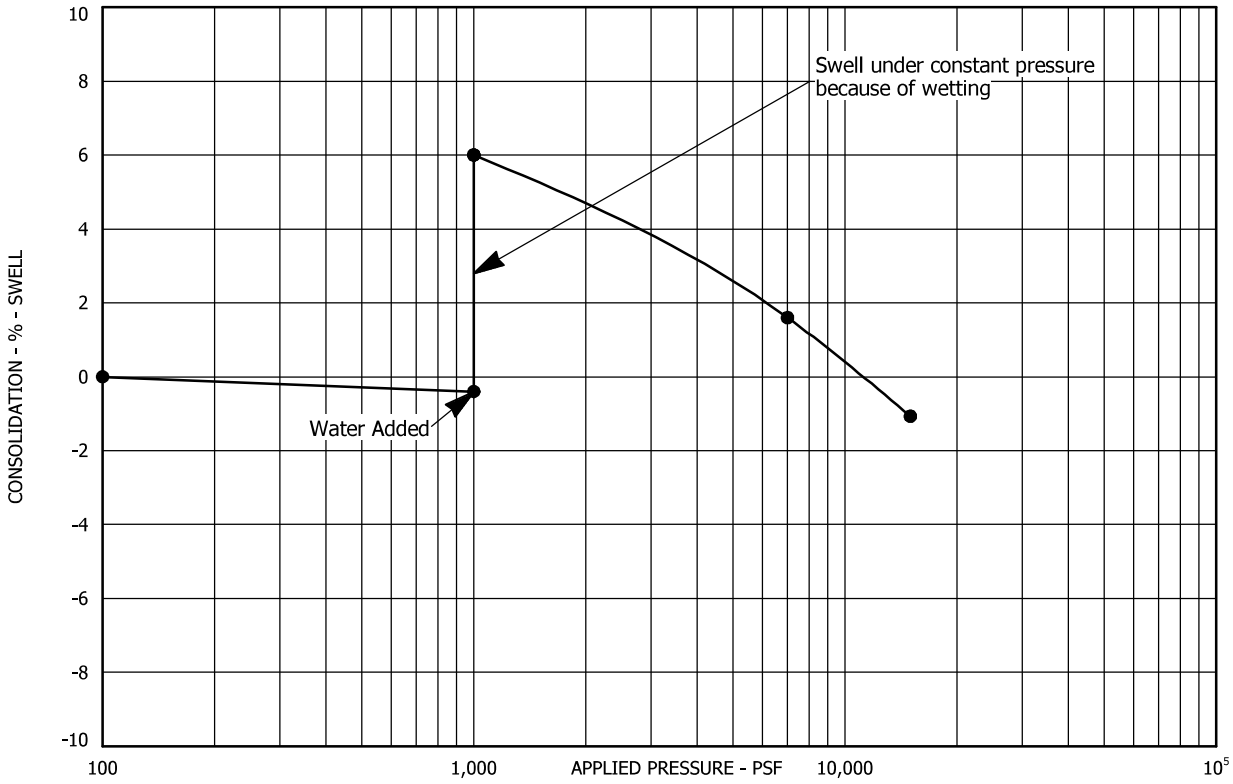
SWELL - CONSOLIDATION TEST RESULTS
FIGURE 9

PROJECT NO. 174095
75/180

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



Sample Location: Test Boring No. 8 at a depth of 9 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 116
Moisture Content (%): 15

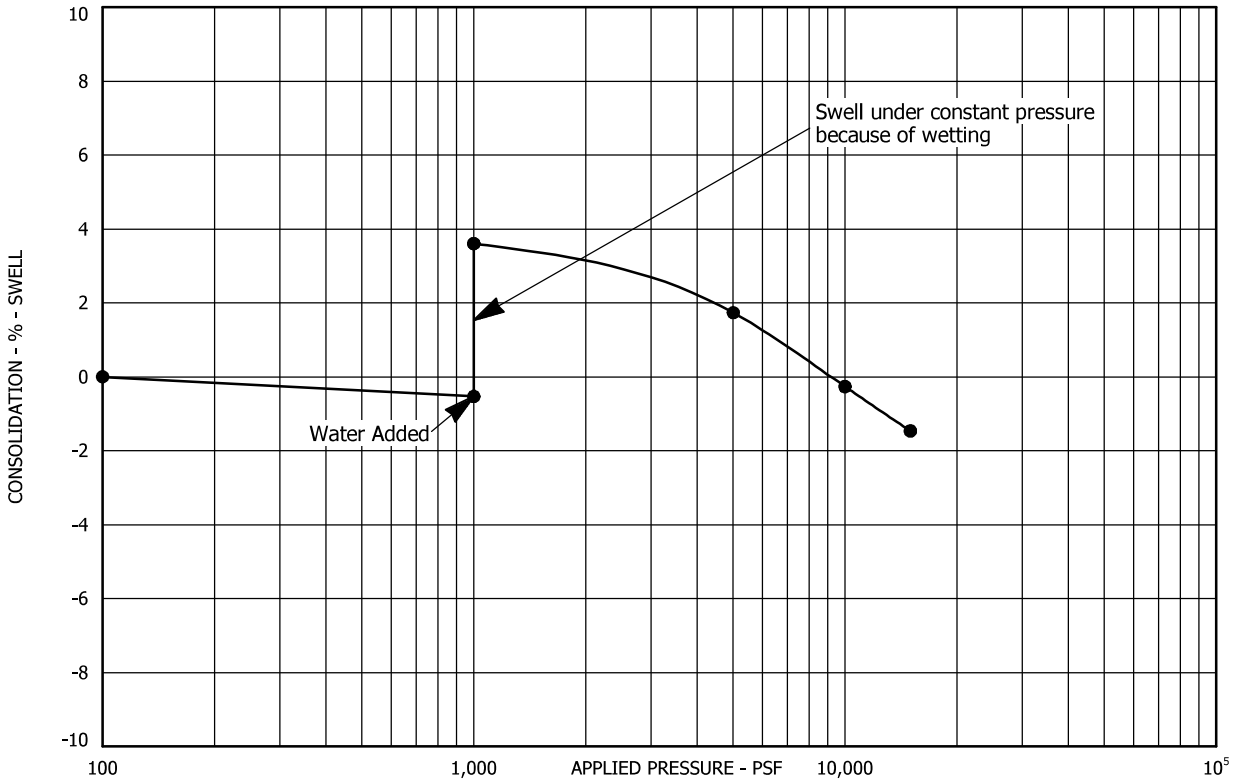


Sample Location: Test Boring No. 8 at a depth of 19 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 107
Moisture Content (%): 18

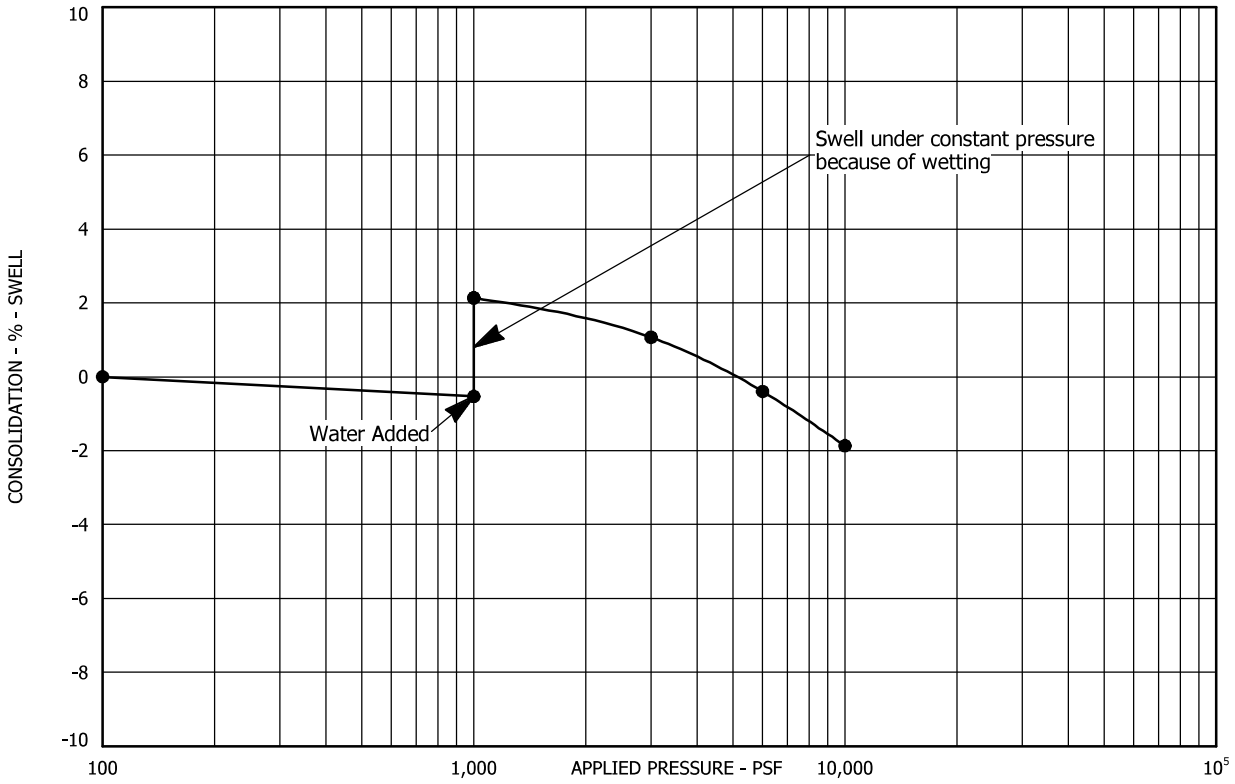
SWELL - CONSOLIDATION TEST RESULTS
FIGURE 10

PROJECT NO. 174095
76/180

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



Sample Location: Test Boring No. 8 at a depth of 29 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 117
Moisture Content (%): 14



Sample Location: Test Boring No. 9 at a depth of 9 feet
Sample Description: Clay (weathered claystone), slightly sandy
Dry Unit Weight (pcf): 104
Moisture Content (%): 20

SWELL - CONSOLIDATION TEST RESULTS
FIGURE 11

PROJECT NO. 174095
77/180

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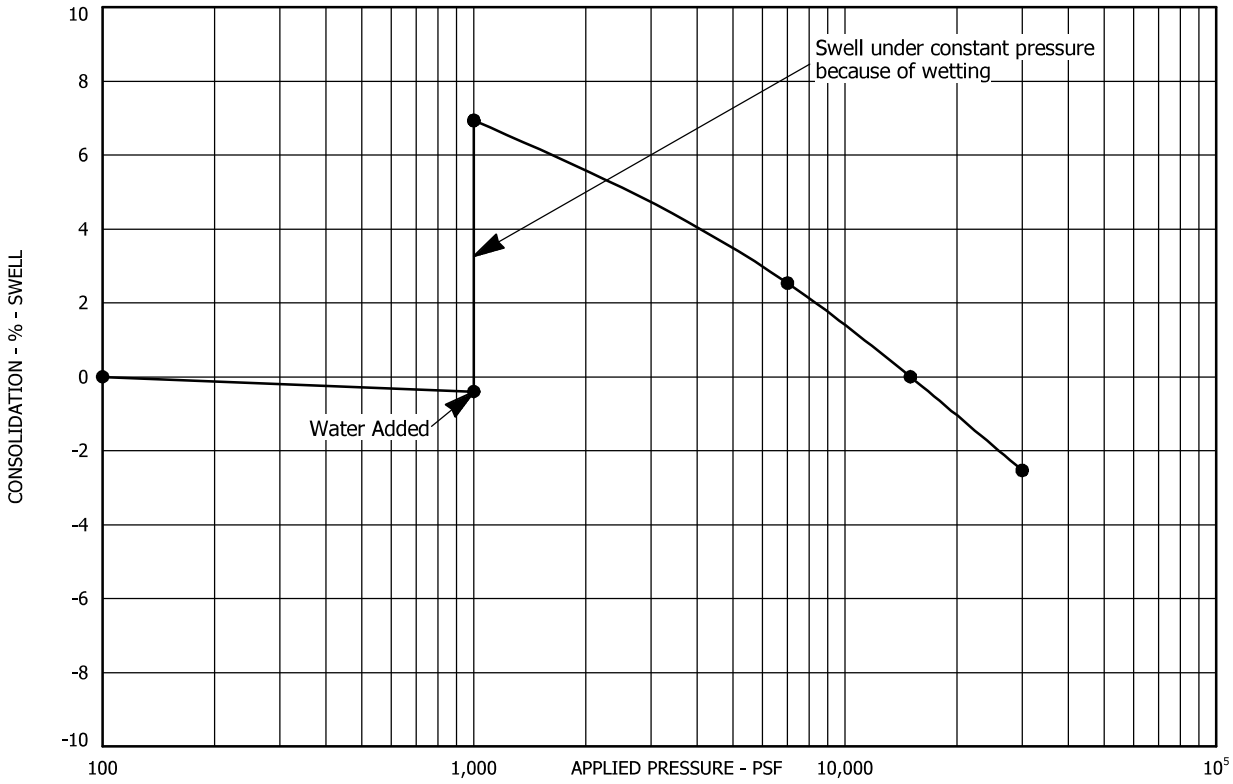
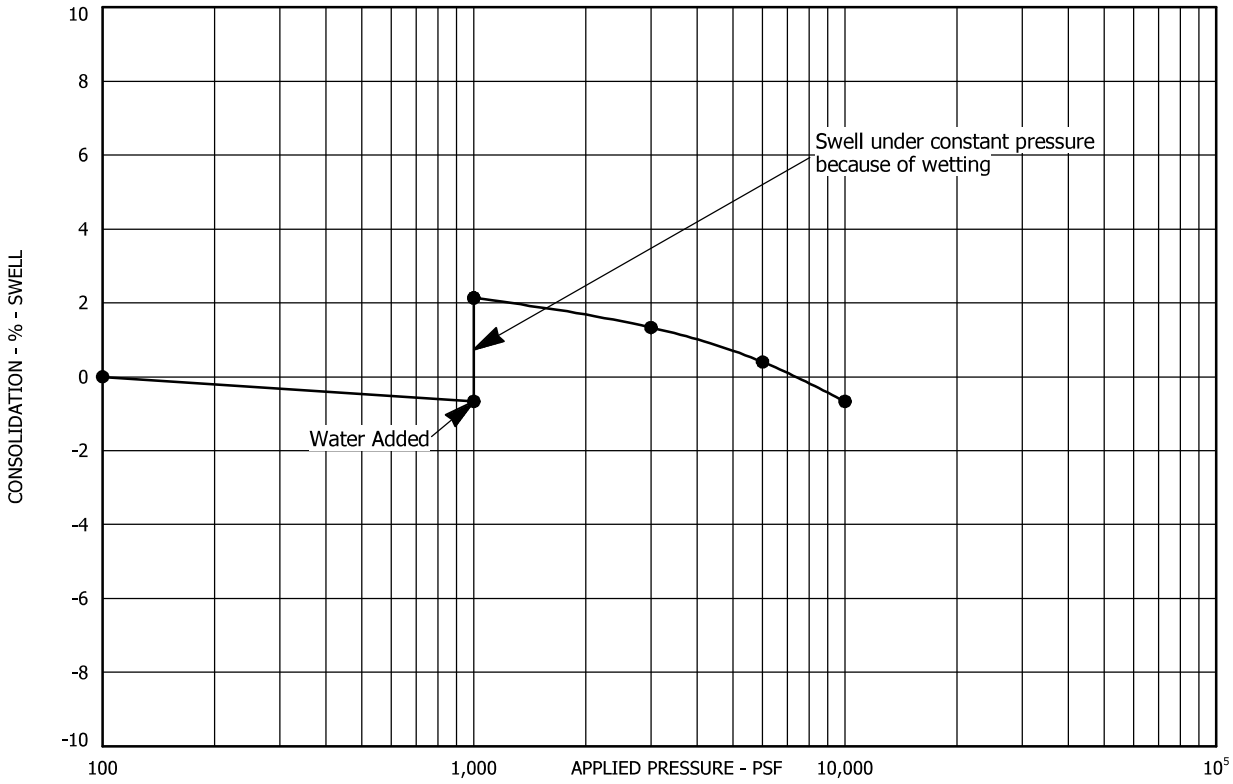
Geotechnical and Environmental Consultants



Sample Location: Test Boring No. 10 at a depth of 9 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 115
Moisture Content (%): 15



Sample Location: Test Boring No. 10 at a depth of 19 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 125
Moisture Content (%): 12

SWELL - CONSOLIDATION TEST RESULTS
FIGURE 12

PROJECT NO. 174095
78/180

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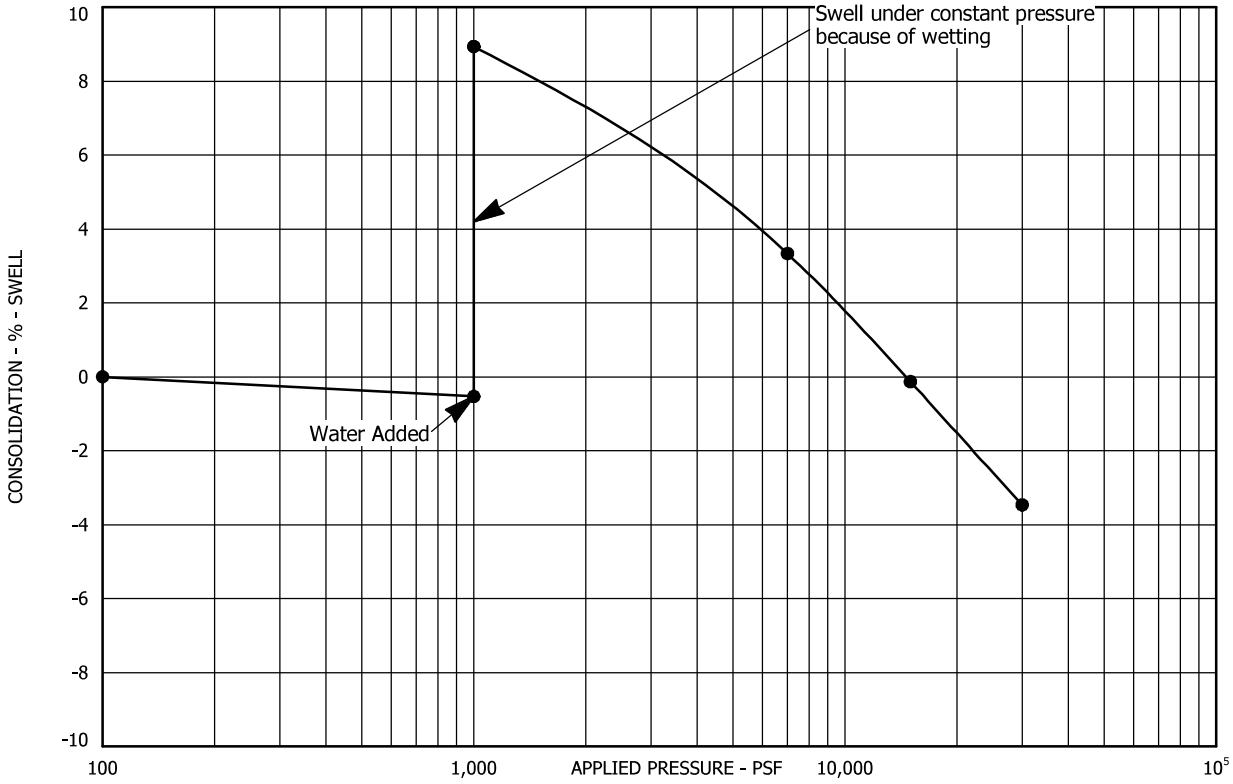
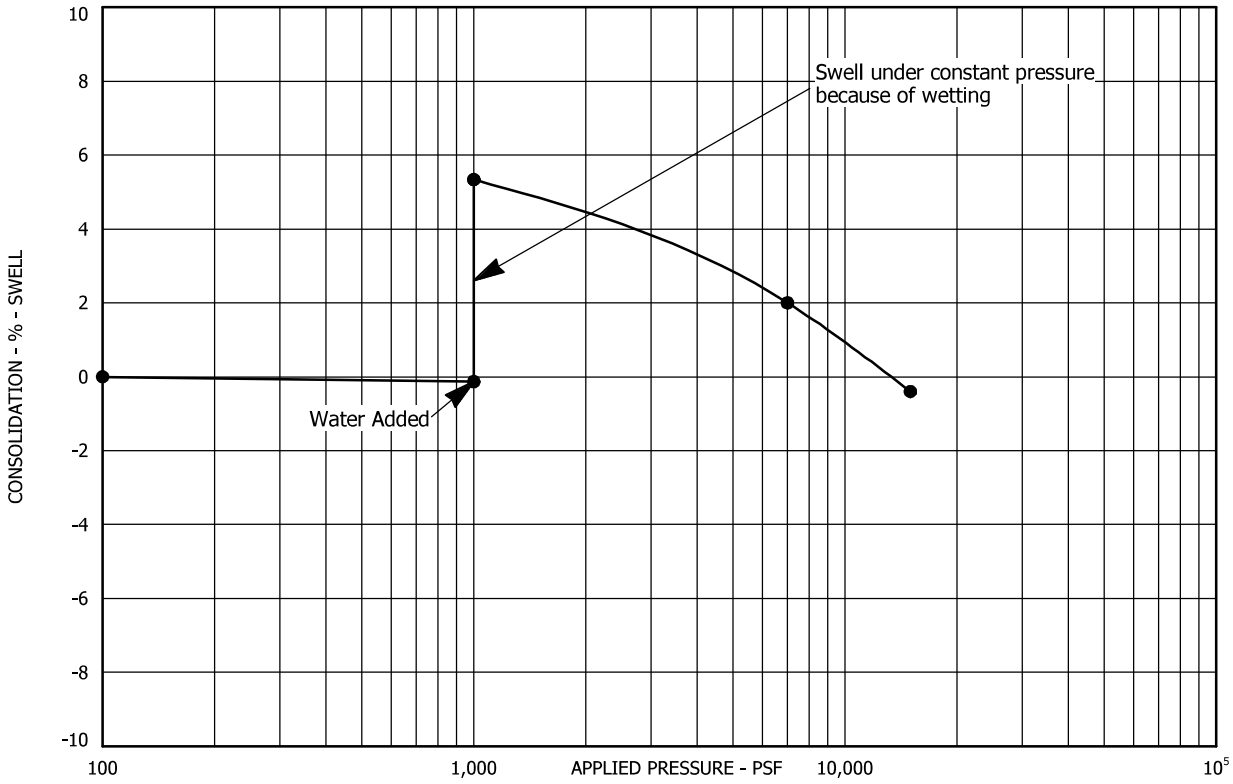
Geotechnical and Environmental Consultants



Sample Location: Test Boring No. 11 at a depth of 9 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 113
Moisture Content (%): 17

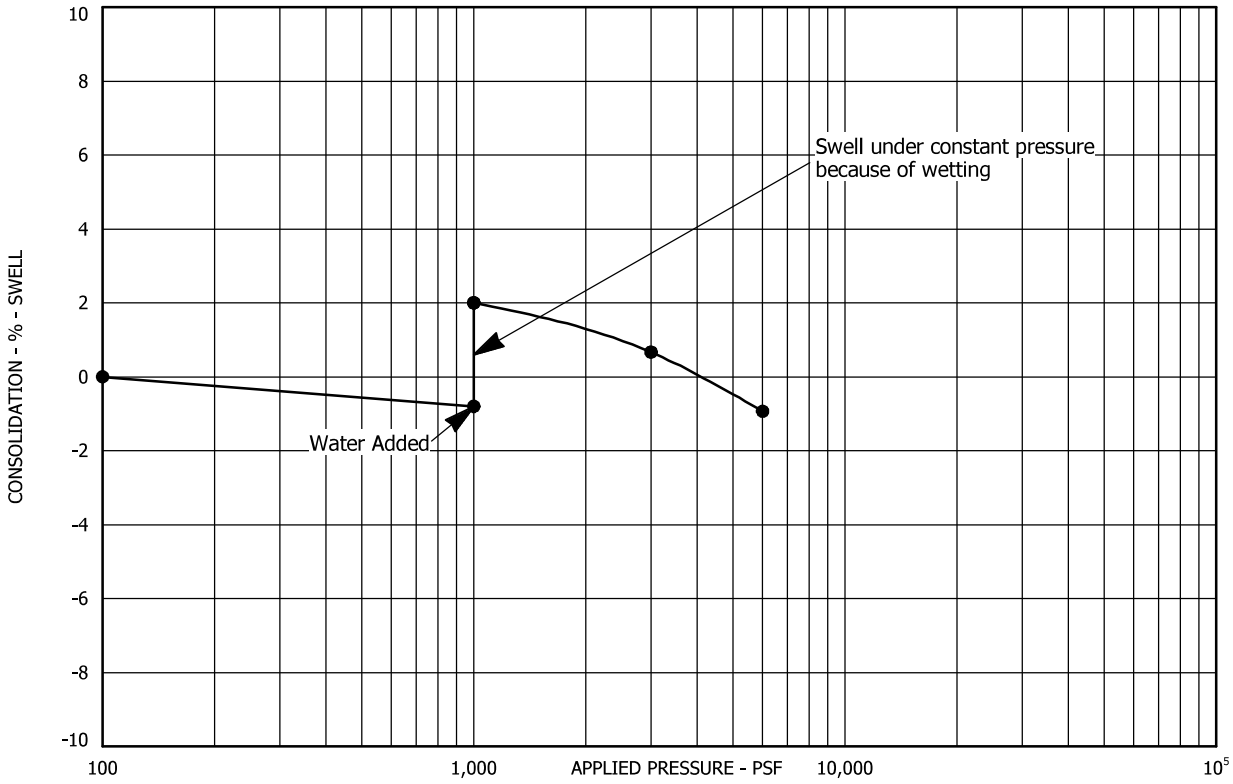


Sample Location: Test Boring No. 11 at a depth of 14 feet
Sample Description: Claystone, trace sand
Dry Unit Weight (pcf): 115
Moisture Content (%): 14

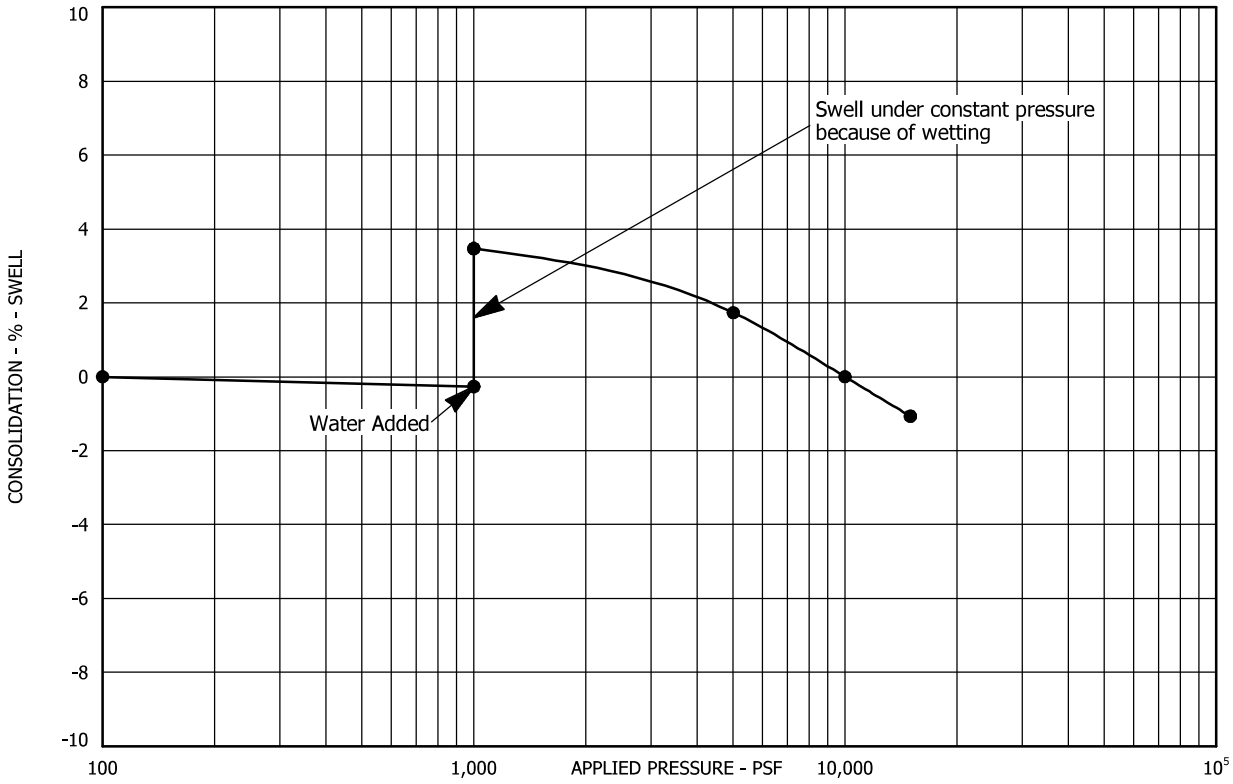
SWELL - CONSOLIDATION TEST RESULTS
FIGURE 13

PROJECT NO. 174095
79/180

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



Sample Location: Test Boring No. 12 at a depth of 9 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 104
Moisture Content (%): 21

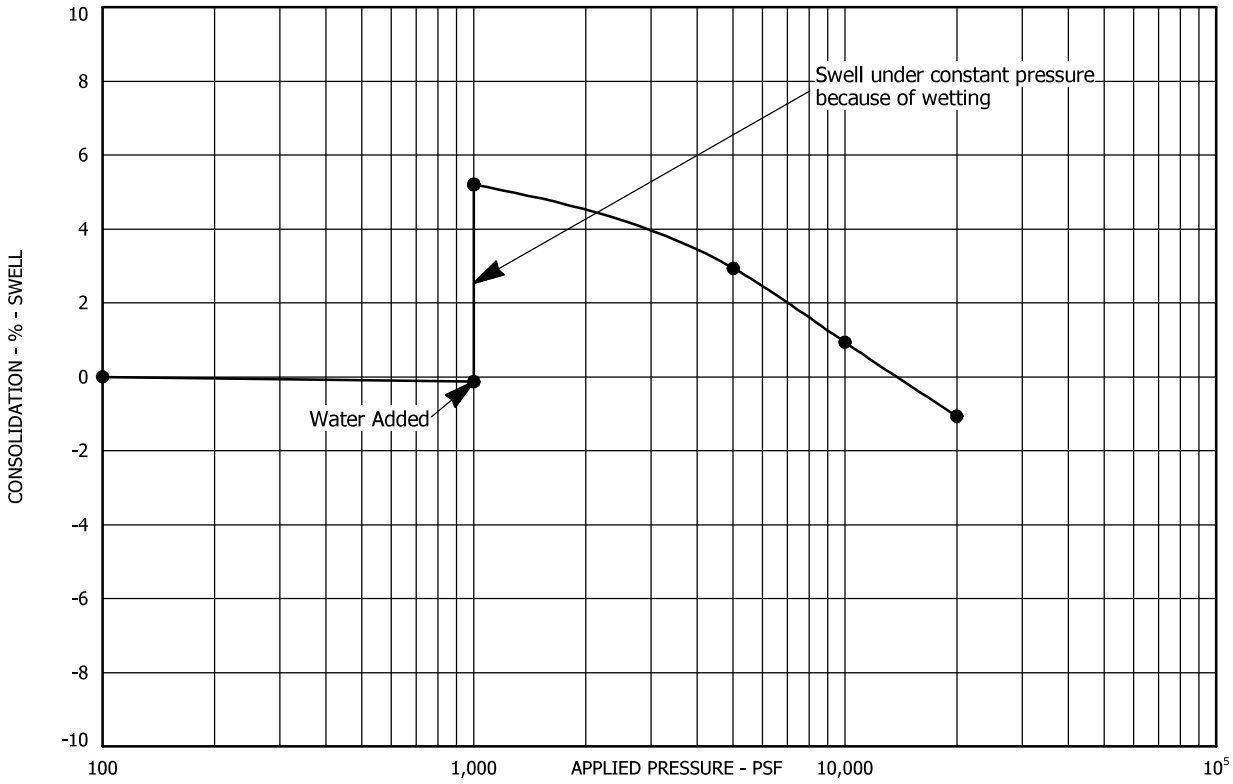


Sample Location: Test Boring No. 12 at a depth of 14 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 112
Moisture Content (%): 18

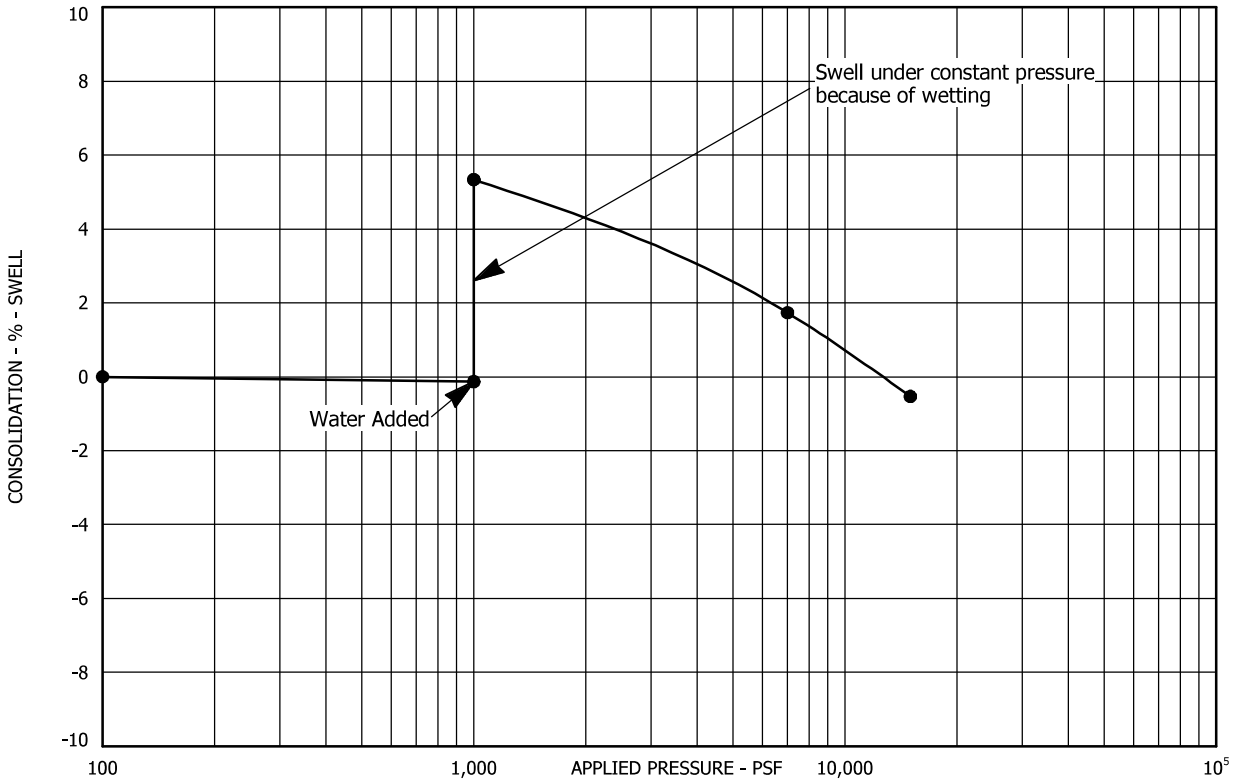
SWELL - CONSOLIDATION TEST RESULTS
FIGURE 14

PROJECT NO. 174095
80/180

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



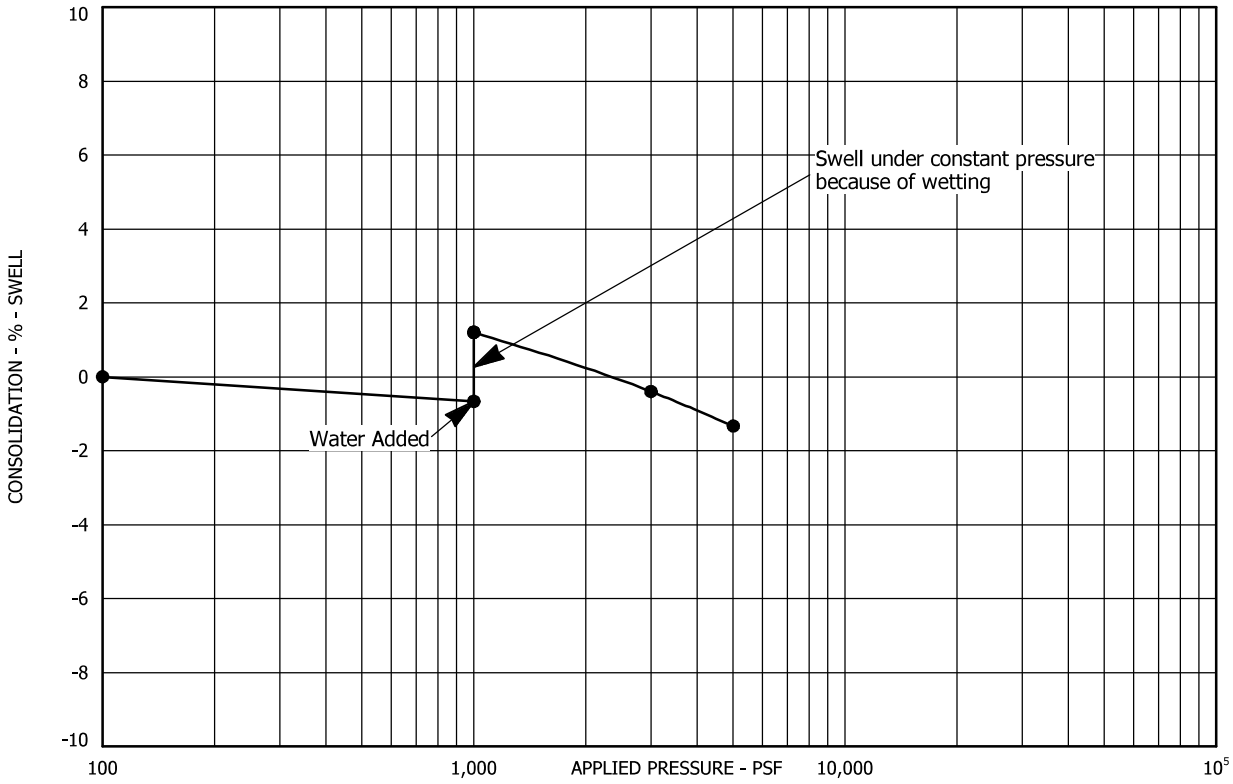
Sample Location: Test Boring No. 13 at a depth of 19 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 116
Moisture Content (%): 16



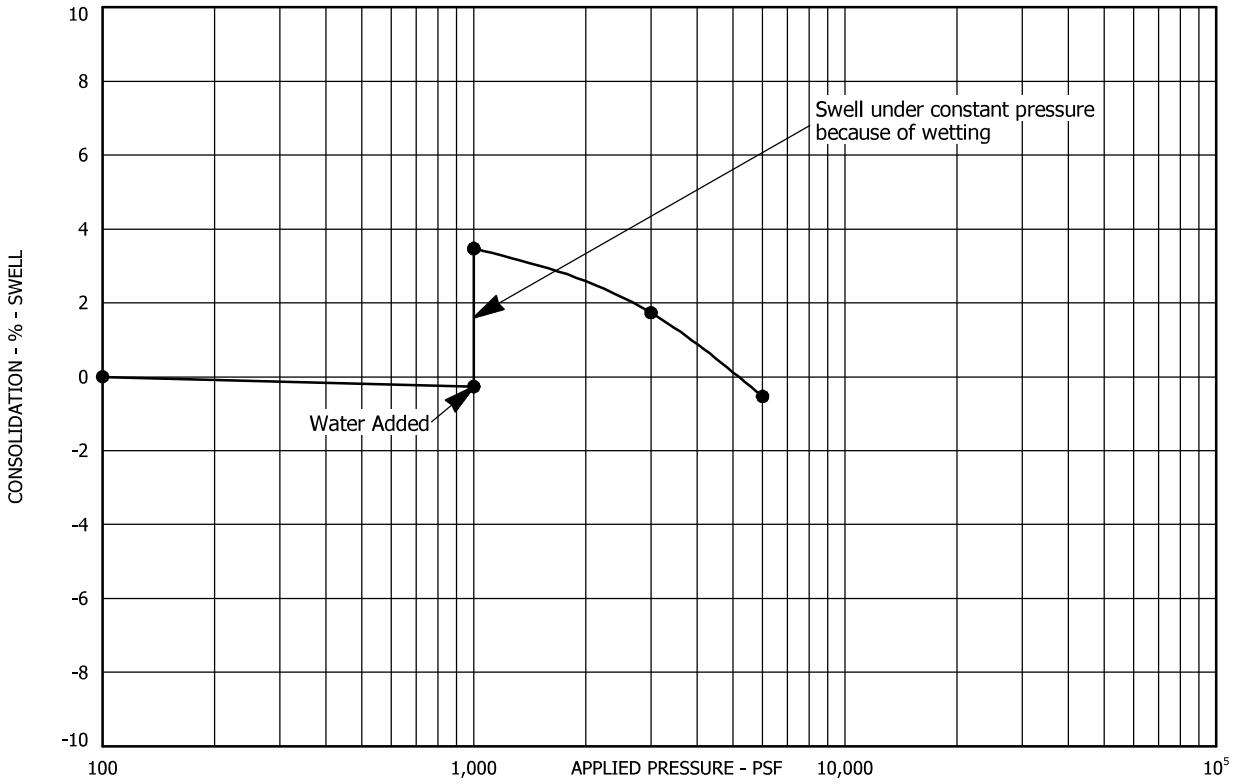
Sample Location: Test Boring No. 13 at a depth of 29 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 118
Moisture Content (%): 13

SWELL - CONSOLIDATION TEST RESULTS
FIGURE 15

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



Sample Location: Test Boring No. 14 at a depth of 14 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 114
Moisture Content (%): 16



Sample Location: Test Boring No. 14 at a depth of 24 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 112
Moisture Content (%): 15

SWELL - CONSOLIDATION TEST RESULTS
FIGURE 16

A.G. Wassenaar Inc.
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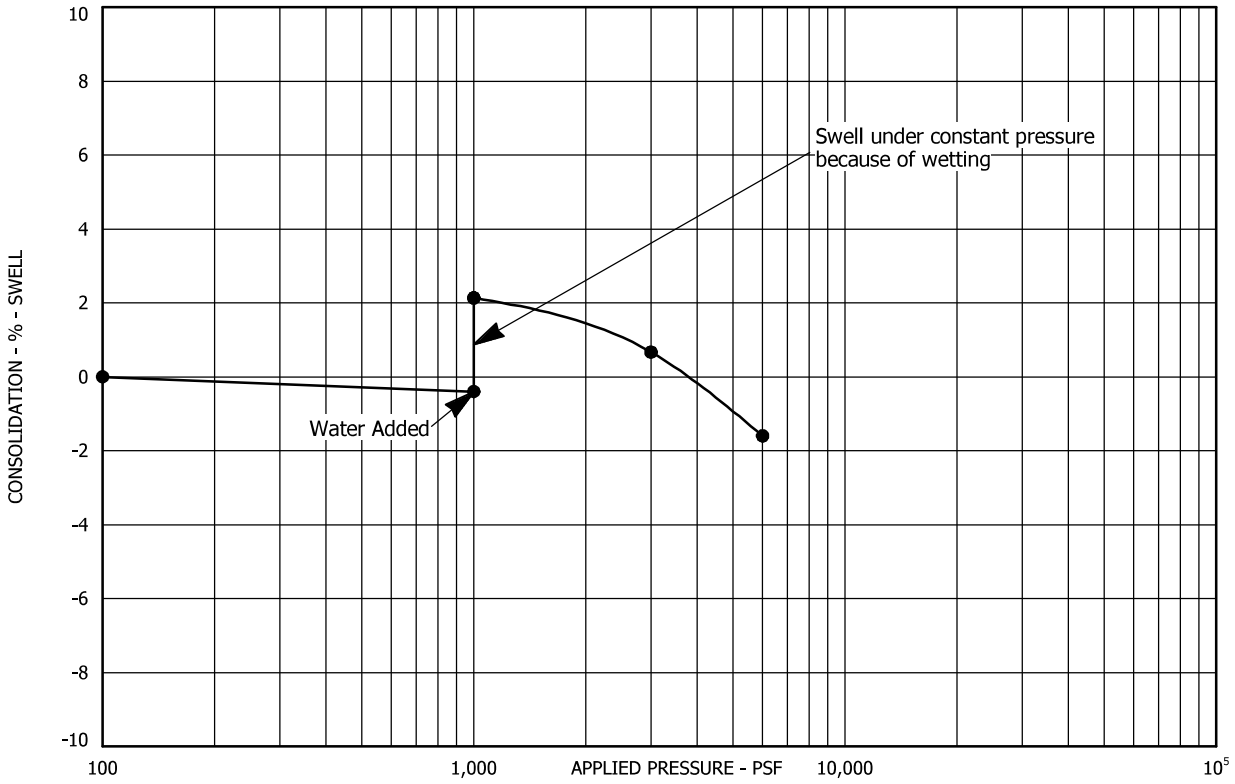
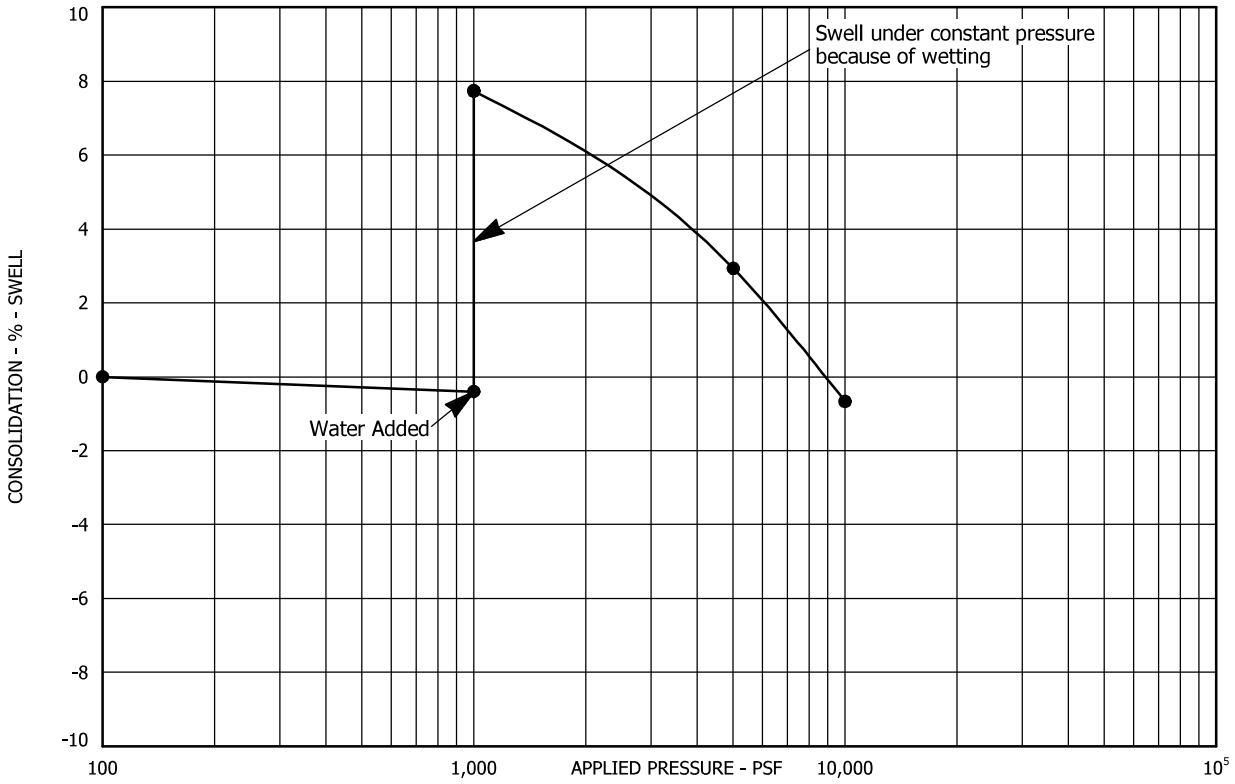


Sample Location: Test Boring No. 17 at a depth of 9 feet
Sample Description: Clay (weathered claystone), trace sand
Dry Unit Weight (pcf): 108
Moisture Content (%): 20



Sample Location: Test Boring No. 17 at a depth of 24 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 104
Moisture Content (%): 22

SWELL - CONSOLIDATION TEST RESULTS
FIGURE 17

PROJECT NO. 174095
83/180

A.G. Wassenaar Inc.
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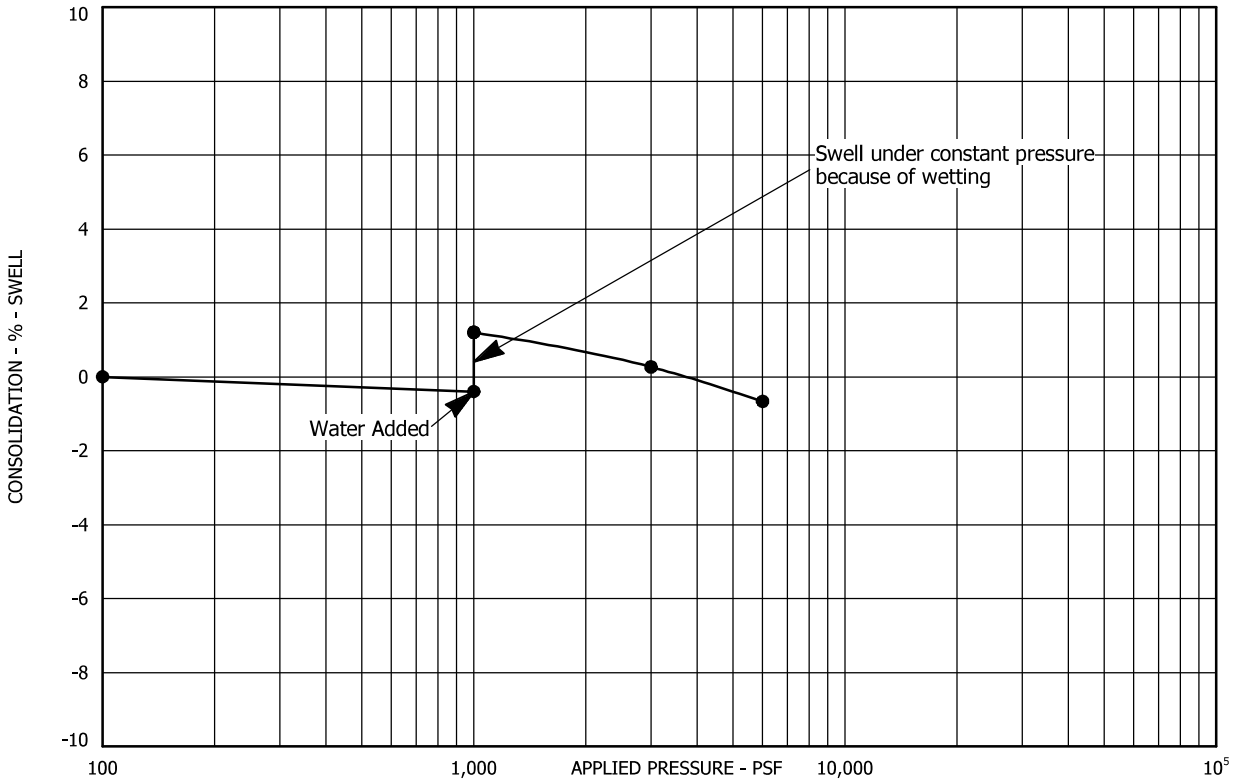
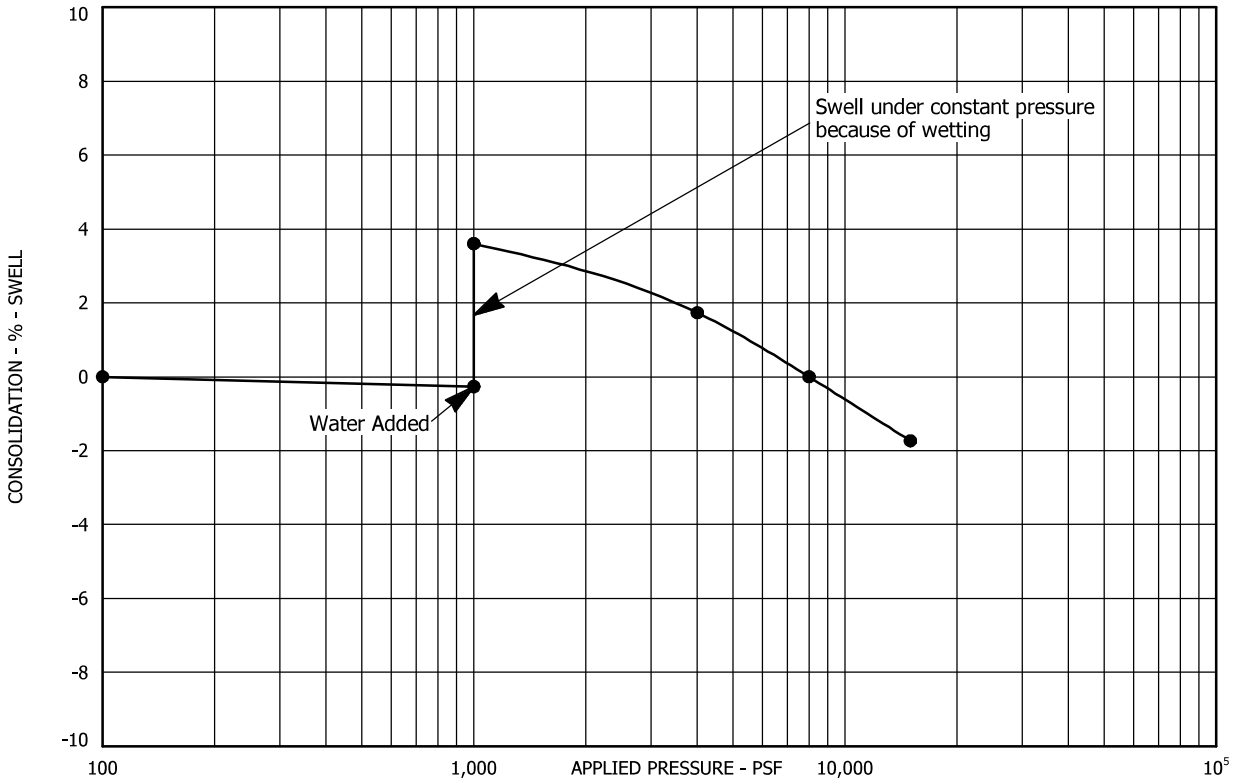


Sample Location: Test Boring No. 18 at a depth of 9 feet
Sample Description: Claystone, sandy
Dry Unit Weight (pcf): 115
Moisture Content (%): 15

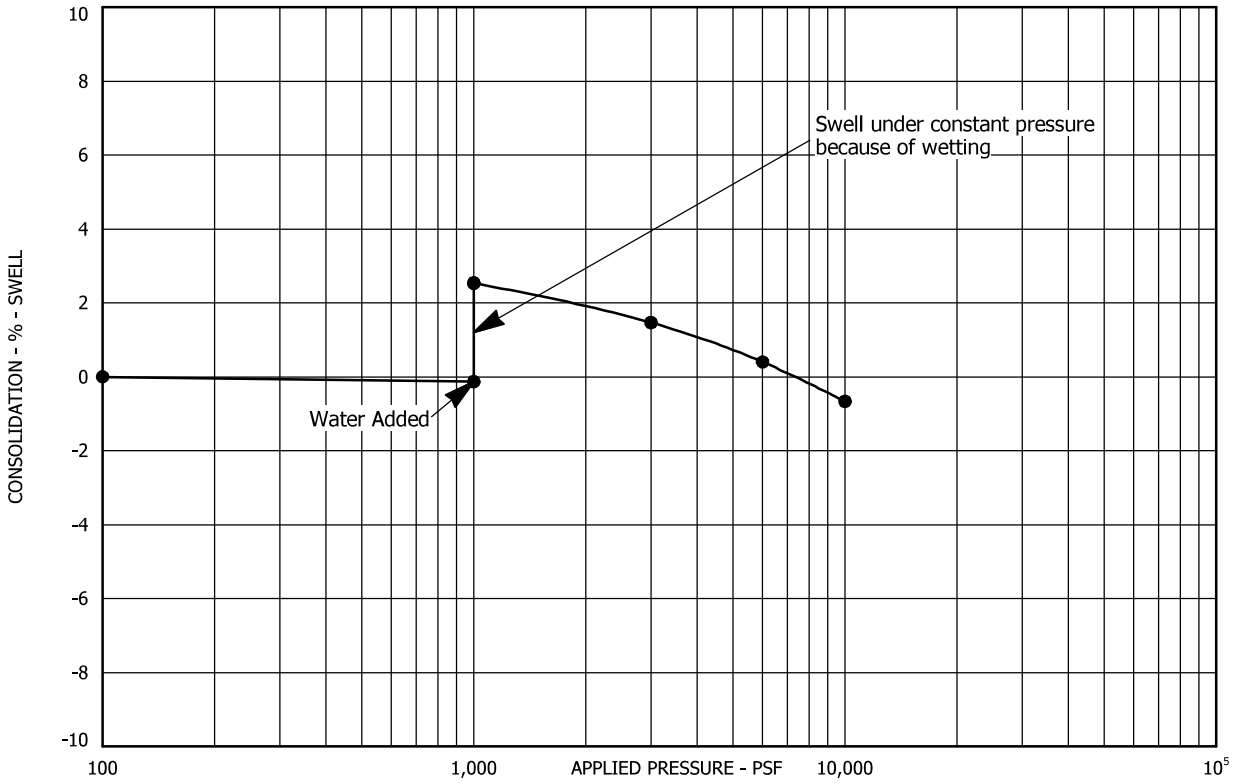


Sample Location: Test Boring No. 18 at a depth of 19 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 109
Moisture Content (%): 21

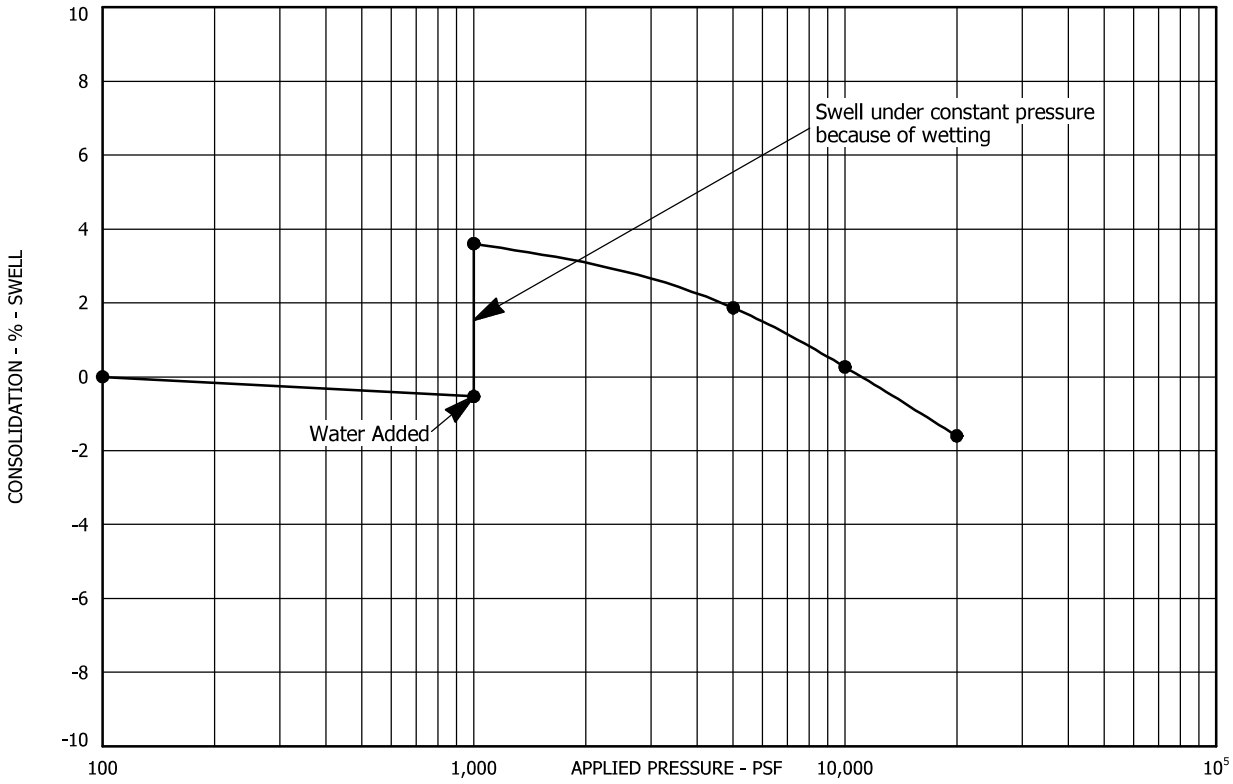
SWELL - CONSOLIDATION TEST RESULTS
FIGURE 18

PROJECT NO. 174095
84/180

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



Sample Location: Test Boring No. 20 at a depth of 24 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 123
Moisture Content (%): 13

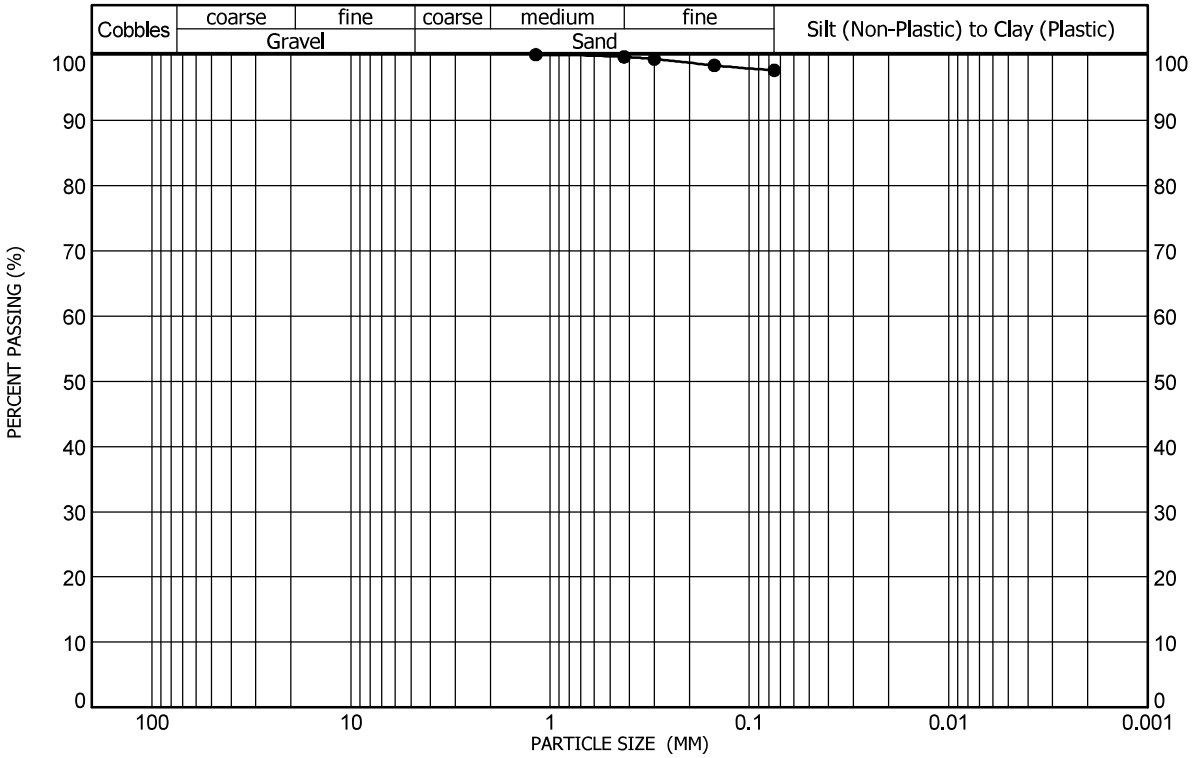


Sample Location: Test Boring No. 20 at a depth of 34 feet
Sample Description: Claystone, slightly sandy
Dry Unit Weight (pcf): 118
Moisture Content (%): 15

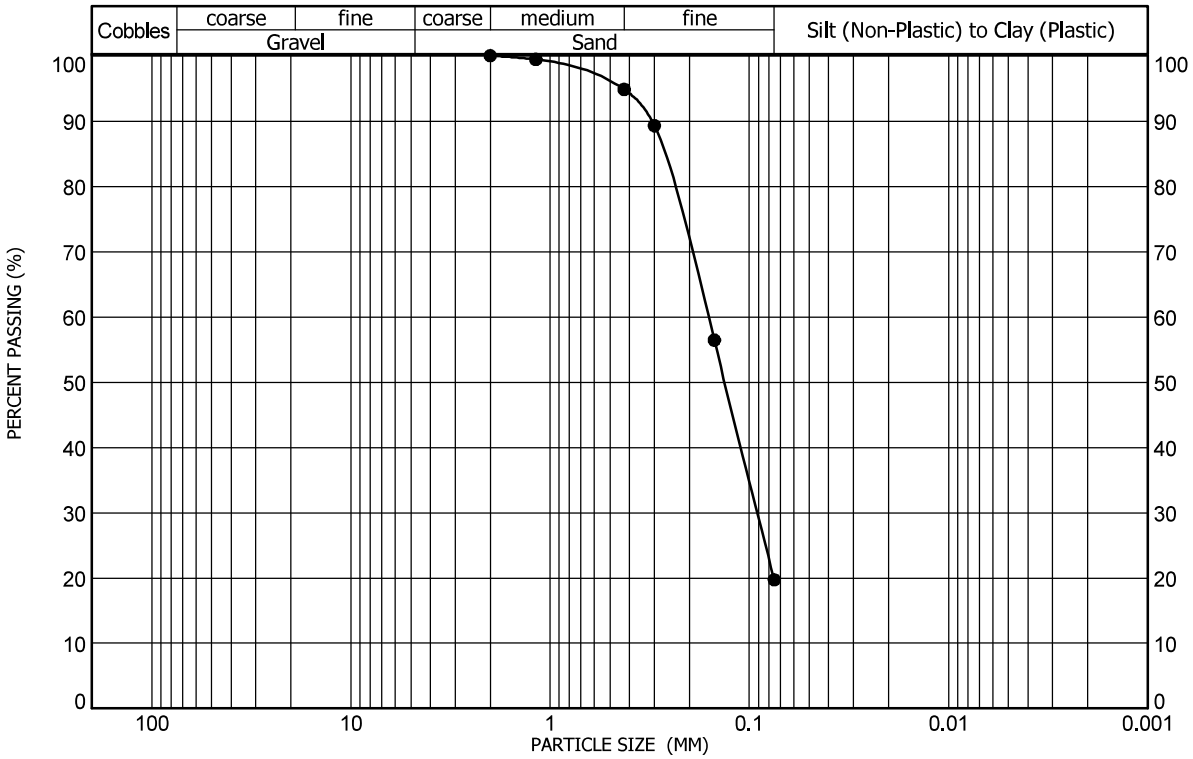
SWELL - CONSOLIDATION TEST RESULTS
FIGURE 19

PROJECT NO. 174095
85/180

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



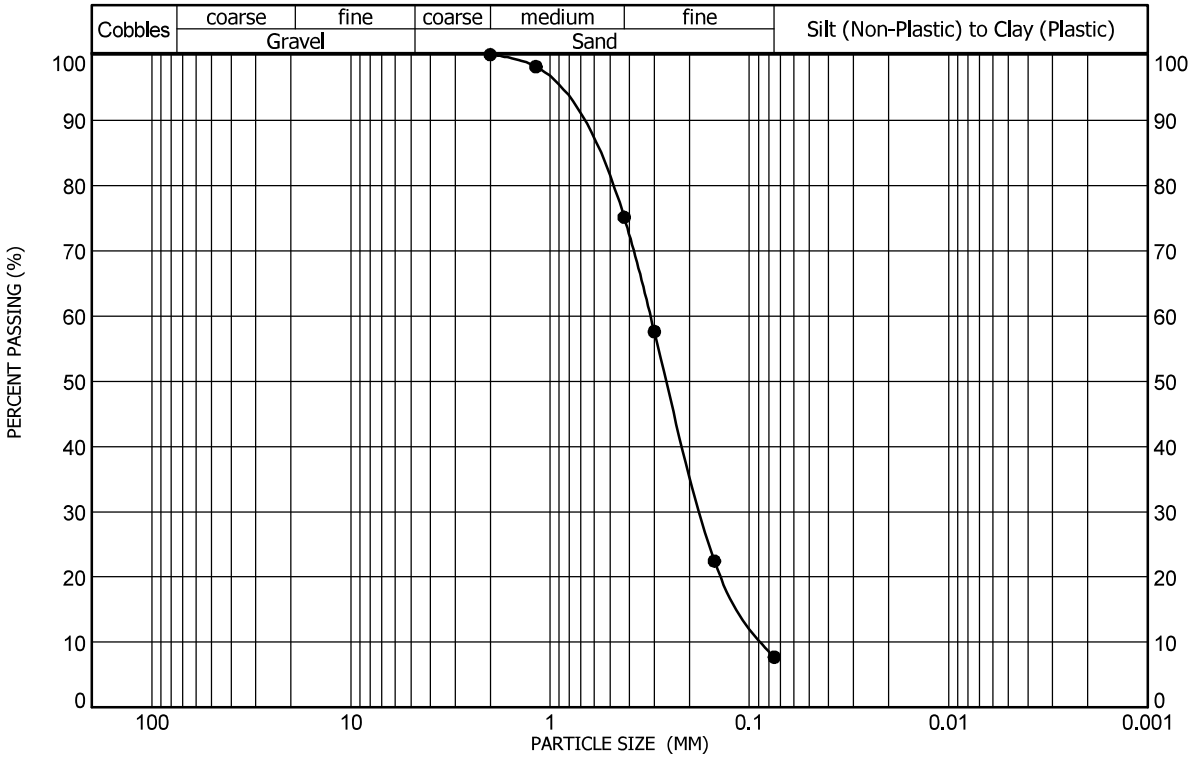
Sample Location: Test Boring No. 1 at a depth of 9 feet — Gravel (%): 0 — Liquid Limit: 81
Sample Description: Clay (weathered claystone), trace sand — Sand (%): 2 — Plasticity Index: 59
Classification: A-7-6(66), FAT CLAY(CH) — Clay/Silt (%): 98



Sample Location: Test Boring No. 2 at a depth of 14 feet — Gravel (%): 0 — Liquid Limit: NV
Sample Description: Sand, silty — Sand (%): 80 — Plasticity Index: NP
Classification: A-2-4(0), SILTY SAND(SM) — Clay/Silt (%): 20

GRADATION AND ATTERBERG TEST RESULTS
FIGURE 20

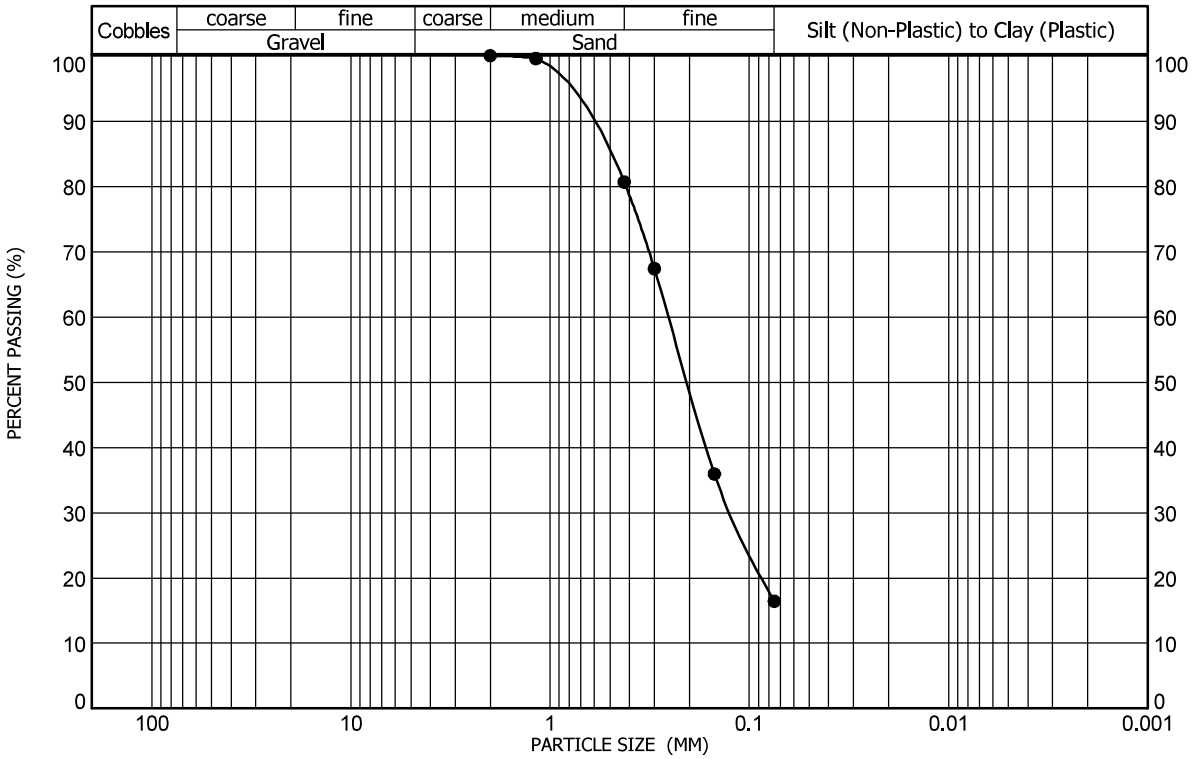
A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



Sample Location: Test Boring No. 3 at a depth of 9 feet
Sample Description: Sand, slightly silty
Classification: A-3(0), POORLY GRADED SAND with SILT(SP-SM)

Gravel (%): 0
Sand (%): 92
Clay/Silt (%): 8

Liquid Limit: NV
Plasticity Index: NP



Sample Location: Test Boring No. 4 at a depth of 14 feet
Sample Description: Sand, silty
Classification: A-2-4(0), SILTY SAND(SM)

Gravel (%): 0
Sand (%): 84
Clay/Silt (%): 16

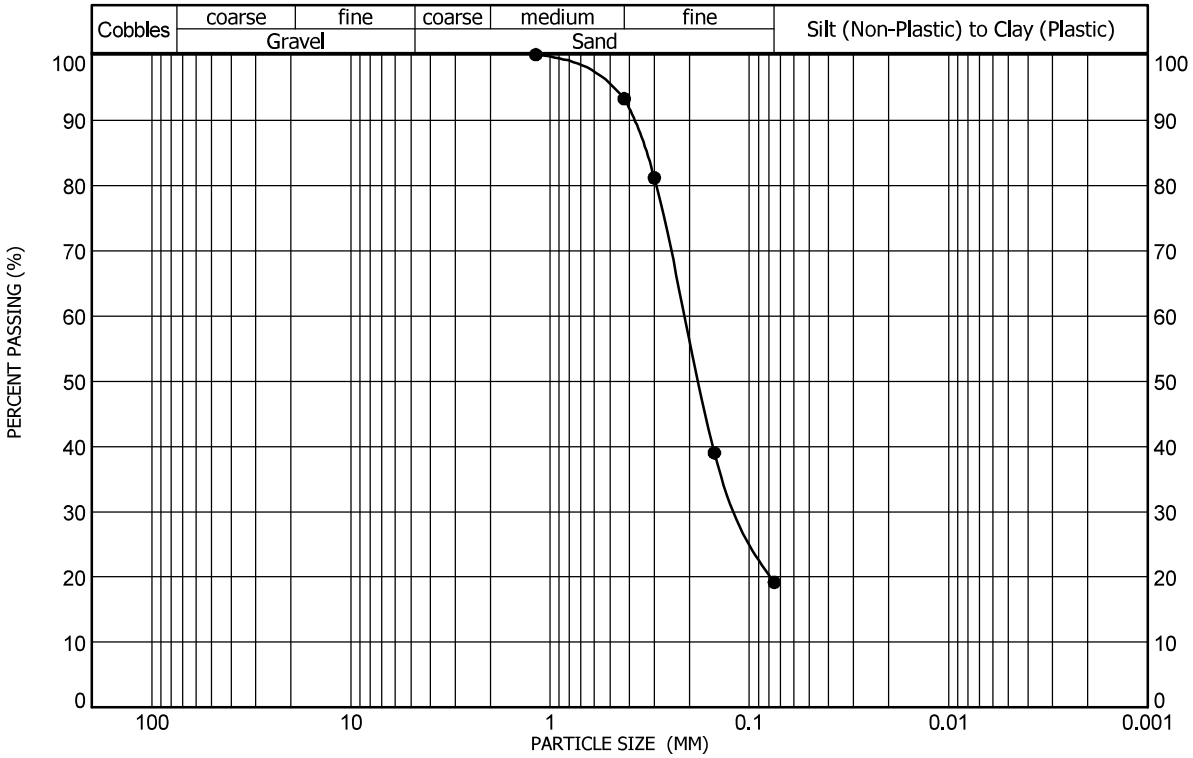
Liquid Limit: NV
Plasticity Index: NP

GRADATION AND ATTERBERG TEST RESULTS

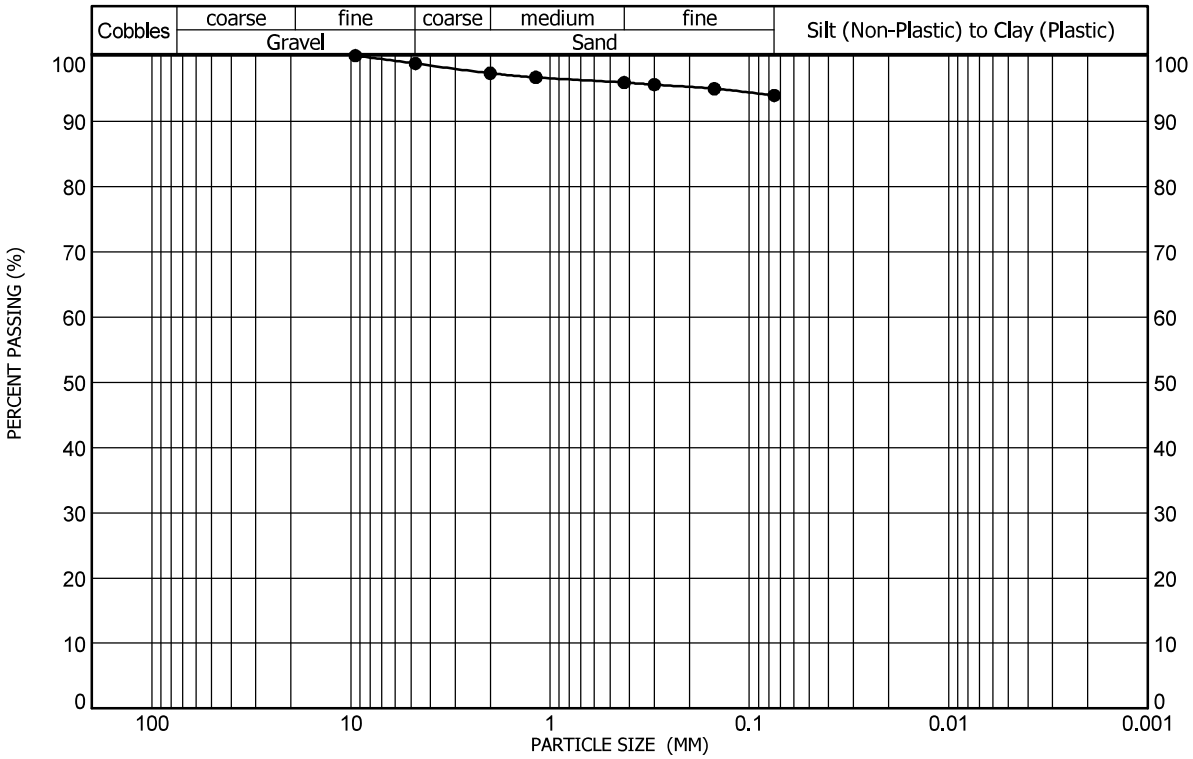
FIGURE 21

PROJECT NO. 174095

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



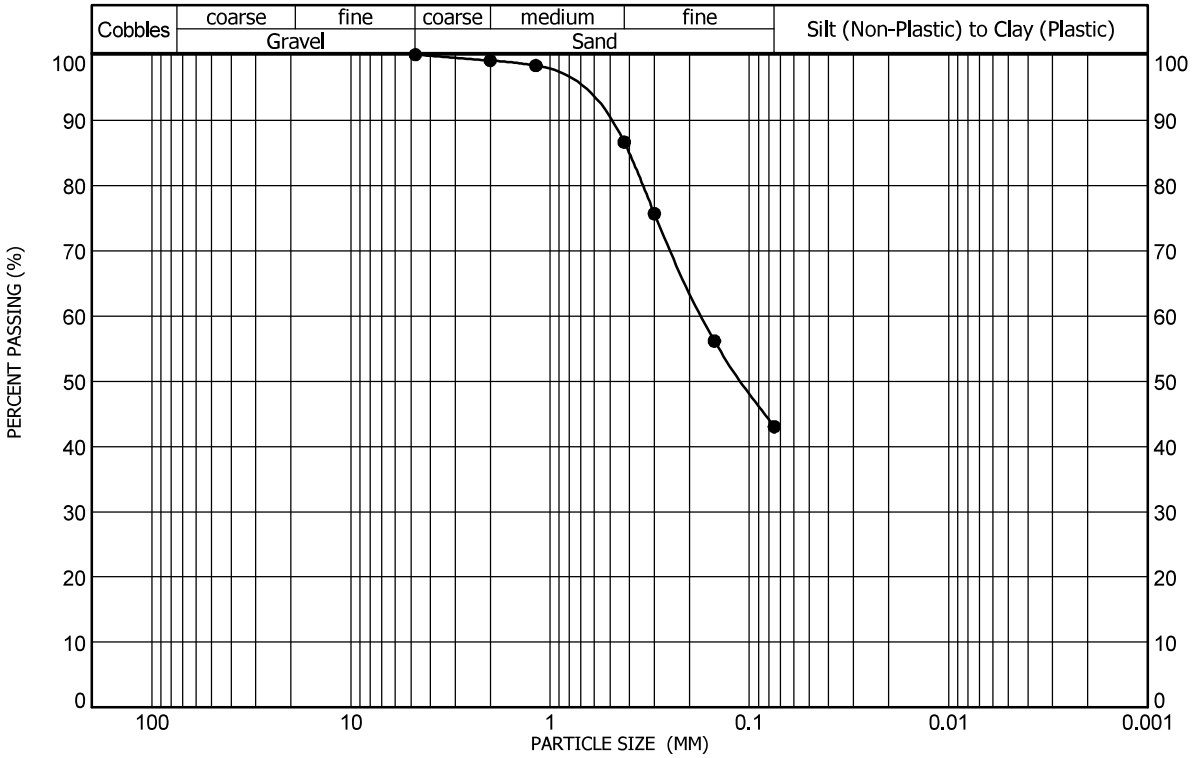
Sample Location: Test Boring No. 5 at a depth of 19 feet
Sample Description: Sand, silty
Classification: A-2-4(0), SILTY SAND(SM)
Gravel (%): 0
Sand (%): 81
Clay/Silt (%): 19
Liquid Limit: NV
Plasticity Index: NP



Sample Location: Test Boring No. 6 at a depth of 9 feet
Sample Description: Claystone, slightly sandy
Classification: A-7-6(50), FAT CLAY(CH)
Gravel (%): 1
Sand (%): 5
Clay/Silt (%): 94
Liquid Limit: 68
Plasticity Index: 48

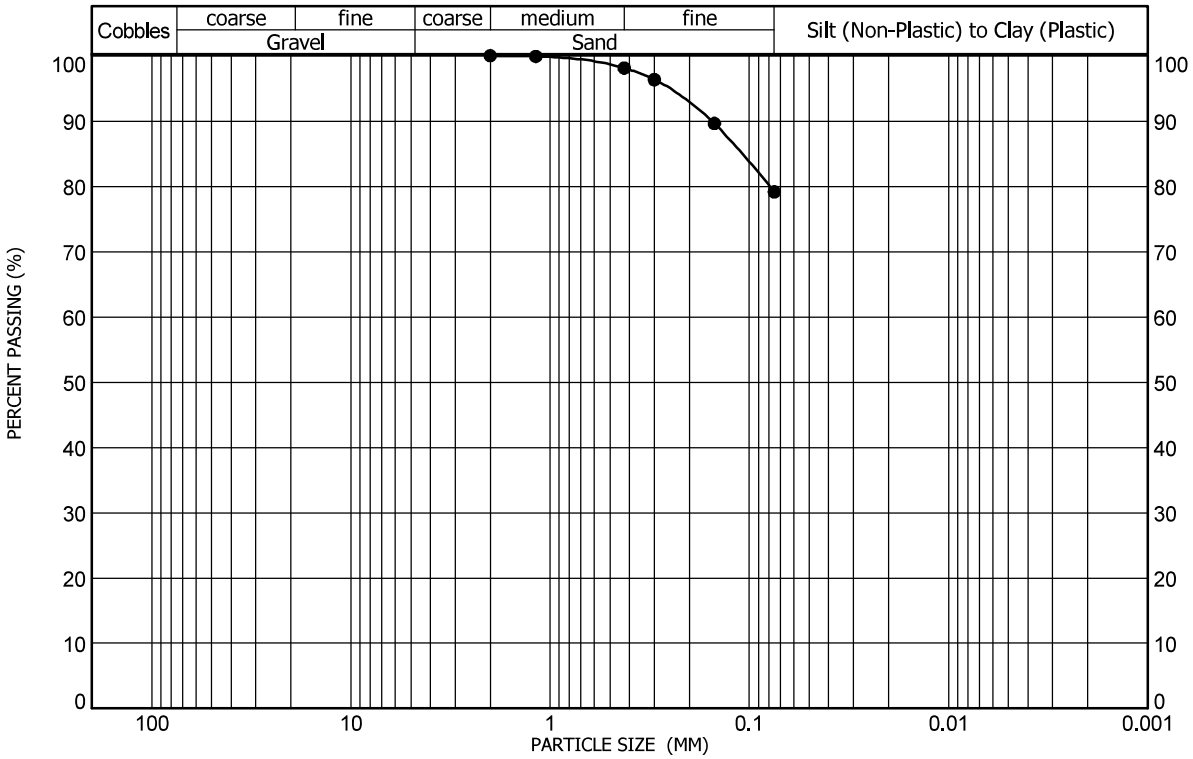
GRADATION AND ATTERBERG TEST RESULTS
FIGURE 22
PROJECT NO. 174095
88/180

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



Sample Location: Test Boring No. 7 at a depth of 9 feet
Sample Description: Sand, very silty
Classification: A-4(0), SILTY SAND(SM)

Gravel (%): 0 Sand (%): 57 Clay/Silt (%): 43
Liquid Limit: 20 Plasticity Index: NP



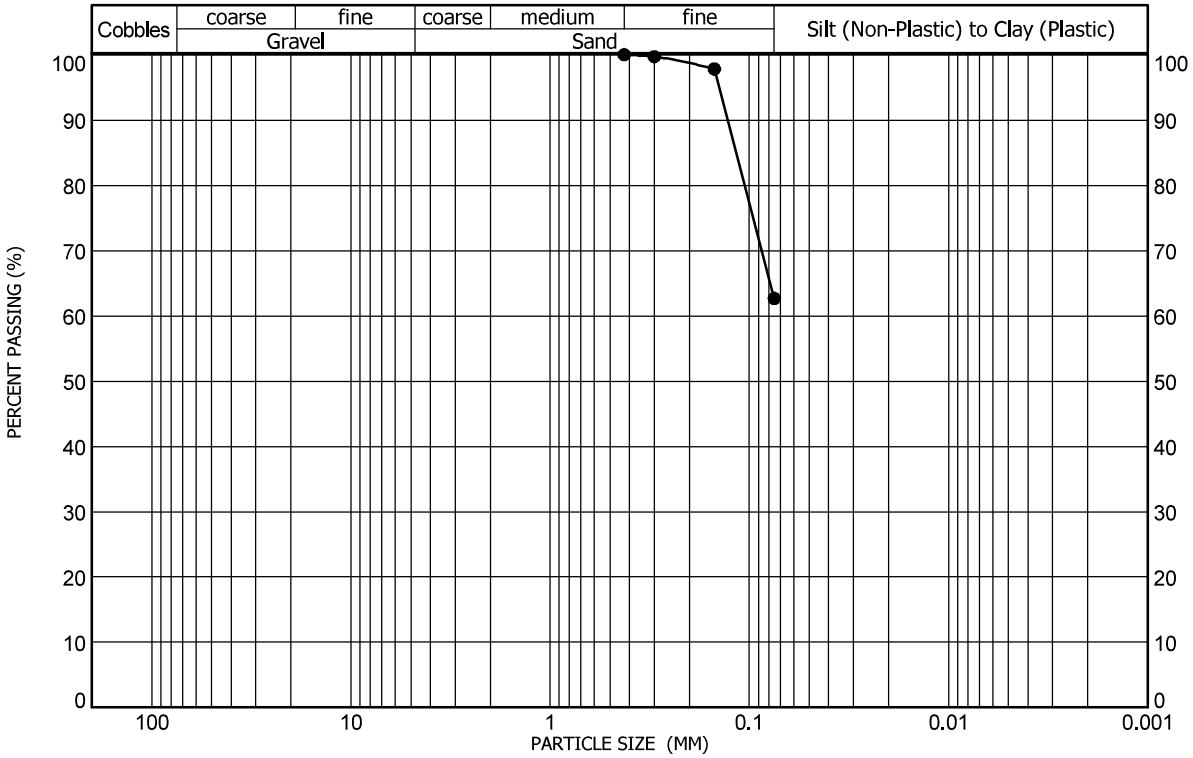
Sample Location: Test Boring No. 7 at a depth of 14 feet
Sample Description: Clay, sandy
Classification: A-7-6(18), LEAN CLAY with SAND(CL)

Gravel (%): 0 Sand (%): 21 Clay/Silt (%): 79
Liquid Limit: 42 Plasticity Index: 23

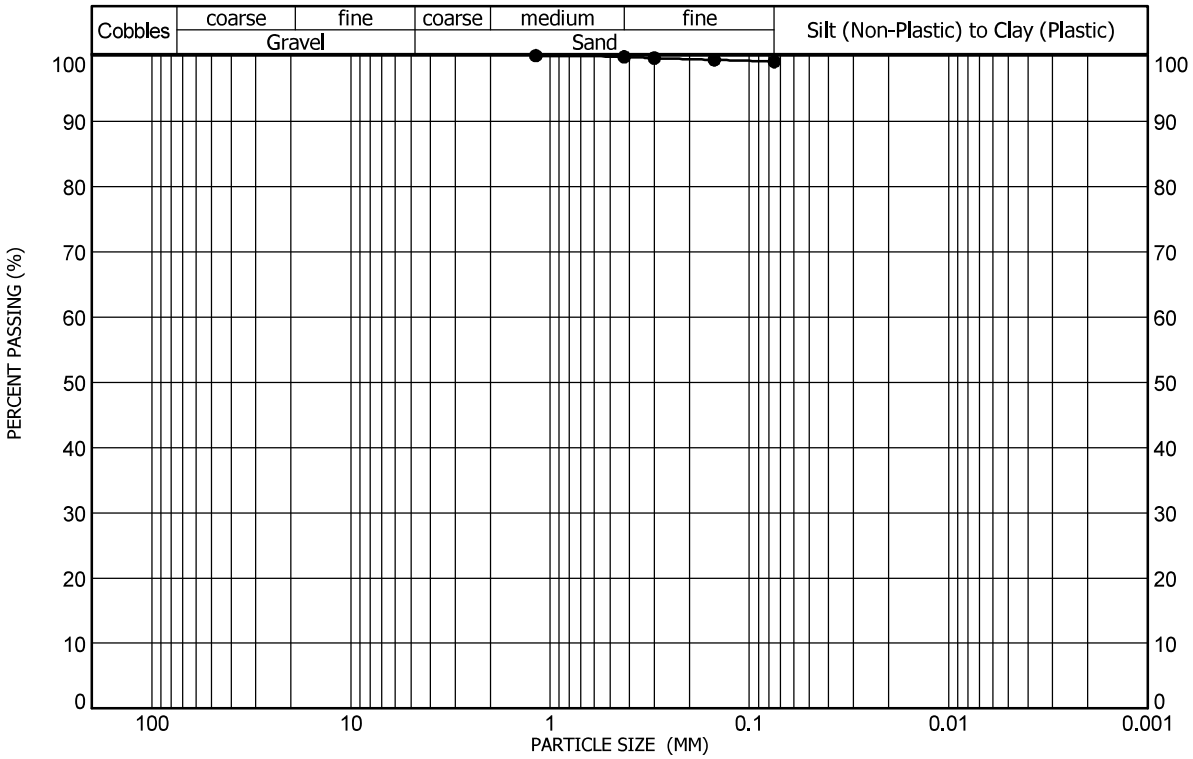
GRADATION AND ATTERBERG TEST RESULTS
FIGURE 23

PROJECT NO. 174095

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



Sample Location: Test Boring No. 9 at a depth of 14 feet
Sample Description: Claystone, very sandy
Classification: A-6(5), SANDY LEAN CLAY(CL)
Gravel (%): 0
Sand (%): 37
Clay/Silt (%): 63
Liquid Limit: 29
Plasticity Index: 11



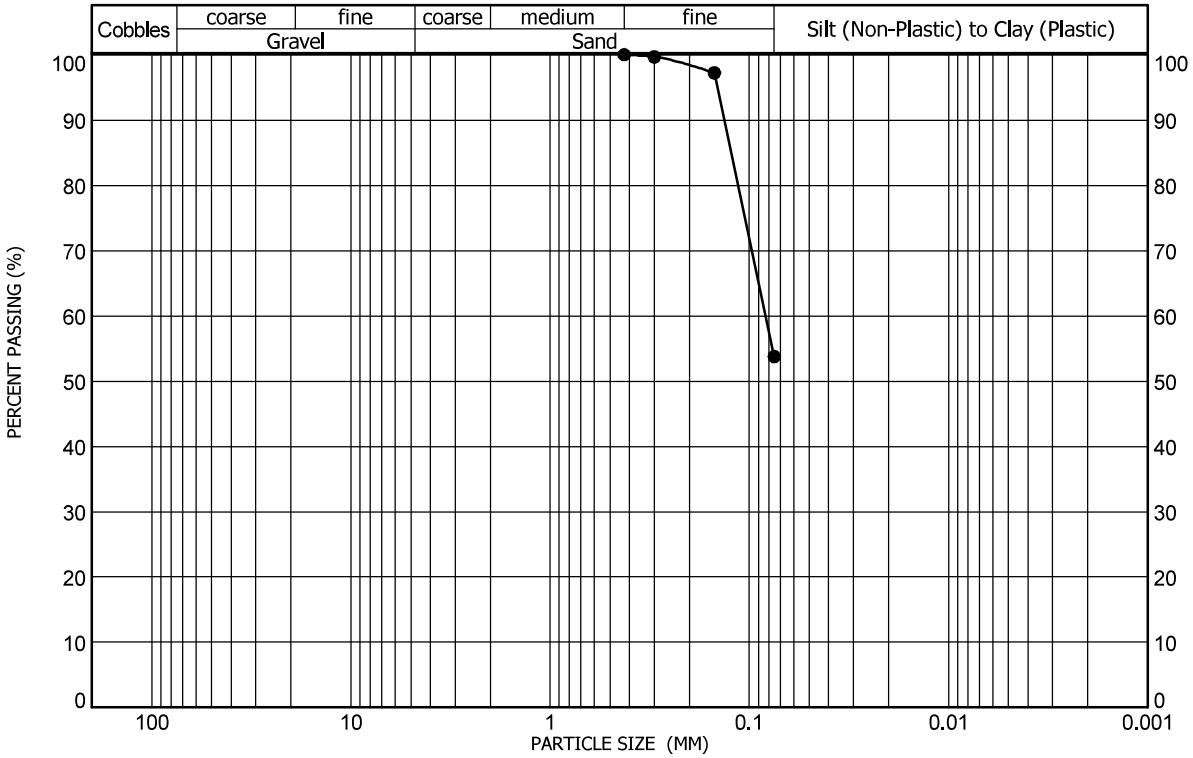
Sample Location: Test Boring No. 11 at a depth of 14 feet
Sample Description: Claystone, trace sand
Classification: A-7-6(51), FAT CLAY(CH)
Gravel (%): 0
Sand (%): 1
Clay/Silt (%): 99
Liquid Limit: 66
Plasticity Index: 46

GRADATION AND ATTERBERG TEST RESULTS

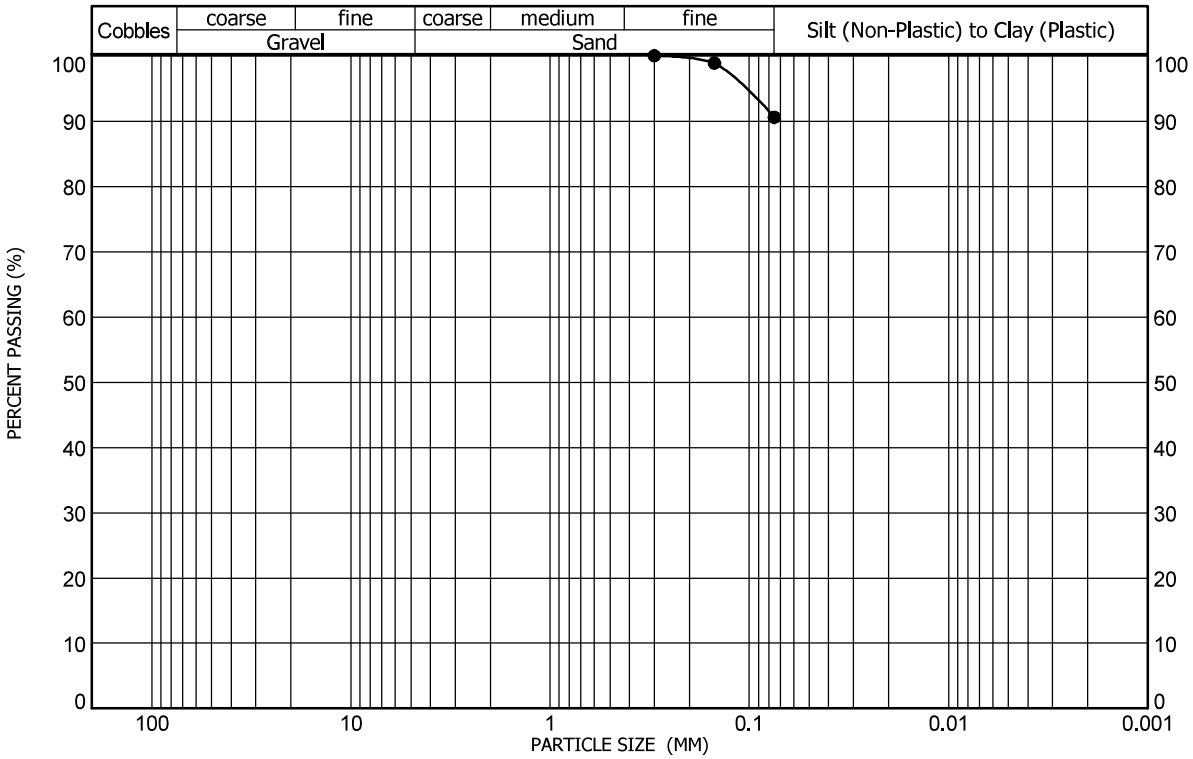
FIGURE 24

PROJECT NO. 174095

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



Sample Location: Test Boring No. 12 at a depth of 24 feet
Sample Description: Claystone, very sandy
Classification: A-6(3), SANDY LEAN CLAY(CL)
Gravel (%): 0
Sand (%): 46
Clay/Silt (%): 54
Liquid Limit: 30
Plasticity Index: 11

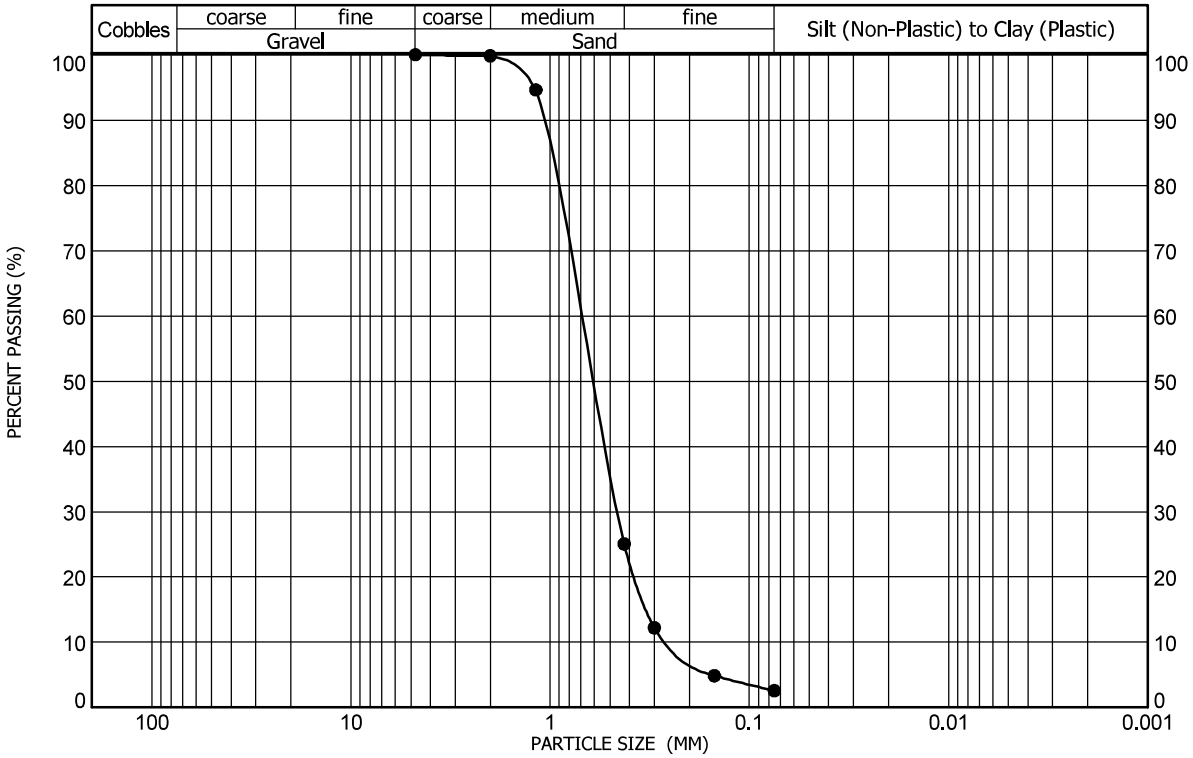


Sample Location: Test Boring No. 14 at a depth of 9 feet
Sample Description: Claystone, slightly sandy
Classification: A-6(18), LEAN CLAY(CL)
Gravel (%): 0
Sand (%): 9
Clay/Silt (%): 91
Liquid Limit: 40
Plasticity Index: 19

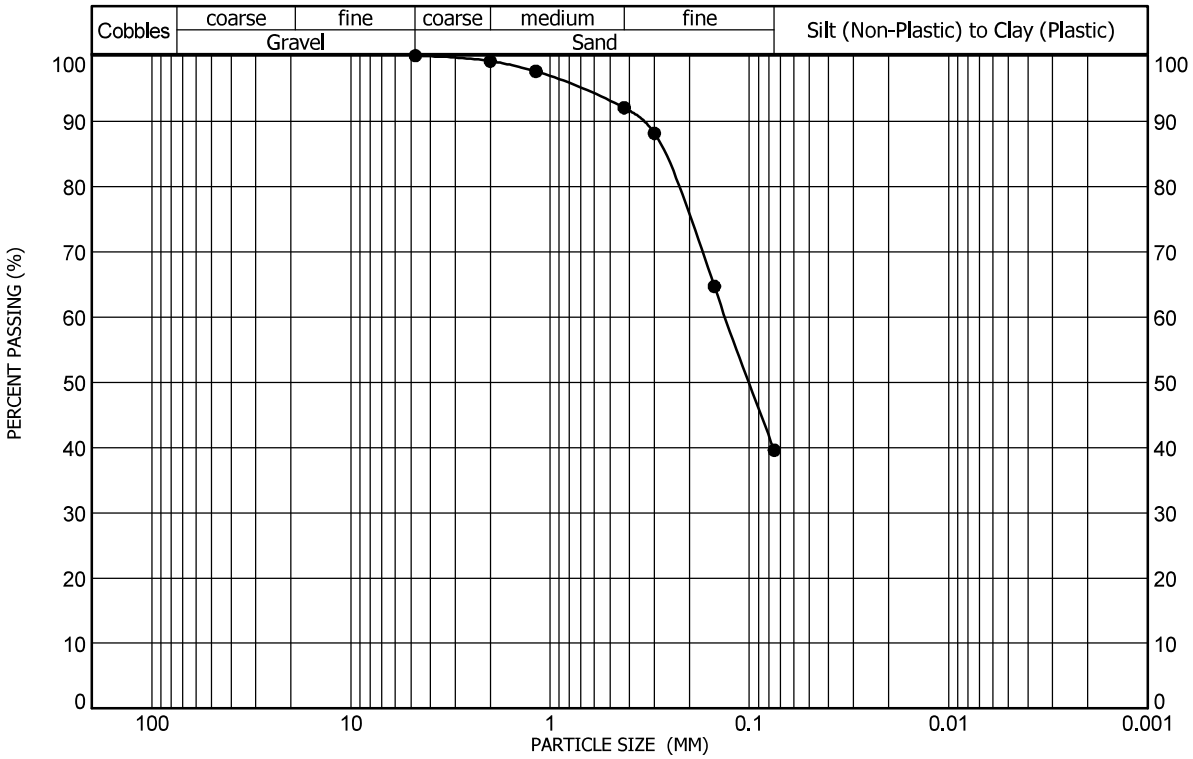
GRADATION AND ATTERBERG TEST RESULTS
FIGURE 25

PROJECT NO. 174095

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



Sample Location Test Boring No. 15 at a depth of 9 feet — Gravel (%) 0 — Liquid Limit NV
Sample Description Sand, trace silty — Sand (%) 97 — Plasticity Index NP
Classification A-1-b(0), POORLY GRADED SAND(SP) — Clay/Silt (%) 3

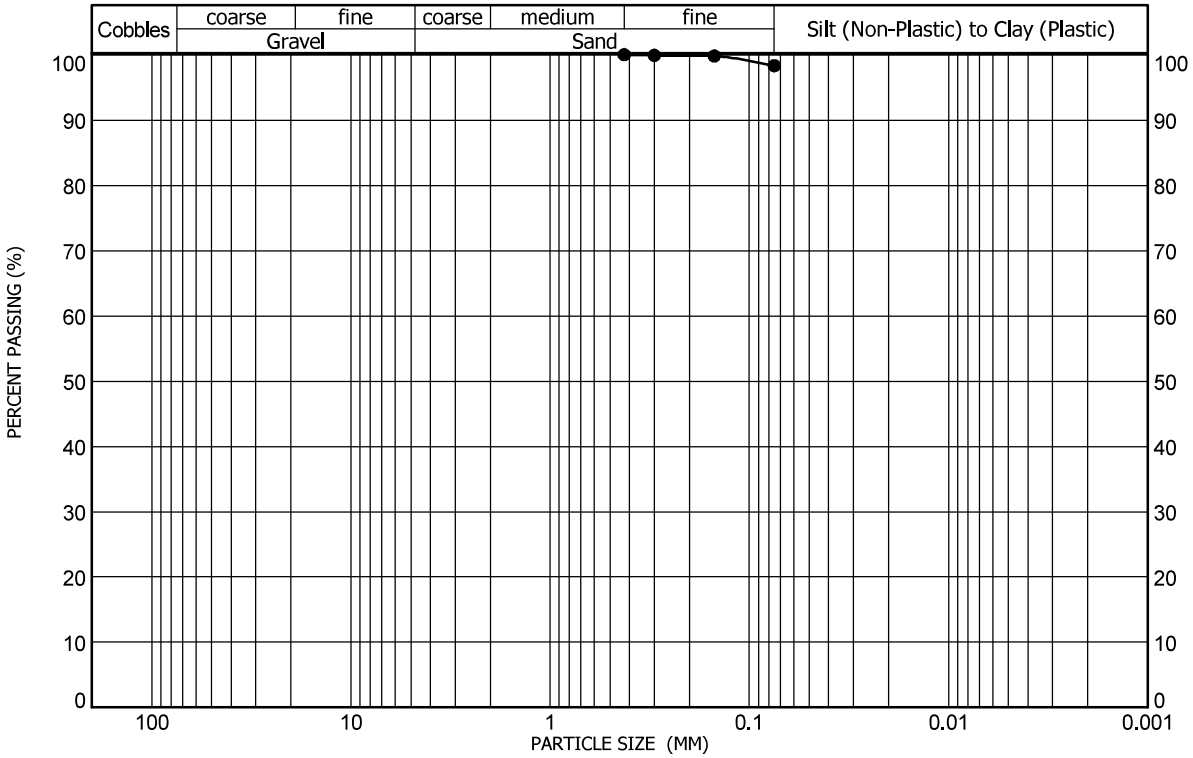


Sample Location Test Boring No. 16 at a depth of 14 feet — Gravel (%) 0 — Liquid Limit NV
Sample Description Sand, very silty — Sand (%) 60 — Plasticity Index NP
Classification A-4(0), SILTY SAND(SM) — Clay/Silt (%) 40

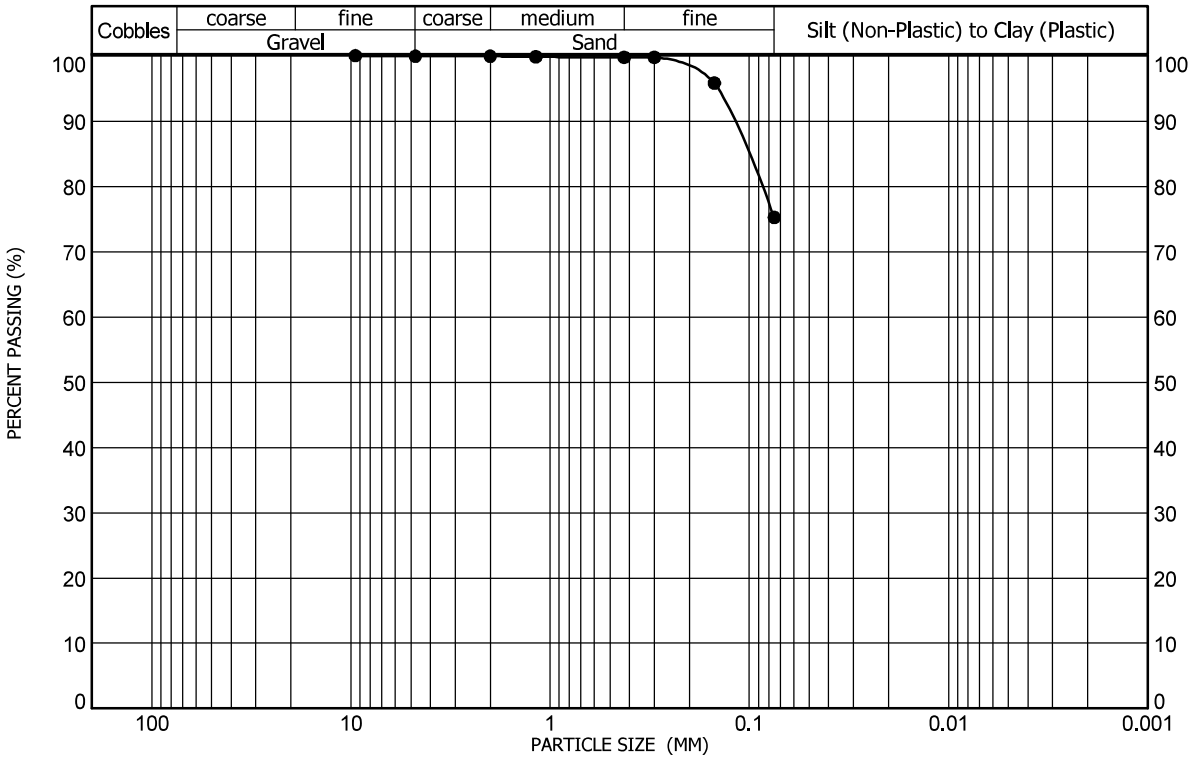
GRADATION AND ATTERBERG TEST RESULTS
FIGURE 26

PROJECT NO. 174095

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



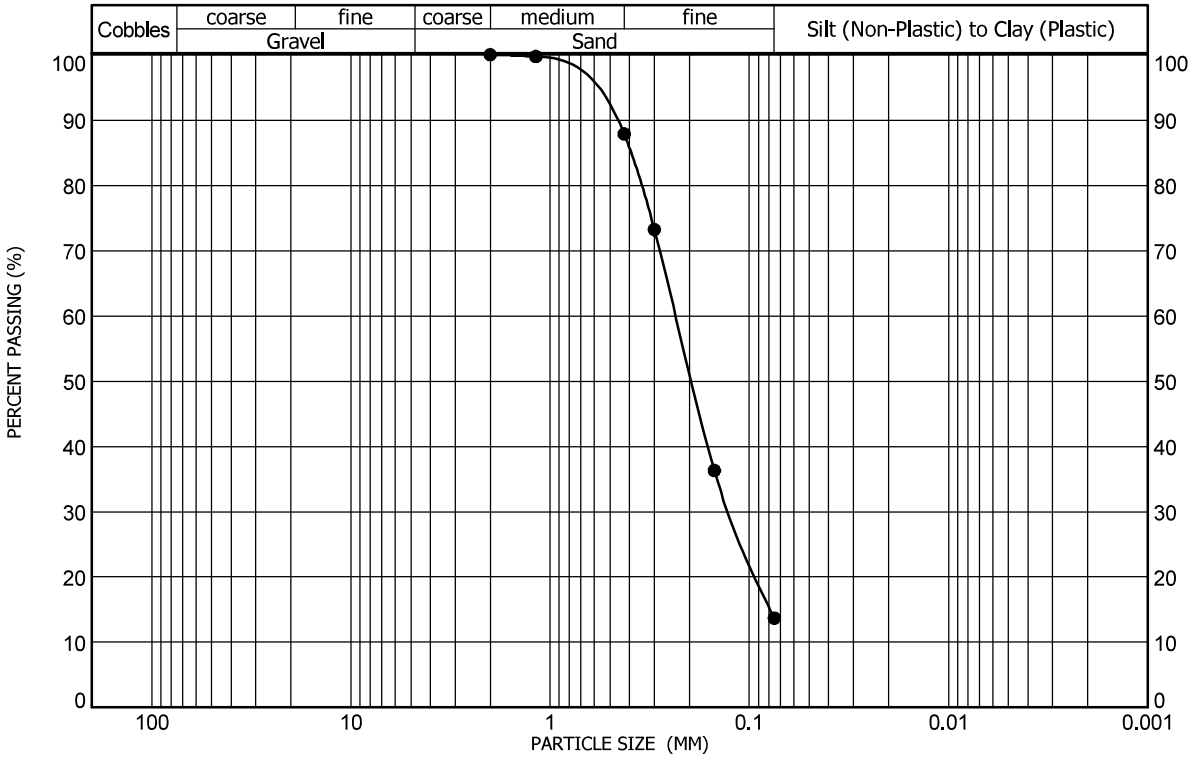
Sample Location: Test Boring No. 17 at a depth of 9 feet
Sample Description: Clay (weathered claystone), trace sand
Classification: A-7-6(44), FAT CLAY(CH)
Gravel (%): 0 Sand (%): 2 Clay/Silt (%): 98
Liquid Limit: 62 Plasticity Index: 40



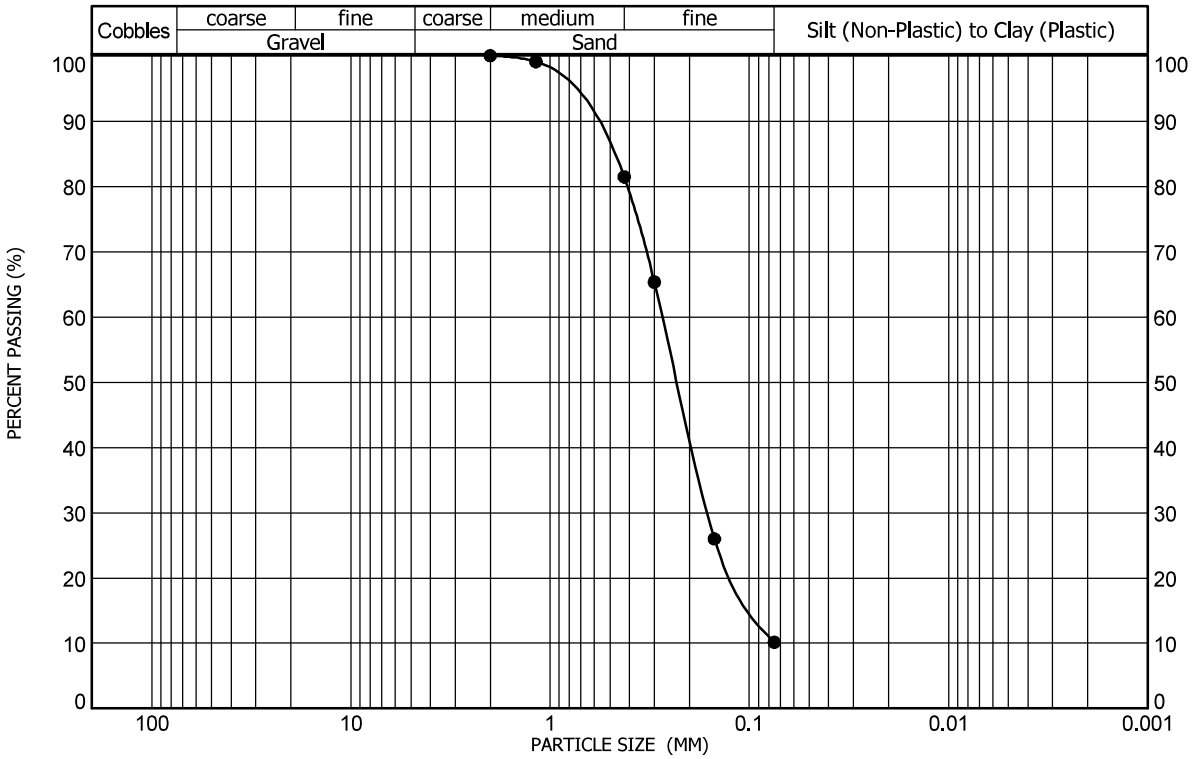
Sample Location: Test Boring No. 18 at a depth of 9 feet
Sample Description: Claystone, sandy
Classification: A-6(14), LEAN CLAY with SAND(CL)
Gravel (%): 0 Sand (%): 25 Clay/Silt (%): 75
Liquid Limit: 39 Plasticity Index: 20

GRADATION AND ATTERBERG TEST RESULTS
FIGURE 27
PROJECT NO. 174095

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



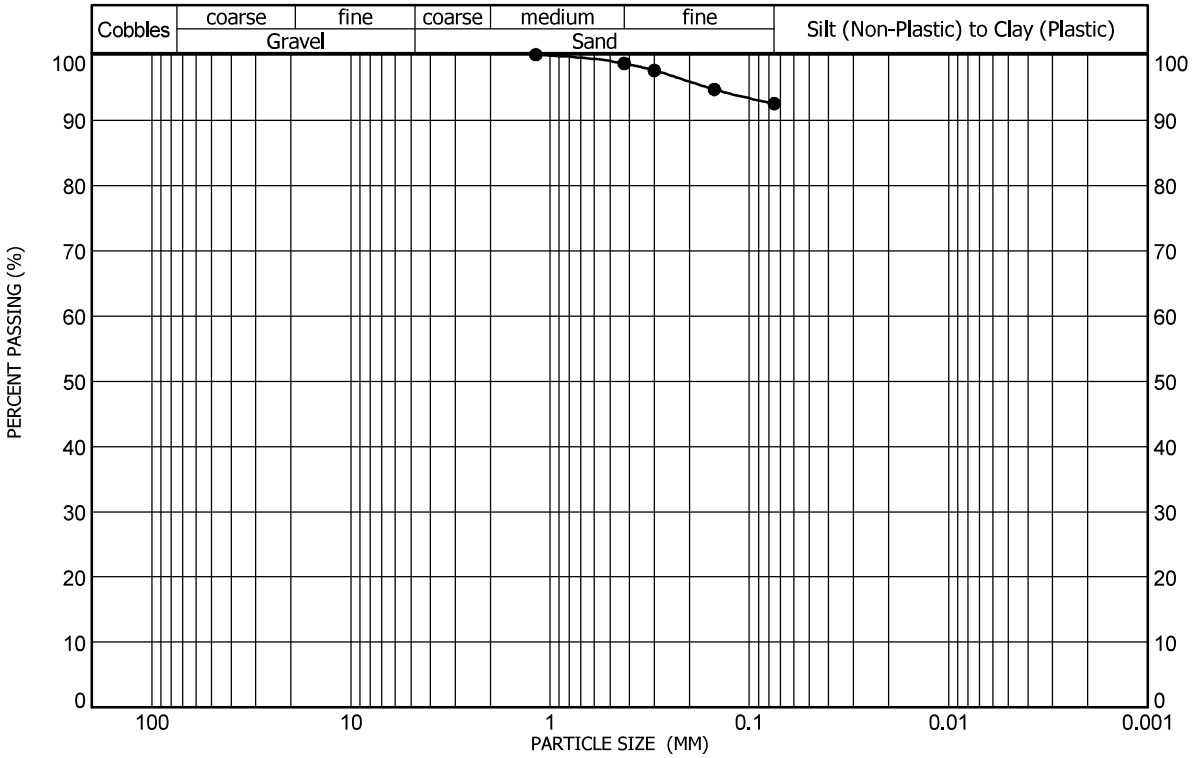
Sample Location: Test Boring No. 19 at a depth of 4 feet
Sample Description: Sand, slightly silty
Classification: A-2-4(0), SILTY SAND(SM)
Gravel (%): 0
Sand (%): 86
Clay/Silt (%): 14
Liquid Limit: NV
Plasticity Index: NP



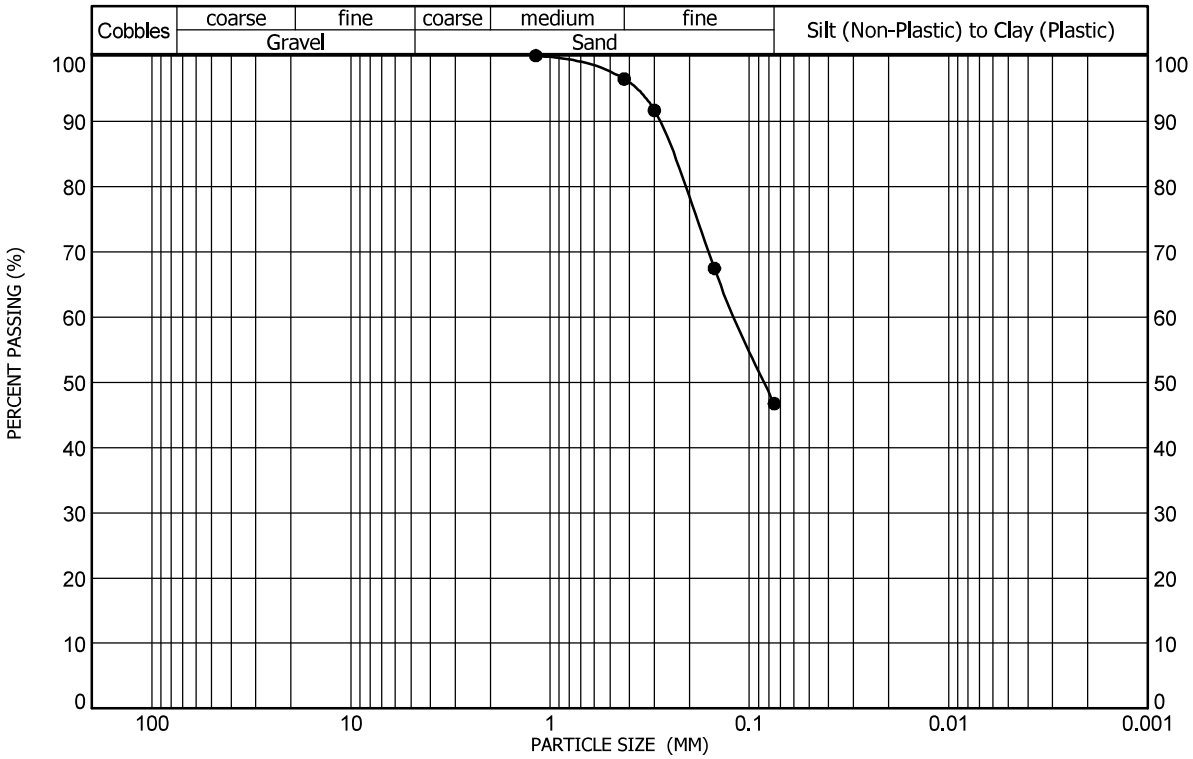
Sample Location: Test Boring No. 21 at a depth of 4 feet
Sample Description: Sand, slightly silty
Classification: A-3(0), POORLY GRADED SAND with SILT(SP-SM)
Gravel (%): 0
Sand (%): 90
Clay/Silt (%): 10
Liquid Limit: NV
Plasticity Index: NP

GRADATION AND ATTERBERG TEST RESULTS
FIGURE 28

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants



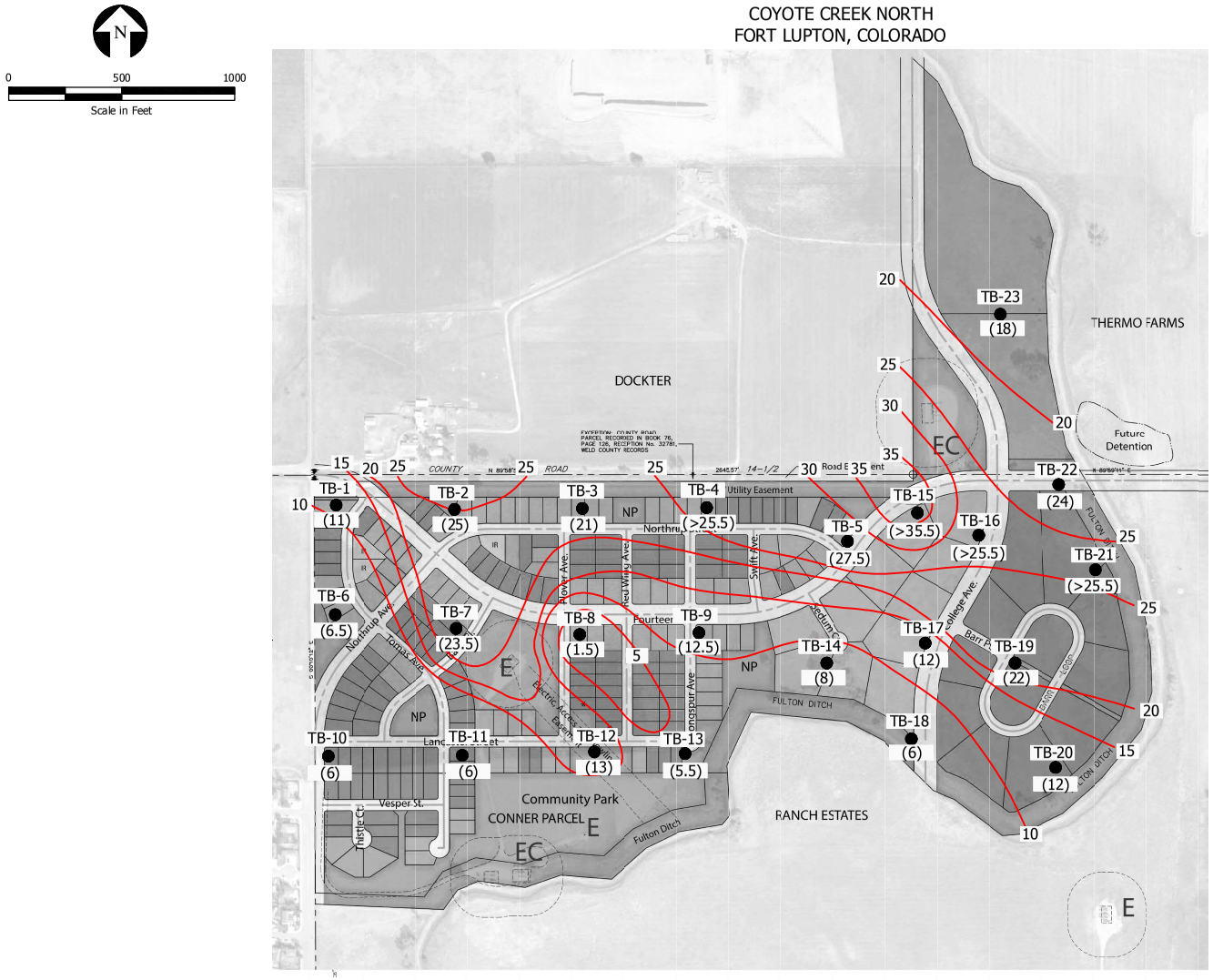
Sample Location: Test Boring No. 22 at a depth of 19 feet
Sample Description: Clay (weathered claystone), slightly sandy
Classification: A-7-6(42), FAT CLAY(CH)
Gravel (%): 0 Sand (%): 7 Clay/Silt (%): 93
Liquid Limit: 61 Plasticity Index: 41



Sample Location: Test Boring No. 23 at a depth of 14 feet
Sample Description: Sand, very clayey
Classification: A-4(1), CLAYEY SAND(SC)
Gravel (%): 0 Sand (%): 53 Clay/Silt (%): 47
Liquid Limit: 26 Plasticity Index: 8

GRADATION AND ATTERBERG TEST RESULTS
FIGURE 29
PROJECT NO. 174095

COYOTE CREEK NORTH
FORT LUPTON, COLORADO



TB-1
(11)
INDICATES BEDROCK WAS ENCOUNTERED AT AN APPROXIMATE DEPTH OF 11 FEET IN TEST BORING 1

BEDROCK DEPTH CONTOURS ARE BASED UPON THE EXTRAPOLATION OF DATA FROM WIDELY SPACED TEST BORINGS. LOCAL AND SIGNIFICANT VARIATIONS MAY OCCUR BETWEEN THE BORINGS. THIS MAP REPRESENTS AN OPINION WHICH IS ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHODS USED.

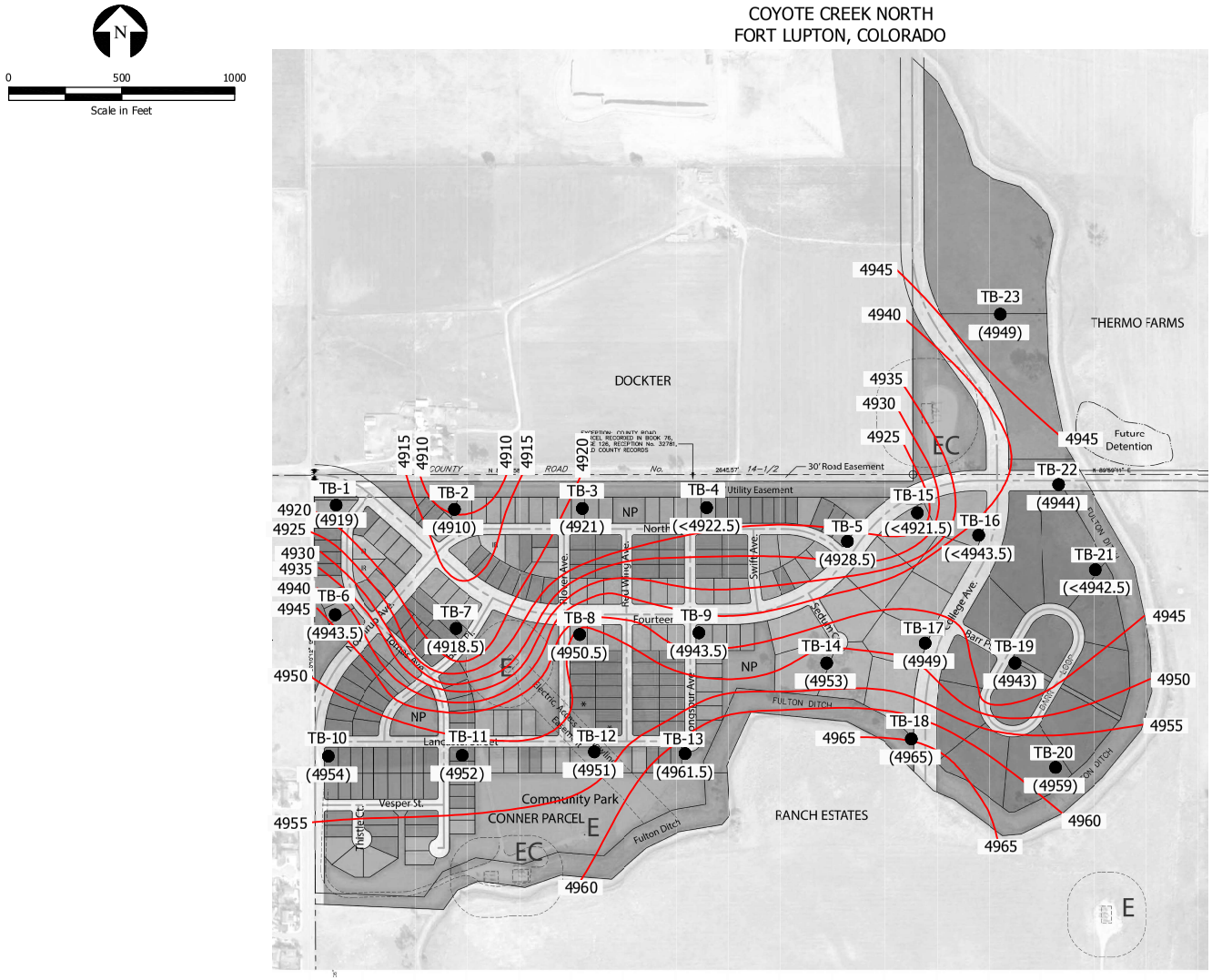
NOTES:

1. TEST BORINGS ARE OVERLAID ON THE "COYOTE CREEK NORTH, FT. LUPTON, CO-115' DEPTH CONCEPT PLAN", PREPARED BY SANDERSON STEWART, DATED DECEMBER 2017.
2. ALL LOCATIONS ARE APPROXIMATE.

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants

ESTIMATED DEPTH TO BEDROCK	PROJECT NO. 174095 FIGURE 30

COYOTE CREEK NORTH
FORT LUPTON, COLORADO



ELEVATIONS ARE BASED UPON THE TEST BORING ELEVATIONS PROVIDED ON THE TEST BORING STAKES AND THE RECORDED DEPTHS TO BEDROCK

TB-1 (4919) ● INDICATES THAT THE TOP OF BEDROCK WAS ENCOUNTERED AT APPROXIMATELY 4,919 FEET IN TEST BORING 1

ELEVATION CONTOURS ARE BASED UPON THE EXTRAPOLATION OF DATA FROM WIDELY SPACED TEST BORINGS. LOCAL AND SIGNIFICANT VARIATIONS MAY OCCUR BETWEEN THE BORINGS. THIS MAP REPRESENTS AN OPINION WHICH IS ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHODS USED.

NOTES:

1. TEST BORINGS ARE OVERLAID ON THE "COYOTE CREEK NORTH, FT. LUPTON, CO-115' DEPTH CONCEPT PLAN", PREPARED BY SANDERSON STEWART, DATED DECEMBER 2017.
2. ALL LOCATIONS ARE APPROXIMATE.

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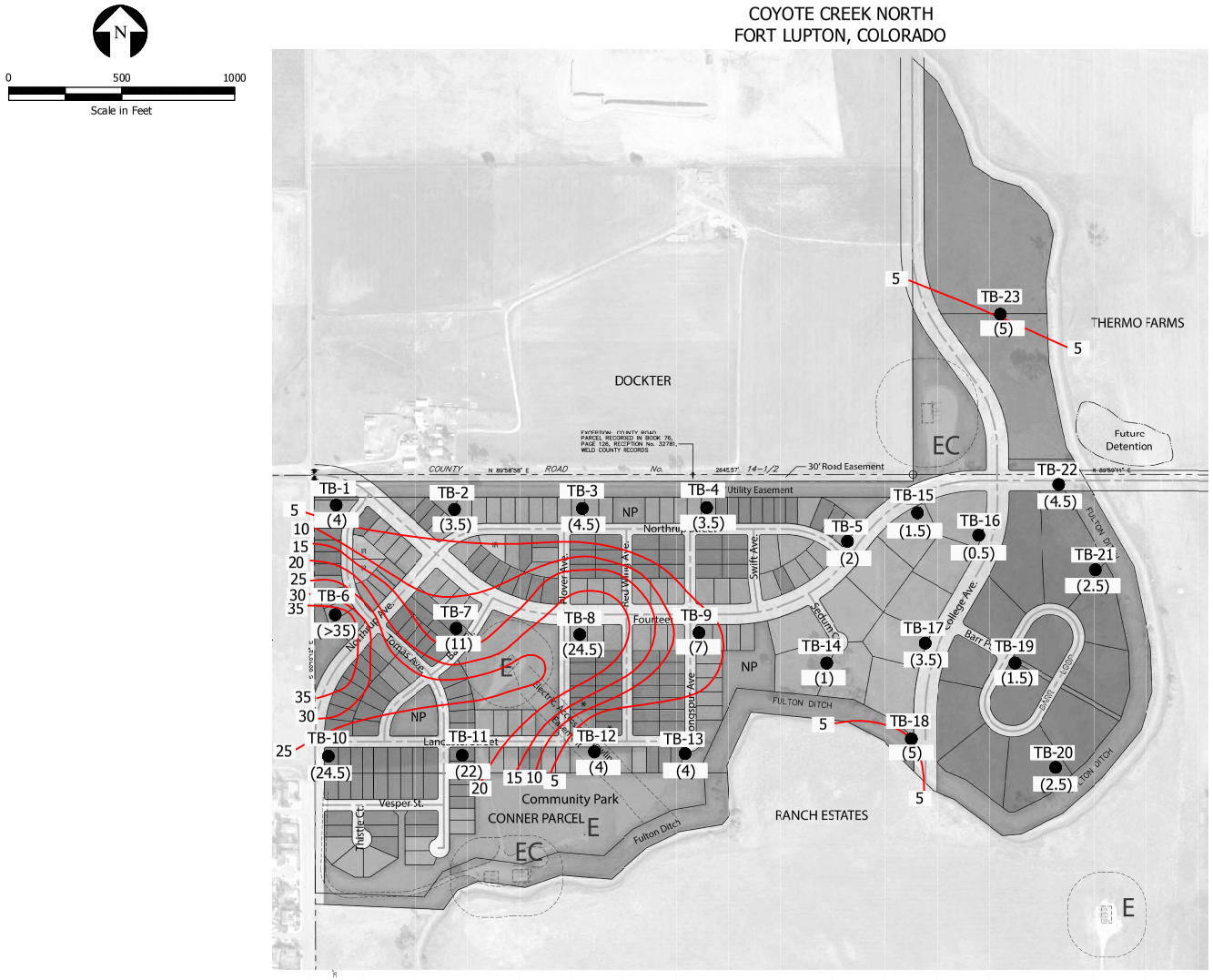
Geotechnical and Environmental Consultants

ESTIMATED ELEVATION OF BEDROCK	PROJECT NO. 174095 FIGURE 31

COYOTE CREEK NORTH
FORT LUPTON, COLORADO



TB-1 ● INDICATES GROUND WATER OR WET CAVE IN WAS MEASURED AT AN APPROXIMATE DEPTH OF 4 FEET BELOW
(4) THE GROUND SURFACE IN TEST BORING 1

GROUND WATER DEPTH CONTOURS ARE BASED UPON THE EXTRAPOLATION OF DATA FROM WIDELY SPACED TEST BORINGS. LOCAL AND SIGNIFICANT VARIATIONS MAY OCCUR BETWEEN THE BORINGS. THIS MAP REPRESENTS AN OPINION WHICH IS ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHODS USED.

NOTES:

1. TEST BORINGS ARE OVERLAID ON THE "COYOTE CREEK NORTH, FT. LUPTON, CO-115' DEPTH CONCEPT PLAN", PREPARED BY SANDERSON STEWART, DATED DECEMBER 2017.
2. ALL LOCATIONS ARE APPROXIMATE.

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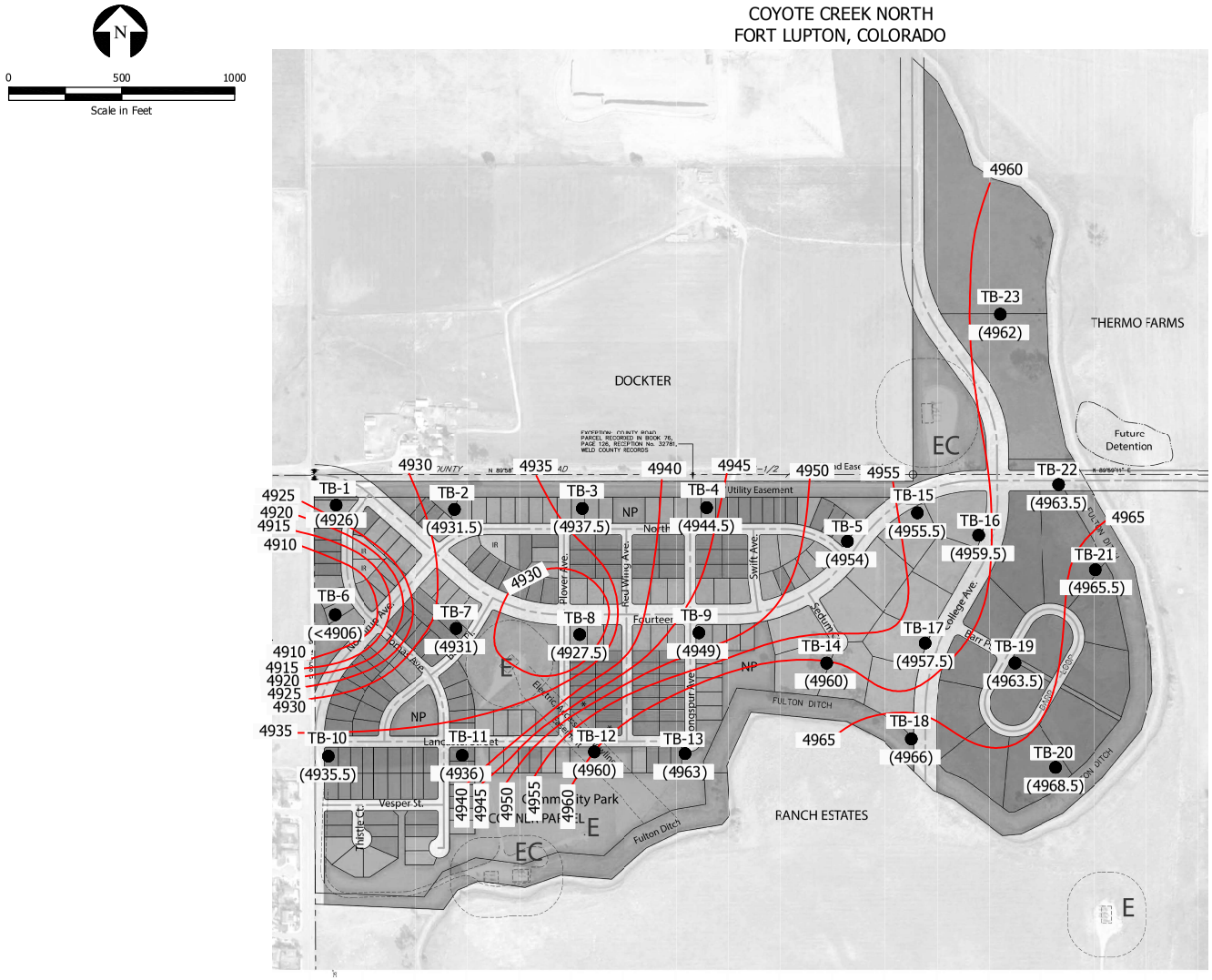
ESTIMATED DEPTH TO GROUND WATER	PROJECT NO. 174095 FIGURE 32

98/180

COYOTE CREEK NORTH
FORT LUPTON, COLORADO



ELEVATIONS ARE BASED UPON THE TEST BORING ELEVATIONS PROVIDED ON THE TEST BORING STAKES AND THE RECORDED DEPTHS TO GROUND WATER OR WET CAVE IN SOILS.

TB-1 ● (4926) INDICATES GROUND WATER OR WET CAVE IN WAS ENCOUNTERED AT AN APPROXIMATE ELEVATION OF 4,926 FEET IN TEST BORING 1

ELEVATION CONTOURS ARE BASED UPON THE EXTRAPOLATION OF DATA FROM WIDELY SPACED TEST BORINGS. LOCAL AND SIGNIFICANT VARIATIONS MAY OCCUR BETWEEN THE BORINGS. THIS MAP REPRESENTS AN OPINION WHICH IS ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHODS USED.

NOTES:

1. TEST BORINGS ARE OVERLAID ON THE "COYOTE CREEK NORTH, FT. LUPTON, CO-115' DEPTH CONCEPT PLAN", PREPARED BY SANDERSON STEWART, DATED DECEMBER 2017.
2. ALL LOCATIONS ARE APPROXIMATE.

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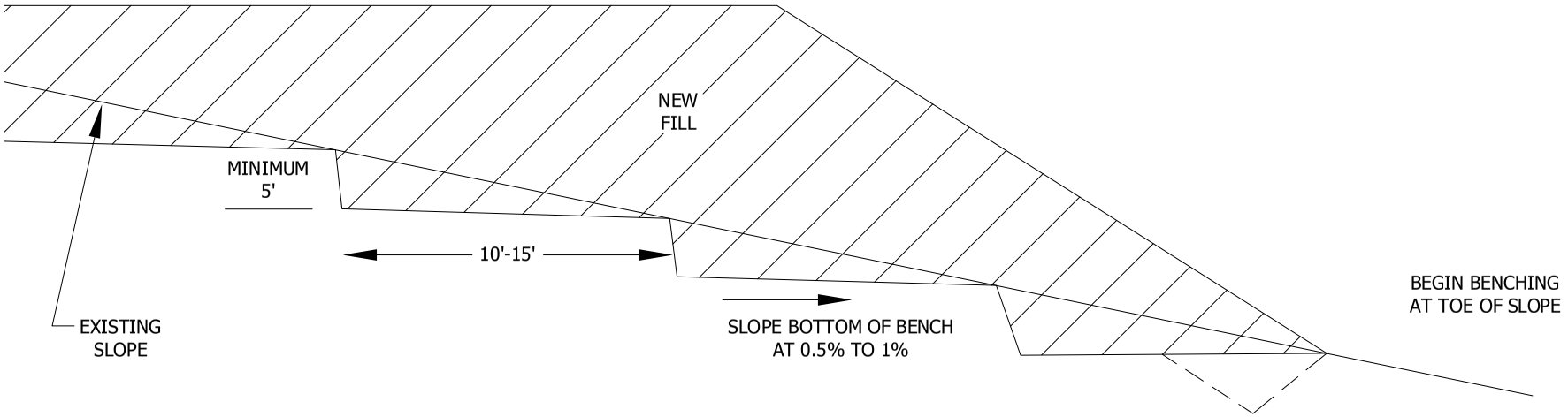
ESTIMATED ELEVATION OF GROUND WATER	PROJECT NO. 174095 FIGURE 33

CONTINUE BENCHING UNTIL NATURAL SLOPE
FLATTENS OR SLOPE DAYLIGHTS



BENCHING REQUIRED WHEN EXISTING
SLOPE IS 5 : 1 (HORIZONTAL : VERTICAL) OR GREATER

NOTES: DRAINS MAY BE REQUIRED IF GROUND
WATER IS ENCOUNTERED.

ADDITIONAL CUTTING BACK OF SOME SLOPES
MAY BE REQUIRED BY GEOTECHNICAL ENGINEER
IF SLOPE INSTABILITY IS NOTED.

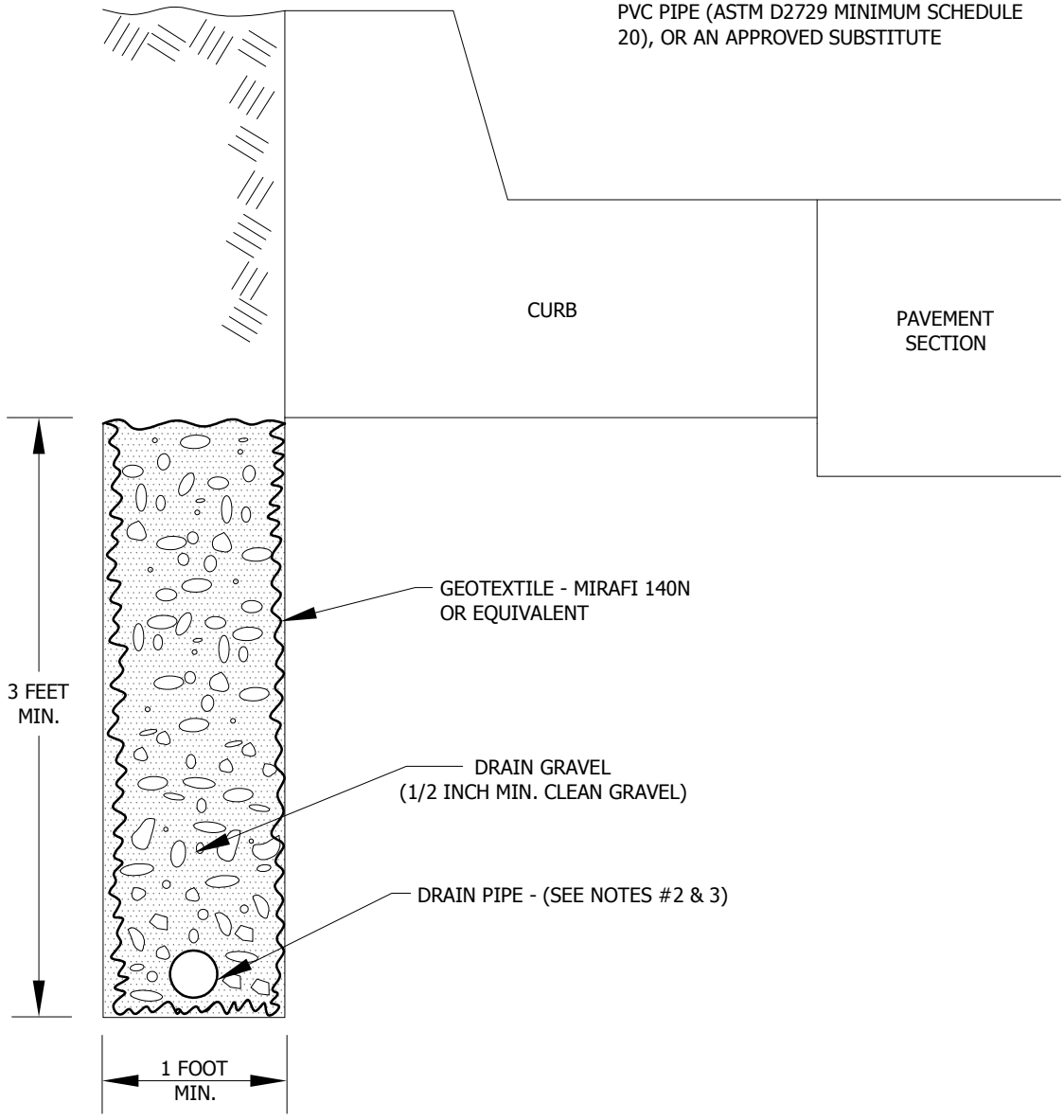
NOT TO SCALE

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants

GENERALIZED BENCHING DETAIL	PROJECT NO. 174095 FIGURE 34

NOTES:

1. DRAIN MUST SLOPE TO A POSITIVE GRAVITY OUTLET
2. SLOPE BOTTOM OF TRENCH AND PIPE AT A MINIMUM OF $\frac{1}{8}$ INCH PER FOOT (i.e. 1%)
3. 3- OR 4-INCH DIAMETER RIGID PERFORATED PVC PIPE (ASTM D2729 MINIMUM SCHEDULE 20), OR AN APPROVED SUBSTITUTE



NOT TO SCALE

A.G. Wassenaar Geotechnical and Environmental Consultants Inc.	
PAVEMENT DRAIN DETAIL	PROJECT NO. 174095 FIGURE 35 101/180

PAVEMENT DRAIN
JANUARY 2018

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants

TABLE I
SUMMARY OF LABORATORY TEST RESULTS
January 22, 2018

Project Number 174095
Coyote Creek North
Fort Lupton, Colorado

Test Boring Number	Depth (feet)	Soil Type	Natural Dry Density (pcf)	Natural Moisture (%)	Swell / Consolidation (-) (%) [1]	Swell Pressure (psf)	% Passing #200 Sieve	Atterberg		pH	Resistivity (ohm•cm)	Water Soluble Sulfates (ppm)	Chlorides (%)
								Liquid Limit LL	Plasticity Index PI				
1	9	Clay (weathered claystone), trace sand	97	26	3.9	4,800	98	81	59				
1	14	Claystone, slightly sandy	107	20	4.4	6,200							
2	14	Sand, silty		21			20	NV	NP				
3	4	Sand, silty								7.9	1,106	240	0.0061
3	9	Sand, slightly silty		12			8	NV	NP				
4	14	Sand, silty		14			16	NV	NP				
5	19	Sand, silty		20			19	NV	NP				
6	4	Clay (weathered claystone), sandy	122	11	9.2	16,800							
6	9	Claystone, slightly sandy	109	18	6.1	13,200	94	68	48				
6	24	Claystone, slightly sandy	107	18	3.1	5,900							
7	9	Sand, very silty		15			43	20	NP				
7	14	Clay, sandy	106	19	-0.7		79	42	23				
8	9	Claystone, slightly sandy	116	15	5.2	14,500							
8	19	Claystone, slightly sandy	107	18	6.4	12,400							
8	29	Claystone, slightly sandy	117	14	4.1	10,900							
9	9	Clay (weathered claystone), slightly sandy	104	20	2.7	6,300							
9	14	Claystone, very sandy		18			63	29	11				
10	4	Clay (weathered claystone), slightly sandy								7.8	273	2,860	0.0144
10	9	Claystone, slightly sandy	115	15	7.3	16,700							
10	19	Claystone, slightly sandy	125	12	2.8	10,000							
11	9	Claystone, slightly sandy	113	17	9.5	16,300							
11	14	Claystone, trace sand	115	14	5.5	13,800	99	66	46				

102/180

Notes:
[1] Indicates Percent Swell or Consolidation (−) when wetted under a 1,000 psf load, unless otherwise noted.

NV - indicates No Value
NP - indicates Non-Plastic

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants

TABLE I
SUMMARY OF LABORATORY TEST RESULTS
January 22, 2018

Test Boring Number	Depth (feet)	Soil Type	Natural Dry Density (pcf)	Natural Moisture (%)	Swell / Consolidation (-) (%) [1]	Swell Pressure (psf)	% Passing #200 Sieve	Atterberg		pH	Resistivity (ohm•cm)	Water Soluble Sulfates (ppm)	Chlorides (%)
								Liquid Limit LL	Plasticity Index PI				
12	9	Claystone, slightly sandy	104	21	2.8	5,700							
12	14	Claystone, slightly sandy	112	18	3.7	11,100							
12	24	Claystone, very sandy		20			54	30	11				
13	19	Claystone, slightly sandy	116	16	5.3	14,500							
13	29	Claystone, slightly sandy	118	13	5.5	13,100							
14	9	Claystone, slightly sandy		19			91	40	19				
14	14	Claystone, slightly sandy	114	16	1.9	3,500							
14	24	Claystone, slightly sandy	112	15	3.7	5,500							
15	9	Sand, trace silty		15			3	NV	NP				
16	14	Sand, very silty		17			40	NV	NP				
17	9	Clay (weathered claystone), trace sand	108	20	2.5	4,200	98	62	40				
17	24	Claystone, slightly sandy	104	22	8.1	9,500							
18	4	Sand, silty								7.7	1,510	<100	0.0016
18	9	Claystone, sandy	115	15	1.6	4,900	75	39	20				
18	19	Claystone, slightly sandy	109	21	3.9	8,800							
19	4	Sand, slightly silty		17			14	NV	NP				
20	14	Claystone, slightly sandy								7.6	410	2,840	0.0089
20	24	Claystone, slightly sandy	123	13	2.7	7,700							
20	34	Claystone, slightly sandy	118	15	4.1	13,500							
21	4	Sand, slightly silty		18			10	NV	NP				
22	19	Clay (weathered claystone), slightly sandy		23			93	61	41				
23	14	Sand, very clayey		17			47	26	8				

103/180

Notes:
[1] Indicates Percent Swell or Consolidation (−) when wetted under a 1,000 psf load, unless otherwise noted.

NV - indicates No Value
NP - indicates Non-Plastic

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APPENDIX
SPECIFICATIONS FOR PLACEMENT OF STRUCTURAL FILL

GENERAL

The Geotechnical Engineer, as the Client's representative, should observe fill placement and conduct tests to determine if the material, method of placement, and compaction are in reasonable compliance with the specifications. Specifications presented in this Appendix are general in nature. They should be used except where specifically superceded by those presented in the attendant geotechnical study.

For the purpose of this specification, structural areas include those areas that will support constructed appurtenances (e.g., foundations, slabs, flatwork, pavements, etc.) and fill embankments or slopes that support significant fills or constructed appurtenances. Structural areas will be as defined by the Geotechnical Engineer.

FILL MATERIAL

Fill material should consist of on or off-site soils which are relatively free of vegetable matter and rubble. Off-site materials should be evaluated by the Soil Engineer prior to importation. No organic, frozen, perishable, rock greater than 6 inches, or other unsuitable material should be placed in the fill. For the purpose of this specification, cohesive soil should be defined as a mixture of clay, sand, and silt with more than 35% passing a U. S. Standard #200 sieve and a Plasticity Index of at least 11. These materials will classify as an A-6 or A-7 by the AASHTO Classification system. Granular soils should be all materials which do not classify as cohesive.

Proposed import material should be material having 100% finer than 3 inches in diameter and not more than 60% passing a U. S. Standard No. 200 sieve, provided the Plasticity Index is less than 15. Soil not meeting these specifications, but proposed for import fill, must be evaluated by our office.

PREPARATION OF NATURAL GROUND

Vegetation, organic topsoil, any existing fill and any other deleterious materials should be removed from the fill area. The area to be filled should then be scarified, moistened if necessary, and compacted in the manner specified below prior to placement of subsequent layers of fill.

PLACEMENT OF FILL MATERIAL

The materials should be delivered to the fill in a manner which will permit a well and uniformly compacted fill. Before compacting, the fill material should be properly mixed and spread in approximately horizontal layers not greater than 8 inches in loose thickness.

MOISTURE CONTROL

While being compacted, the material should contain uniformly distributed moisture for compaction. The Contractor should be required to add moisture to the materials if, in the opinion of the Geotechnical Engineer, proper and uniform moisture is not being obtained for compaction. If the fill materials are too wet for proper compaction, aerating and/or mixing with drier materials may be required.

MOISTURE CONTROL *(continued)*

Moisture content should be controlled as a percentage deviation from optimum. Optimum moisture content is defined as the moisture content corresponding to the maximum density of a laboratory compacted sample performed according to ASTM D 698 for cohesive soils or ASTM D 1557 for granular soils. The moisture content specifications for the various areas are as follows:

		Cohesive Soils	Granular Soils
1.	Beneath Structural Areas:	0 to +4%	-2 to +2%
2.	Beneath Non-Structural Areas:	-3 to +3%	-3 to +3%
3.	Moisture Treated Fill:	0 to +4%	-2 to +2%

COMPACTION

When the moisture content and conditions of each layer spread are satisfactory, it should then be compacted. Moisture-density tests should be performed on typical fill materials to determine the maximum density. Field density tests must then be made to determine fill compaction. The compaction standard to be utilized in determining the maximum density is ASTM D 698 for cohesive soils or ASTM D 1557 for granular soils. The following compaction specifications should be followed for each area:

1.	Beneath Structural Areas:	95% of Maximum Dry Density
2.	Beneath Non-Structural Areas:	90% of Maximum Dry Density
3.	Moisture Treated Fill:	95% of Maximum Dry Density

Note: In areas where fill depths exceed 20 feet, additional compaction considerations will be required to reduce fill settlement. We recommend any fill placed within 20 feet of final subgrade elevation be compacted as required above, and that deeper fills be compacted to 100% of maximum dry density at a moisture content of ±2 percent of optimum moisture content.

If the structural fill contains less than 10 percent passing the No. 200 sieve, it may be necessary to control compaction based on relative density (ASTM D 2049). If this is the case, then compaction around the structures and beneath slabs should be to at least 70% relative density, and compaction beneath foundations and pavements should be to at least 80% relative density.

Any mention of essentially full-time testing and observation does not mean A. G. Wassenaar, Inc. (AGW) will accept responsibility for future fill performance. AGW shall not be responsible for constant or exhaustive inspection of the work, the means and methods of construction or the safety procedures employed by Client's contractor. Performance of construction observation services does not constitute a warranty or guarantee of any type, since even with diligent observation, some construction defects, deficiencies or omissions in the Contractor's work may occur undetected. Client shall hold its contractor solely responsible for the quality and completion of the project, including construction in accordance with the construction documents. Any duty hereunder is for the sole benefit of the Client and not for any third party, including the contractor or any subcontractor.

DRAINAGE MEMO

MEMORANDUM

To: Roy Vestal, Public Works Director, City of Fort Lupton

From: Craig Rothluebber, PE, Atwell

Date: November 11, 2019

Re: **Fulton Ranch**

Introduction

The Fulton Ranch site is a tract of land located in the South Half of Section 33, Township 2 North, Range 66 West of the 6th Principal Meridian, Fort Lupton, County of Weld, State of Colorado. The site is bounded by the Fulton Ditch to the East and South, 14th Street to the North, and the Future Northrup Ave to the West.

To the South, between Fulton Ditch and 9th Street is another portion of the Cottonwood Greens P.U.D., which has a development application in with the City at this time. To the North, across 14th Street, is undeveloped land. The Trees Subdivision is located to the Southwest of the property.

The proposed site is approximately 127.5 acres and will consist of 466 manufactured housing units with amenities, open space and water quality treatment ponds. The site is part of the Cottonwood Greens P.U.D., recorded April 13th, 2006, and is currently undeveloped land used for farming, and several gas facilities that are incorporated in the concept plan. The site's topography generally slopes from the southeast to northwest with the slopes ranging between 3 percent and 9 percent.

A soil report for the site is included from the Web Soil Survey from the National Resource Conservation Service (NRCS) website. The soil report indicates that site is made up of various sandy loam soils. The majority of the Site consists of Hydrologic Soil Group A, approximately 70.2 percent, while the rest consists of Hydrologic Soil Group B.

The Fulton Ditch, an irrigation ditch adjacent to Fulton Ranch, outlines the southern and eastern boundary of the proposed development location and flows southwest-to-northeast, ending at the

nearby South Platte River. Golden's Pond, an existing regional detention pond for the 14th Street Basin, is located 1 mile to the west on the south side of 14th Street.

Historic Drainage Basin

Per the "Storm Drainage Utility Plan" adopted by the City of Fort Lupton in March 2015, the site is part of the 14th Street Basin, bounded by County Road 29 to the West, County Road 31 to the East, County Road 16 to the North, and Colorado highway 52 to the South. Historic flow direction for the 14th Street Basin is West-Northwest, with the South Platte River as the ultimate outfall. Approximately half of the 14th Street Basin is undeveloped but is designated for residential development.

The project area is not within a FEMA regulated floodplain as shown on FEMA Map No. 08123C2110E. As illustrated, the project site designated as Zone X - determined to be outside of the FEMA 100 and 500-year floodplains.

Historic flow paths and patterns will be generally maintained, and no irrigation facilities including the Fulton Ditch, will not be impacted by the development of this site.

For the development area, the existing topography slopes generally southeast to northwest and is bounded by the Fulton Ditch to the South and East, 14th Street to the North, and future Northrup Avenue to the West. It is assumed that with proposed cross pans located at the site entrances, no flows will run onto the site from 14th Street or Northrup Ave. Runoff flows along 14th Street west to Golden's Pond (as described in "Storm Drainage Utility Plan") and then on to the South Platte River. Per conversations with Fort Lupton, it was agreed upon that detention will not be provided on site and that water quality treatment would only be required on the site. Detention would be provided by the downstream Golden's Pond. As such, on-site runoff will be treated for water quality and released at the rate specified by the City of Fort Lupton.

Furthermore, assuming our sub-basin is fully developed for the purposes of drainage calculations ensures that future development will not create drainage problems downstream of the Cottonwood Greens Subdivision development.

Proposed Drainage Basin

Currently, it is proposed to treat runoff in four separate water quality ponds, with restricted outlets for each. Water released by the outlets will then combine and be piped under 14th Street. The outlet pipe will release storm water into a ditch or pipe system along the North side of 14th Street, continuing West to Golden's Pond and ultimately the South Platte River. The outlet pipes will be designed to meet the minimum slope providing the 3 ft/sec cleaning velocity required under the Mile High Flood District (MHFD) design regulations, and trickle channel at 0.4% slope

will be installed to ensure each pond drains to the ditch or pipe system along the south side of 14th Street.

The Southeast to Northwest drainage pattern will be maintained with minor changes to ensure proper cover over proposed sanitary sewer. Water quality treatment ponds are proposed along 14th Street, as the ditch is the natural low point of the site. The project sub-basin is 137.85 Acres, which is comprised of the site and two additional offsite drainage basins that drain through the site, so the rational method will be used as specified by the City of Fort Lupton.

Maintenance access will be provided to each pond and every outlet in order to allow maintenance. All access to the water quality treatment ponds will be provided from within the site and not from 14th Street.

Hydrology and Hydraulics

In order to facilitate drainage design, preliminary drainage flows have been calculated for the project area. First, minor basins were drawn based on assumed grading to each water quality treatment pond, and the runoff coefficient was calculated for each assuming 75% imperviousness for each of the developed basins. The time of concentration was then calculated for each, giving the duration of the design storm event. Using the rational method, the drainage flow of each basin was calculated for both the 5-year and 100-year events. Combining these flows gives the overall drainage flows, shown below:

Table 1

Sub-Basin	Area	C_5	C_{100}	T_c (min)	Q_5 (cfs)	Q_{100} (cfs)
A	34.44	0.64	0.78	24.39	57.98	131.89
B	33.70	0.64	0.78	19.81	63.48	144.40
C	33.70	0.64	0.78	20.23	62.79	142.84
D	20.38	0.64	0.78	17.73	40.64	92.44
OS-A	9.89	0.01	0.44	26.17	0.25	20.54
OS-B	5.75	0.01	0.44	25.41	0.15	12.14

Preliminary volume calculations have been completed in order to allocate enough area for water quality treatment. The total required water quality treatment volume under City of Fort Lupton Standards is 3.046 acre-feet. Total water quality treatment volume provided on the site is 3.745 acre-feet which is a 23% increase in the required volume in order to account for freeboard. Detailed calculations for each sub-basin's water quality treatment volume and the volume can be found in Appendix D. These volume calculations include all 137.85 acres bounded by 14th Street to the North, Fulton Ditch to the South and East and Northrup Ave to the West.

In order to prevent flooding downstream, outlet structures will need to release detained storm water at the 5-Year historic rate, per the following recommendation by J&T Consulting in the Storm Drainage Utility Plan on page 17:

"In order to mitigate the risk of increased flooding within the City, over-detention should be required for all new developments east of the Union Pacific Railroad tracks/embankment … basins must then be designed to contain the excess volume for all storms above the 5 year storm up to the 100 year storm while only releasing at the 5 year rate."

As such, the historic 5-year release rate can be calculated using Table 2 below.

Storm Frequency	Soil Group		
	A	B	C&D
5-Year	0.07	0.13	0.17
100-Year	0.50	0.85	1.00

Table 2 – Historic Runoff Rates (cfs/acre)

With predominantly group A soils and a basin area of 137.85 acres, the maximum release rate for the entire basin is 9.6 CFS. This 5-Year historic release rate necessitates the use of a Type 1 outlet with a restrictor plate installed on the outlet pipe with orifices sized to release at 9.6 CFS. Using this release rate, downstream drainage facilities will not be impacted for storms up to and including the 100-year storm.

Conclusions

While additional calculations and design are necessary, this drainage analysis shows that the proposed drainage system will operate as specified by the City of Fort Lupton. Releasing at the historic 5-year rate ensures drainage facilities downstream will not be impacted, while planning for higher density residential use in undeveloped land of the project sub-basin ensures that there will be enough volume in the Fulton Ranch project drainage system for the future. Coordination with the Cottonwood Greens development to the South will be necessary, as it will be discharging runoff through the site and to the North side of 14th Street to outfall into the ditch or pipe system to the North of 14th Street continuing West to Golden's Pond.

Appendix A – Historic Drainage Maps

Appendix B – Proposed Drainage Map

Appendix C – Hydrologic Computations

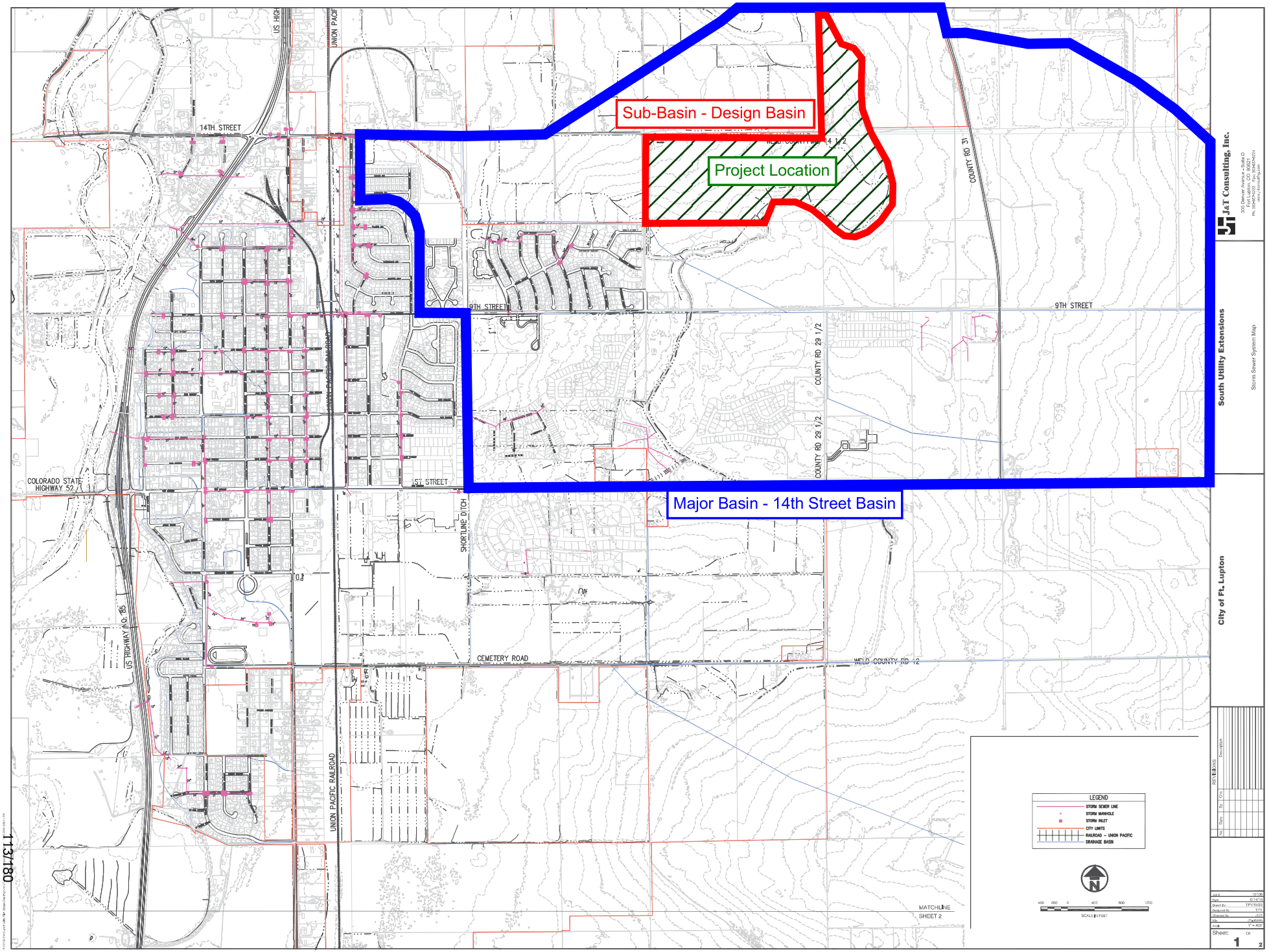
Appendix D – Hydraulic Computations

Appendix E – Soils Map

References

1. City of Fort Lupton Storm Drainage Design and Technical Criteria Manual; City of Fort Lupton.
2. Drainage Criteria Manual, Volumes 1, 2, &3, Urban Drainage and Flood Control District, Volumes 1 & 2 – Originally Published September 1969, Updated January 2016; Volume 3 – Originally Published September 1992, Updated November 2010.
3. Flood Insurance Rate Map of Weld County Colorado; Federal Emergency Management Agency, Map No. 08123C2110E, September 30, 2019.
4. USDA – NRCS – Web Soil Survey

APPENDIX A – Historic Drainage Maps


Sub-Basin - Design Basin
Project Location
Major Basin - 14th Street Basin
14TH STREET
9TH STREET
COUNTY RD 31
COUNTY RD 29 1/2
COUNTY RD 29 1/2
COLORADO STATE HIGHWAY 52
US HIGHWAY NO. 85
SHORTLINE DITCH
CEMETERY ROAD
WELD COUNTY RD 12
UNION PACIFIC RAILROAD
MATCHLINE SHEET 2
LEGEND
STORM SEWER LINE
STORM MANHOLE
STORM INLET
CITY LIMITS
RAILROAD – UNION PACIFIC
DRAINAGE BASIN
J&T Consulting, Inc.
South Utility Extensions
Storm Sewer System Map
City of Ft. Lupton
Sheet: 1 of 2
113180

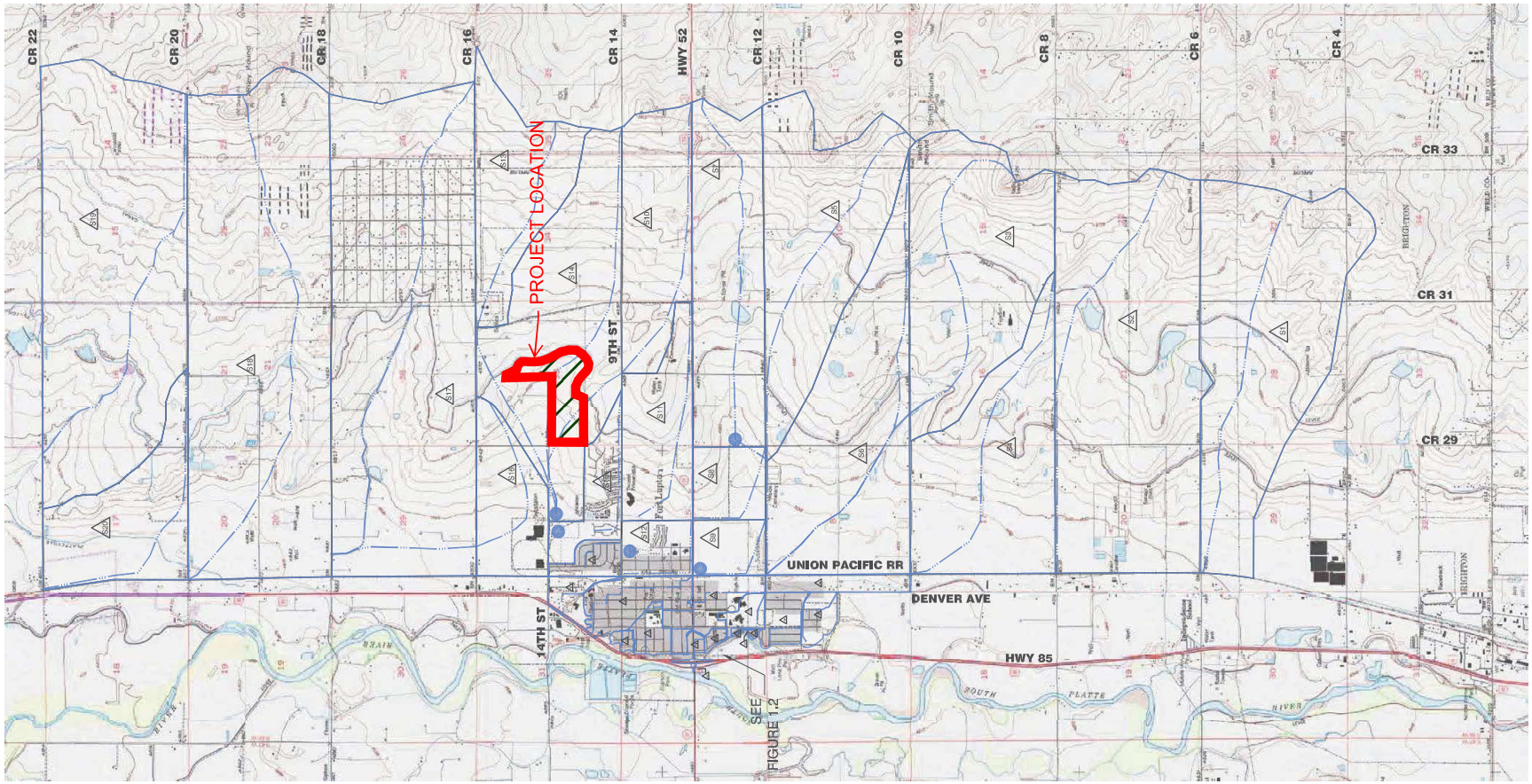
Basin ID	Basin Area (ac)	5 Year Historic Flow	2 Year Developed Flow	5 Year Developed Flow	10 Year Developed Flow	50 Year Developed Flow	100 Year Developed Flow
1	1303.36	547.76	1519.50	1545.54	1556.06	1572.14	1577.02
2	1741.55	734.06	2036.29	2071.20	2085.29	2106.85	2113.38
3	1004.46	595.03	982.81	1012.69	1025.54	1046.01	1052.37
4	858.21	406.14	1642.54	1653.73	1658.20	1665.02	1667.09
5	907.16	380.78	751.49	772.88	781.92	796.15	800.54
6	1081.80	442.02	1526.16	1542.64	1549.26	1559.35	1562.40
7	731.31	352.15	1424.20	1433.90	1437.78	1443.69	1445.48
8	159.81	114.98	318.95	324.41	326.62	330.00	331.02
9	122.28	83.00	411.39	412.39	412.80	413.44	413.63
10	507.49	248.67	925.47	925.47	929.35	939.21	941.77
11	367.74	252.36	416.82	429.49	434.94	443.62	446.32
12	119.33	63.01	237.20	239.15	239.93	241.12	241.48
13	488.97	281.08	1209.67	1216.36	1219.04	1223.14	1224.38
14	1016.07	456.36	1237.39	1237.39	1248.08	1275.52	1282.77
15	170.75	162.12	386.14	395.11	398.80	404.53	406.28
16	307.97	234.82	1163.86	1166.71	1167.87	1169.67	1170.21
17	2103.33	734.09	1748.46	1789.07	1805.79	1831.72	1839.67
18	2137.04	767.96	940.77	962.62	972.29	987.94	992.87
19	1730.16	823.06	1008.26	1031.68	1042.04	1058.82	1064.10
20	503.84	220.00	269.50	275.76	278.53	283.02	284.43

LEGEND:

- DEVELOPED BASIN DELINEATION
- DEVELOPED BASIN TRAVEL PATH
- BASIN DESIGNATION
- EXISTING/PROPOSED DETENTION BASIN

2000 1000 0 2000 4000 6000

SCALE IN FEET



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Fort Lupton, CO 80621
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www.JTconsulting.com

Storm Drainage Study Area East Basins

Figure 1.1

City of Fort Lupton

REVISIONS

No	Description	Date	By	Chk

Job #	12106
Date	10/20/14
Drawn By	WSS
Designed By	TPY
Checked By	JCY
File	JT-Fort Lupton drain
Scale	1" = 2000'

Sheet: 1 of 1

P:\12106 Fort Lupton Utility Plan Update\Drawings\Plan Sheets\Drainage\JT-Fort Lupton-Drainage-Proposed.dwg, Developed, 10/23/2014 9:44:52 AM

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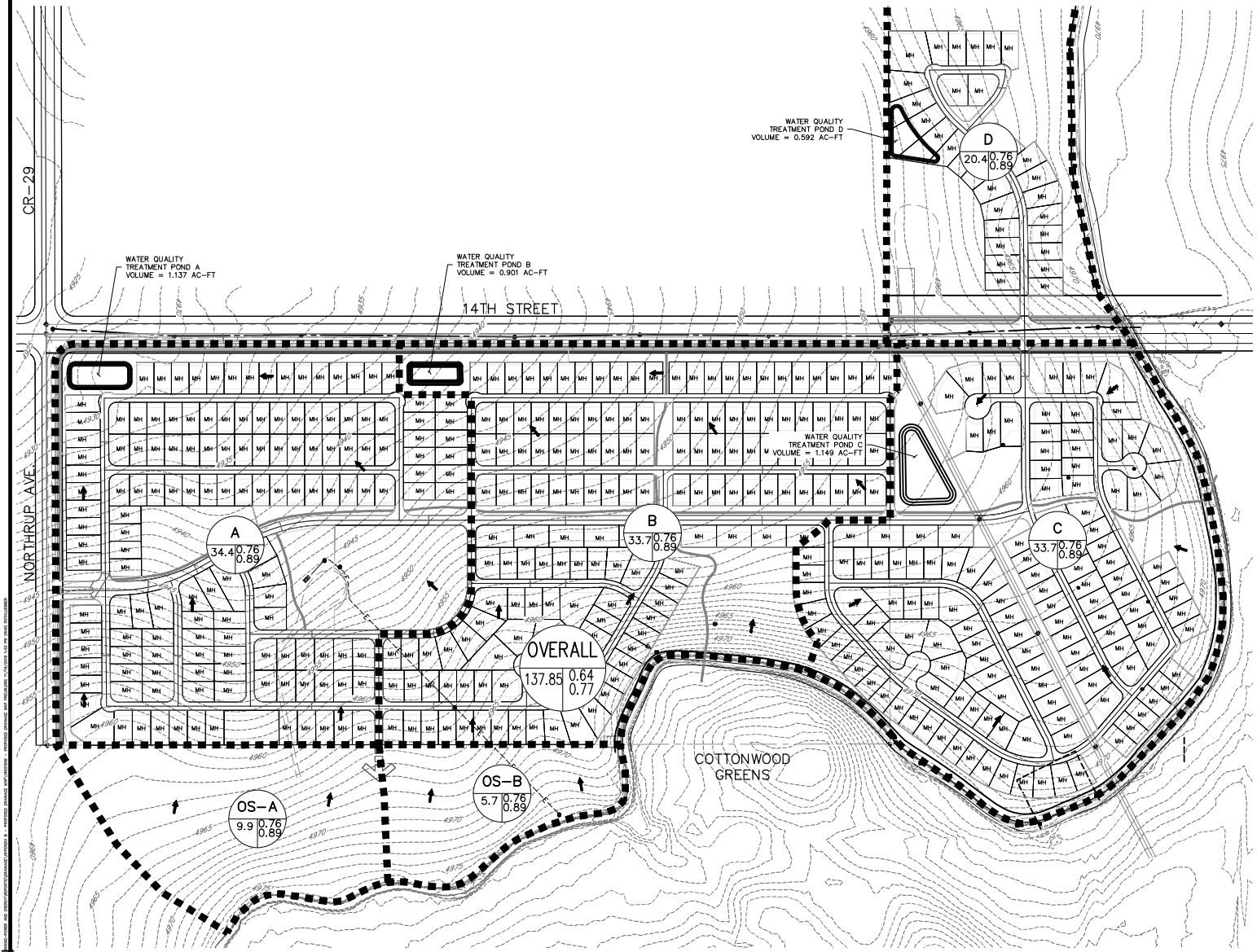
APPENDIX B – Proposed Drainage Map



LEGEND

- PROPERTY BOUNDARY
- PROPOSED CURB & GUTTER
- EXISTING CURB & GUTTER
- PROPOSED EASEMENT
- EXISTING EASEMENT
- A = MAJOR BASIN DESIGNATION
  B = AREA IN ACRES
  C = 5 YR RUNOFF COEFFICIENT
  D = 100 YR RUNOFF COEFFICIENT
- DESIGN POINT
- DRAINAGE BASIN BOUNDARY
- MAJOR DRAINAGE BASIN BOUNDARY
- EXISTING STORM SEWER
- PROPOSED STORM SEWER INLET
- PROPOSED STORM SEWER
- PROPOSED UTILITY EASEMENT
- PROPOSED GRADE CONTOUR
- EXISTING CONTOUR
- FLOW DIRECTION
- PROPOSED TRICKLE PAN
- PROPOSED 6' CROSSPAN

(IN FEET)
1 inch = 150 ft. (Horz)
1 inch = 0 ft. (Vert)

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

ATWELL
303.850.4300 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
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SUN COMMUNITIES, INC.
27777 FRANKLIN ROAD, SUITE 220
SOUTHFIELD, MI 48034
(248) 208 - 2543
ANASTASIYA SHORT

CLIENT
SUN COMMUNITIES, INC.
FORT LUPTON SUN COMMUNITIES PROJECT
FORT LUPTON, CO
PRELIMINARY DRAINAGE PLANS

PROPOSED DRAINAGE MAP

DATE 11/11/2019

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. CTR | CH. CBS
P.M. CBS
JOB 19001956
SHEET NO. 1

CAD FILE: 19001956 - PROPOSED DRAINAGE MAP PRELIM.DWG

APPENDIX C – Hydrologic Computations

COMPOSITE C CALCULATION

PROJECT NAME: RV-Boat Storage Facility
PROJECT NO: 19002862
LOCATION: Greeley, CO

*Calculations on this sheet come from UDFCD: Urban Storm Drainage Criteria Manual (V.1) (August 2018)

NRCS Hydrologic Soil Group: B

Gravel (packed)				40%	Impervious
2 yr =	0.29	5 yr = 0.32	10 yr = 0.38	100 yr =	0.61
Lawns, clayey soil				2%	Impervious
2 yr =	0.01	5 yr = 0.01	10 yr = 0.07	100 yr =	0.44
Paved/Pond				100%	Impervious
2 yr =	0.84	5 yr = 0.86	10 yr = 0.87	100 yr =	0.90
Roofs				90%	Impervious
2 yr =	0.74	5 yr = 0.77	10 yr = 0.79	100 yr =	0.85
Drive and walks				90%	Impervious
2 yr =	0.74	5 yr = 0.77	10 yr = 0.79	100 yr =	0.85

PROPOSED DRAINAGE AREA

BASIN ID	A_{total} (ft²)	Gravel (packed) (ft²)	Lawns, clayey soil (ft²)	Paved/Pond (ft²)	Roofs (ft²)	Drive and walks (ft²)	A_{total} (Ac)	COMPOSITE C 2 yr	5 yr	10 yr	100 yr	Percent Impervious
Routed to Water Quality Pond:												
A	1500199	0	270036	105014	675089	450060	34.44	0.62	0.64	0.67	0.78	74.9%
B	1467847	0	264212	102749	660531	440354	33.70	0.62	0.64	0.67	0.78	74.9%
C	1467973	0	264235	102758	660588	440392	33.70	0.62	0.64	0.67	0.78	74.9%
D	887630	0	159773	62134	399433	266289	20.38	0.62	0.64	0.67	0.78	74.9%
OS-A	430728	0	430728	0	0	0	9.89	0.01	0.01	0.07	0.44	2.0%
OS-B	250258	0	250258	0	0	0	5.75	0.01	0.01	0.07	0.44	2.0%
Subtotals:	6,004,635	0	1,639,243	372,655	######	#######	137.85					

TIME OF CONCENTRATION (Rational Method)

PROJECT NAME: RV-Boat Storage Facility
PROJECT NO: 1.9E+07
LOCATION: Greeley, CO

*Calculations on this sheet come from UDFCD: Urban Storm Drainage Criteria Manual (V.1) (August 2018)

SUB-BASIN DATA			INITIAL TIME (t_i)			TRAVEL TIME (t_t)				t_c CHECK (URBANIZED BASINS)		FINAL	REMARKS
BASIN ID	C_5	AREA (ac)	LENGTH (ft)	SLOPE (ft/ft)	t_i (min)	LENGTH (ft)	SLOPE (ft/ft)	Cv	t_t (min)	TRAVEL LENGTH (ft)	$T_{c\ Reg}$ (min)	tc (min)	
A	0.64	34.44	300	0.025	10.64	1650	0.010	20.00	13.75	1650.00	27.39	24.39	
B	0.64	33.70	300	0.025	10.64	1100	0.010	20.00	9.17	1100.00	22.68	19.81	
C	0.64	33.70	300	0.025	10.64	1150	0.010	20.00	9.58	1150.00	23.11	20.23	
D	0.64	20.38	300	0.025	10.64	850	0.010	20.00	7.08	850.00	20.55	17.73	
OS-A	0.01	9.89	300	0.035	22.54	285	0.035	7.00	3.63	285.00	28.40	26.17	
OS-B	0.01	5.75	300	0.035	22.54	225	0.035	7.00	2.86	225.00	27.82	25.41	

RUNOFF COMPUTATIONS

(RATIONAL METHOD)

PROJECT NAME: RV-Boat Storage Facility
PROJECT NO: 19002862
LOCATION: Greeley, CO

*Calculations on this sheet come from UDFCD: Urban Storm Drainage Criteria Manual (V.1) (August 2018)

BASIN ID	DESIGN POINT	AREA Ac	COMPOSITE C				A*C				t_c (min)	INTENSITY (in/hr)				Q (cfs)			
			2 yr	5 yr	10 yr	100 yr	2 yr	5 yr	10 yr	100 yr		2 yr	5 yr	10 yr	100 yr	2 yr	5 yr	10 yr	100 yr
A	1	34.44	0.62	0.64	0.67	0.78	21.20	22.02	22.94	26.85	24.39	1.84	2.63	3.11	4.91	38.96	57.98	71.32	131.89
B	2	33.70	0.62	0.64	0.67	0.78	20.74	21.55	22.44	26.27	19.81	2.06	2.95	3.48	5.50	42.65	63.48	78.09	144.40
C	3	33.70	0.62	0.64	0.67	0.78	20.75	21.55	22.44	26.28	20.23	2.03	2.91	3.44	5.44	42.19	62.79	77.25	142.84
D	4	20.38	0.62	0.64	0.67	0.78	12.54	13.03	13.57	15.89	17.73	2.18	3.12	3.68	5.82	27.30	40.64	49.99	92.44
OS-A	5	9.89	0.01	0.01	0.07	0.44	0.10	0.10	0.69	4.35	26.17	1.77	2.53	2.99	4.72	0.17	0.25	2.07	20.54
OS-B	6	5.75	0.01	0.01	0.07	0.44	0.06	0.06	0.40	2.53	25.41	1.80	2.57	3.04	4.80	0.10	0.15	1.22	12.14

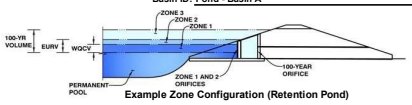
APPENDIX D – Hydraulic Computations

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)

Project: Fulton Ranch

Basin ID: Pond - Basin A



Example Zone Configuration (Retention Pond)

Required Volume Calculation

Selected BMP Type =	EDB	
Watershed Area =	34.44	acres
Watershed Length =	1,500	ft
Watershed Slope =	0.035	ft/ft
Watershed Imperviousness =	74.90%	percent
Percentage Hydrologic Soil Group A =	72.0%	percent
Percentage Hydrologic Soil Group B =	28.0%	percent
Percentage Hydrologic Soil Groups C/D =	0.0%	percent
Desired WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths =	User Input	
Water Quality Capture Volume (WQCV) =	0.858	acre-feet
Excess Urban Runoff Volume (EURV) =	3.196	acre-feet
2-yr Runoff Volume (P1 = 1.06 in.) =	2.072	acre-feet
5-yr Runoff Volume (P1 = 1.43 in.) =	2.898	acre-feet
10-yr Runoff Volume (P1 = 1.66 in.) =	3.524	acre-feet
25-yr Runoff Volume (P1 = 0 in.) =	0.000	acre-feet
50-yr Runoff Volume (P1 = 2.26 in.) =	5.217	acre-feet
100-yr Runoff Volume (P1 = 2.6 in.) =	6.255	acre-feet
500-yr Runoff Volume (P1 = 0 in.) =	0.000	acre-feet
Approximate 2-yr Detention Volume =	1.957	acre-feet
Approximate 5-yr Detention Volume =	2.742	acre-feet
Approximate 10-yr Detention Volume =	3.310	acre-feet
Approximate 25-yr Detention Volume =	0.000	acre-feet
Approximate 50-yr Detention Volume =	4.378	acre-feet
Approximate 100-yr Detention Volume =	4.847	acre-feet

Optional User Override 1-hr Precipitation

1.06	inches
1.43	inches
1.66	inches
	inches
2.26	inches
2.60	inches
	inches

Stage-Storage Calculation

Zone 1 Volume (WQCV) =	0.858	acre-feet
Select Zone 2 Storage Volume (Optional) =		acre-feet
Select Zone 3 Storage Volume (Optional) =		acre-feet
Total Detention Basin Volume =	0.858	acre-feet
Initial Surcharge Volume (ISV) =	user	ft^3
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (H_{total}) =	user	ft
Depth of Trickle Channel (H_{TC}) =	user	ft
Slope of Trickle Channel (S_{TC}) =	user	ft/ft
Slopes of Main Basin Sides (S_{main}) =	user	H:V
Basin Length-to-Width Ratio ($R_{L/W}$) =	user	
Initial Surcharge Area (A_{ISV}) =	user	ft^2
Surcharge Volume Length (L_{ISV}) =	user	ft
Surcharge Volume Width (W_{ISV}) =	user	ft
Depth of Basin Floor (H_{FLOOR}) =	user	ft
Length of Basin Floor (L_{FLOOR}) =	user	ft
Width of Basin Floor (W_{FLOOR}) =	user	ft
Area of Basin Floor (A_{FLOOR}) =	user	ft^2
Volume of Basin Floor (V_{FLOOR}) =	user	ft^3
Depth of Main Basin (H_{MAIN}) =	user	ft
Length of Main Basin (L_{MAIN}) =	user	ft
Width of Main Basin (W_{MAIN}) =	user	ft
Area of Main Basin (A_{MAIN}) =	user	ft^2
Volume of Main Basin (V_{MAIN}) =	user	ft^3
Calculated Total Basin Volume (V_{total}) =	user	acre-feet

Total detention volume is less than 100-year volume.

Depth Increment = ft

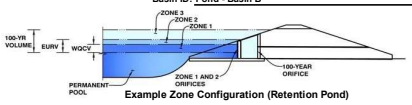
Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	--	0.00	--	--	--	9,567	0.220		
	--	3.75	--	--	--	16,849	0.387	49,530	1.137

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)

Project: Fulton Ranch

Basin ID: Pond - Basin B



Example Zone Configuration (Retention Pond)

Required Volume Calculation

Selected BMP Type =	EDB	
Watershed Area =	33.70	acres
Watershed Length =	1,500	ft
Watershed Slope =	0.035	ft/ft
Watershed Imperviousness =	74.90%	percent
Percentage Hydrologic Soil Group A =	72.0%	percent
Percentage Hydrologic Soil Group B =	28.0%	percent
Percentage Hydrologic Soil Groups C/D =	0.0%	percent
Desired WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths =	User Input	
Water Quality Capture Volume (WQCV) =	0.840	acre-feet
Excess Urban Runoff Volume (EURV) =	3.127	acre-feet
2-yr Runoff Volume (P1 = 1.06 in.) =	2.027	acre-feet
5-yr Runoff Volume (P1 = 1.43 in.) =	2.836	acre-feet
10-yr Runoff Volume (P1 = 1.66 in.) =	3.449	acre-feet
25-yr Runoff Volume (P1 = 0 in.) =	0.000	acre-feet
50-yr Runoff Volume (P1 = 2.26 in.) =	5.105	acre-feet
100-yr Runoff Volume (P1 = 2.6 in.) =	6.120	acre-feet
500-yr Runoff Volume (P1 = 0 in.) =	0.000	acre-feet
Approximate 2-yr Detention Volume =	1.915	acre-feet
Approximate 5-yr Detention Volume =	2.683	acre-feet
Approximate 10-yr Detention Volume =	3.239	acre-feet
Approximate 25-yr Detention Volume =	0.000	acre-feet
Approximate 50-yr Detention Volume =	4.284	acre-feet
Approximate 100-yr Detention Volume =	4.743	acre-feet

Optional User Override 1-hr Precipitation

1.06	inches
1.43	inches
1.66	inches
	inches
2.26	inches
2.60	inches
	inches

Stage-Storage Calculation

Zone 1 Volume (WQCV) =	0.840	acre-feet
Select Zone 2 Storage Volume (Optional) =		acre-feet
Select Zone 3 Storage Volume (Optional) =		acre-feet
Total Detention Basin Volume =	0.840	acre-feet
Initial Surcharge Volume (ISV) =	user	ft^3
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (H_{total}) =	user	ft
Depth of Trickle Channel (H_{TC}) =	user	ft
Slope of Trickle Channel (S_{TC}) =	user	ft/ft
Slopes of Main Basin Sides (S_{main}) =	user	H:V
Basin Length-to-Width Ratio ($R_{L/W}$) =	user	
Initial Surcharge Area (A_{ISV}) =	user	ft^2
Surcharge Volume Length (L_{ISV}) =	user	ft
Surcharge Volume Width (W_{ISV}) =	user	ft
Depth of Basin Floor (H_{FLOOR}) =	user	ft
Length of Basin Floor (L_{FLOOR}) =	user	ft
Width of Basin Floor (W_{FLOOR}) =	user	ft
Area of Basin Floor (A_{FLOOR}) =	user	ft^2
Volume of Basin Floor (V_{FLOOR}) =	user	ft^3
Depth of Main Basin (H_{MAIN}) =	user	ft
Length of Main Basin (L_{MAIN}) =	user	ft
Width of Main Basin (W_{MAIN}) =	user	ft
Area of Main Basin (A_{MAIN}) =	user	ft^2
Volume of Main Basin (V_{MAIN}) =	user	ft^3
Calculated Total Basin Volume (V_{total}) =	user	acre-feet

Total detention volume is less than 100-year volume.

Depth Increment = ft

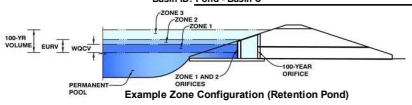
Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	--	0.00	--	--	--	5,025	0.115		
	--	4.50	--	--	--	12,412	0.285	39,234	0.901

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)

Project: Fulton Ranch

Basin ID: Pond - Basin C



Example Zone Configuration (Retention Pond)

Required Volume Calculation

Selected BMP Type =	EDB	
Watershed Area =	33.70	acres
Watershed Length =	1,500	ft
Watershed Slope =	0.035	ft/ft
Watershed Imperviousness =	74.90%	percent
Percentage Hydrologic Soil Group A =	72.0%	percent
Percentage Hydrologic Soil Group B =	28.0%	percent
Percentage Hydrologic Soil Groups C/D =	0.0%	percent
Desired WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths =	User Input	
Water Quality Capture Volume (WQCV) =	0.840	acre-feet
Excess Urban Runoff Volume (EURV) =	3.127	acre-feet
2-yr Runoff Volume (P1 = 1.06 in.) =	2.027	acre-feet
5-yr Runoff Volume (P1 = 1.43 in.) =	2.836	acre-feet
10-yr Runoff Volume (P1 = 1.66 in.) =	3.449	acre-feet
25-yr Runoff Volume (P1 = 0 in.) =	0.000	acre-feet
50-yr Runoff Volume (P1 = 2.26 in.) =	5.105	acre-feet
100-yr Runoff Volume (P1 = 2.6 in.) =	6.120	acre-feet
500-yr Runoff Volume (P1 = 0 in.) =	0.000	acre-feet
Approximate 2-yr Detention Volume =	1.915	acre-feet
Approximate 5-yr Detention Volume =	2.683	acre-feet
Approximate 10-yr Detention Volume =	3.239	acre-feet
Approximate 25-yr Detention Volume =	0.000	acre-feet
Approximate 50-yr Detention Volume =	4.284	acre-feet
Approximate 100-yr Detention Volume =	4.743	acre-feet

Optional User Override 1-hr Precipitation

1.06	inches
1.43	inches
1.66	inches
	inches
2.26	inches
2.60	inches
	inches

Stage-Storage Calculation

Zone 1 Volume (WQCV) =	0.840	acre-feet
Select Zone 2 Storage Volume (Optional) =		acre-feet
Select Zone 3 Storage Volume (Optional) =		acre-feet
Total Detention Basin Volume =	0.840	acre-feet
Initial Surcharge Volume (ISV) =	user	ft^3
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (H_{total}) =	user	ft
Depth of Trickle Channel (H_{TC}) =	user	ft
Slope of Trickle Channel (S_{TC}) =	user	ft/ft
Slopes of Main Basin Sides (S_{main}) =	user	H:V
Basin Length-to-Width Ratio ($R_{L/W}$) =	user	
Initial Surcharge Area (A_{ISV}) =	user	ft^2
Surcharge Volume Length (L_{ISV}) =	user	ft
Surcharge Volume Width (W_{ISV}) =	user	ft
Depth of Basin Floor (H_{FLOOR}) =	user	ft
Length of Basin Floor (L_{FLOOR}) =	user	ft
Width of Basin Floor (W_{FLOOR}) =	user	ft
Area of Basin Floor (A_{FLOOR}) =	user	ft^2
Volume of Basin Floor (V_{FLOOR}) =	user	ft^3
Depth of Main Basin (H_{MAIN}) =	user	ft
Length of Main Basin (L_{MAIN}) =	user	ft
Width of Main Basin (W_{MAIN}) =	user	ft
Area of Main Basin (A_{MAIN}) =	user	ft^2
Volume of Main Basin (V_{MAIN}) =	user	ft^3
Calculated Total Basin Volume (V_{total}) =	user	acre-feet

Total detention volume is less than 100-year volume.

Depth Increment = ft

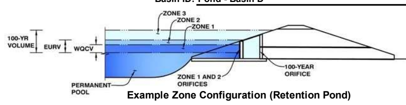
Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	--	0.00	--	--	--	19,214	0.441		
	--	2.00	--	--	--	31,169	0.716	50,071	1.149

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)

Project: Fulton Ranch

Basin ID: Pond - Basin D



Example Zone Configuration (Retention Pond)

Required Volume Calculation

Selected BMP Type =	**EDB**			
Watershed Area =	20.38	acres		
Watershed Length =	1,500	ft		
Watershed Slope =	0.035	ft/ft		
Watershed Imperviousness =	74.90%	percent		
Percentage Hydrologic Soil Group A =	72.0%	percent		
Percentage Hydrologic Soil Group B =	28.0%	percent		
Percentage Hydrologic Soil Groups C/D =	0.0%	percent		
Desired WQCV Drain Time =	40.0	hours		
Location for 1-hr Rainfall Depths =	User Input			
Water Quality Capture Volume (WQCV) =	0.508	acre-feet	Optional User Override 1-hr Precipitation	
Excess Urban Runoff Volume (EURV) =	1.891	acre-feet		
2-yr Runoff Volume (P1 = 1.06 in.) =	1.226	acre-feet	1.06	inches
5-yr Runoff Volume (P1 = 1.43 in.) =	1.715	acre-feet	1.43	inches
10-yr Runoff Volume (P1 = 1.66 in.) =	2.085	acre-feet	1.66	inches
25-yr Runoff Volume (P1 = 0 in.) =	0.000	acre-feet		inches
50-yr Runoff Volume (P1 = 2.26 in.) =	3.087	acre-feet	2.26	inches
100-yr Runoff Volume (P1 = 2.6 in.) =	3.701	acre-feet	2.60	inches
500-yr Runoff Volume (P1 = 0 in.) =	0.000	acre-feet		inches
Approximate 2-yr Detention Volume =	1.158	acre-feet		
Approximate 5-yr Detention Volume =	1.623	acre-feet		
Approximate 10-yr Detention Volume =	1.959	acre-feet		
Approximate 25-yr Detention Volume =	0.000	acre-feet		
Approximate 50-yr Detention Volume =	2.591	acre-feet		
Approximate 100-yr Detention Volume =	2.868	acre-feet		

Stage-Storage Calculation

Zone 1 Volume (WQCV) =	0.508	acre-feet	
Select Zone 2 Storage Volume (Optional) =		acre-feet	**Total detention volume is less than 100-year volume.**
Select Zone 3 Storage Volume (Optional) =		acre-feet	
Total Detention Basin Volume =	0.508	acre-feet	
Initial Surcharge Volume (ISV) =	user	ft^3	
Initial Surcharge Depth (ISD) =	user	ft	
Total Available Detention Depth (H_{total}) =	user	ft	
Depth of Trickle Channel (H_{TC}) =	user	ft	
Slope of Trickle Channel (S_{TC}) =	user	ft/ft	
Slopes of Main Basin Sides (S_{main}) =	user	H:V	
Basin Length-to-Width Ratio ($R_{L/W}$) =	user		
Initial Surcharge Area (A_{ISV}) =	user	ft^2	
Surcharge Volume Length (L_{ISV}) =	user	ft	
Surcharge Volume Width (W_{ISV}) =	user	ft	
Depth of Basin Floor (H_{FLOOR}) =	user	ft	
Length of Basin Floor (L_{FLOOR}) =	user	ft	
Width of Basin Floor (W_{FLOOR}) =	user	ft	
Area of Basin Floor (A_{FLOOR}) =	user	ft^2	
Volume of Basin Floor (V_{FLOOR}) =	user	ft^3	
Depth of Main Basin (H_{MAIN}) =	user	ft	
Length of Main Basin (L_{MAIN}) =	user	ft	
Width of Main Basin (W_{MAIN}) =	user	ft	
Area of Main Basin (A_{MAIN}) =	user	ft^2	
Volume of Main Basin (V_{MAIN}) =	user	ft^3	
Calculated Total Basin Volume (V_{total}) =	**user**	acre-feet	

Depth Increment = 1 ft

Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	--	0.00	--	--	--	10,868	0.249		
	--	2.00	--	--	--	15,074	0.346	25,791	0.592
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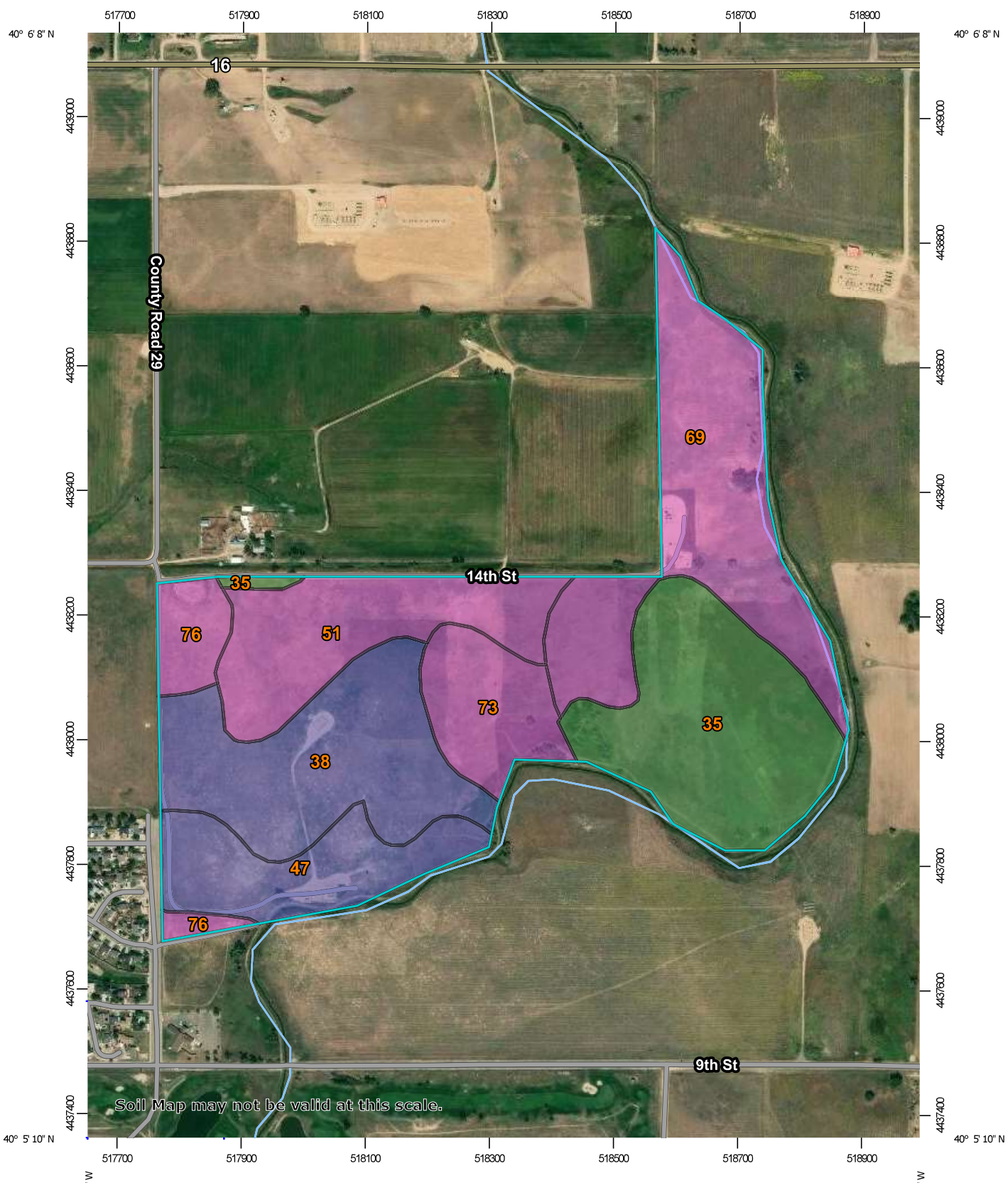
APPENDIX E – Soil Survey

Hydrologic Soil Group—Weld County, Colorado, Southern Part
(Fort Lupton)



Map Scale: 1:8,640 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 400 800 1600 2400

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Weld County, Colorado, Southern Part
Survey Area Data: Version 18, Sep 13, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 20, 2015—Oct 21, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
35	Loup-Boel loamy sands, 0 to 3 percent slopes	A/D	29.4	21.3%
38	Nelson fine sandy loam, 3 to 9 percent slopes	B	26.7	19.3%
47	Olney fine sandy loam, 1 to 3 percent slopes	B	14.4	10.4%
51	Otero sandy loam, 1 to 3 percent slopes	A	19.1	13.8%
69	Valent sand, 0 to 3 percent slopes	A	31.8	23.0%
73	Vona loamy sand, 3 to 5 percent slopes	A	10.8	7.8%
76	Vona sandy loam, 1 to 3 percent slopes	A	5.9	4.3%
Totals for Area of Interest			**138.2**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

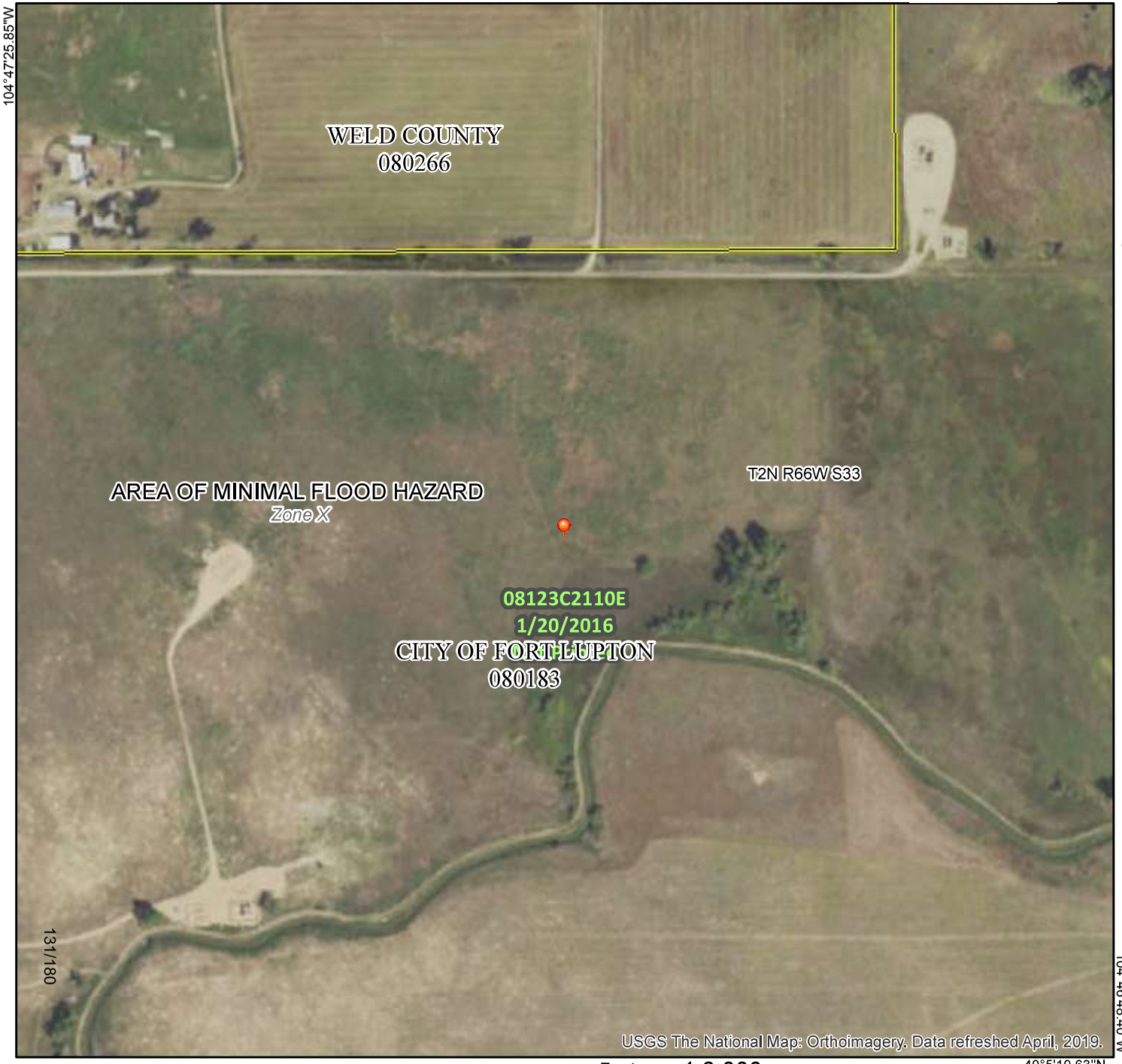
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

National Flood Hazard Layer FIRMette

FEMA



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/11/2019 at 1:14:58 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

ARMY CORPS OF ENGINEERS
APPROVED JURISDICTIONAL DETERMINATION

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
DENVER REGULATORY OFFICE, 9307 SOUTH WADSWORTH BOULEVARD
LITTLETON, COLORADO 80128-6901

August 27, 2019

SUBJECT: Approved Jurisdictional Determination, Ft. Lupton Coyote Creek North Site Project, Corps File No. NWO-2019-01310-DEN, Weld County, CO

Ms. Christine Sveum
Atwell, LLC
143 Union Blvd, Suite 700
Lakewood, CO 80228

Dear Ms. Sveum:

Reference is made to the above-mentioned project centered at approximately 40.093380°N, -104.784409°W, in Weld County, Colorado. You have requested an Approved Jurisdictional Determination for all aquatic resources found at the project location.

The project area has been reviewed in accordance with Section 404 of the Clean Water Act under which the U.S. Army Corps of Engineers regulates the discharge of dredged and fill material, and any excavation activity associated with a dredge and fill project in waters of the United States.

The Corps has determined that Fulton Ditch and Wetlands 1, 2, and 3 are excluded waters and are therefore not jurisdictional. In that regard, no permit is required for work at this location.

At your request, an approved jurisdictional determination (JD) has been completed for two aquatic resources in this area. The JD is attached to this letter. If you are not in agreement with the JD decision, you may request an administrative appeal under regulation 33 CFR 331, by using the attached Appeal Form and Administrative Appeal Process form. The request for appeal must be received within 60 days from the date of this letter. If you would like more information on the jurisdictional appeal process, contact this office. It is not necessary to submit a Request for Appeal if you do not object to the JD.

This JD is valid for a period of five years from the date of this letter, unless new information warrants revisions of the JDs before the expiration date, or unless the Corps has identified, after a possible public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.

If there are any additional questions or concerns, please contact **Mr. Nicholas Franke** of my office at **303-979-4120** or by email at Nicholas.A.Franke@usace.army.mil and reference **Corps File No. NWO-2019-01310-DEN**.

Sincerely,

Matthew Montgomery

Kiel Downing
Chief, Denver Regulatory Office

Attachments:

Approved Jurisdictional Determination (August 27, 2019)
Approved Jurisdictional Determination Appeal Form
Approved Jurisdictional Determination Appeal Form Instruction Sheet

Regulatory Program

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in the Approved Jurisdictional Determination Form User Manual.

SECTION I: BACKGROUND INFORMATION

A. COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): August 27, 2019

B. ORM NUMBER IN APPROPRIATE FORMAT (e.g., HQ-2015-00001-SMJ): NWO-2019-01310-DEN

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: Colorado County/parish/borough: Weld City: Fort Lupton
Center coordinates of site (lat/long in degree decimal format): Lat. 40.093380°N, Long. -104.784409°W.
Map(s)/diagram(s) of review area (including map identifying single point of entry (SPOE) watershed and/or potential jurisdictional areas where applicable) is/are: ☒attached ☐ in report/map titled .
☐ Other sites (e.g., offsite mitigation sites, disposal sites, etc.) are associated with this action and are recorded on a different JD form. List JD form ID numbers (e.g., HQ-2015-00001-SMJ-1): .

D. REVIEW PERFORMED FOR SITE EVALUATION:
☐ Office (Desk) Determination Only. Date: .
☒ Office (Desk) and Field Determination. Office/Desk Date(s): August 27, 2019. Field Date(s): August 7, 2019.

SECTION II: DATA SOURCES

Check all that were used to aid in the determination and attach data/maps to this JD form and/or references/citations in the administrative record, as appropriate.
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant. Title/Date: Fig. 1, Vicinity Map; and Fig. 2, Existing Conditions, ERO Resources Corp., July 15, 2019
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☒ Office concurs with data sheets/delineation report.. Title/Date: ERO Resources Corp., July 1, 2019.
  ☐ Office does not concur with data sheets/delineation report. Summarize rationale and include information on revised data sheets/delineation report that this JD form has relied upon: . Revised Title/Date: .
☐ Data sheets prepared by the Corps. Title/Date: .
☐ Corps navigable waters study. Title/Date: .
☐ CorpsMap ORM map layers. Title/Date: .
☐ USGS Hydrologic Atlas. Title/Date: .
☐ USGS, NHD, or WBD data/maps. Title/Date: .
☒ USGS 8, 10 and/or 12 digit HUC maps. HUC number: HUC8: 10190003; HUC12: 101900030602.
☒ USGS maps. Scale & quad name and date: 1:24,000 – Fort Lupton; 2016.
☐ USDA NRCS Soil Survey. Citation: .
☐ USFWS National Wetlands Inventory maps. Citation: .
☐ State/Local wetland inventory maps. Citation: .
☐ FEMA/FIRM maps. Citation: .
☒ Photographs: ☒ Aerial. Citation: Google Earth, 1993-2018. or ☒ Other. Citation: Site photographs by consultant.
☐ LiDAR data/maps. Citation: .
☐ Previous determinations. File no. and date of jurisdictional determination letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify): This AJD prepared in accordance with the 2015 Clean Water Rule.

SECTION III: SUMMARY OF FINDINGS

Complete Spreadsheet Tab "Aquatic Resources" – Required for All AJDs

A. RIVERS AND HARBORS ACT (RHA) SECTION 10 DETERMINATION OF JURISDICTION:

☐ "*navigable waters of the U.S.*" within RHA jurisdiction (as defined by 33 CFR part 329) in the review area.

- **List water(s) and area/length within review area – Required:**

NOTE: If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Section 10 navigable waters list, DO NOT USE THIS FORM TO MAKE THE DETERMINATION. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Section 10 RHA navigability determination.

B. CLEAN WATER ACT (CWA) SECTION 404 DETERMINATION OF JURISDICTION: "*waters of the U.S.*" within CWA jurisdiction (as defined by 33 CFR part 328.3) in the review area. **Check all that apply.**

☐ (a)(1): All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide. (Traditional Navigable Waters or TNW).

- **Complete Spreadsheet Tab "(a)(1)" - Required**

☐ This JD includes a case-specific (a)(1) TNW (Section 404 navigable-in-fact) determination on a water that has not previously been designated as such. Documentation required for this case-specific (a)(1) TNW determination is attached.

☐ (a)(2): All interstate waters, including interstate wetlands.

- **Complete Spreadsheet Tab "(a)(2)" - Required**

☐ (a)(3): The territorial seas.

- **Complete Spreadsheet Tab "(a)(3)" - Required**

☐ (a)(4): All impoundments of waters otherwise identified as waters of the U.S. under 33 CFR part 328.3.

- **Complete Spreadsheet Tab "(a)(4)" - Required**

☐ (a)(5): All tributaries, as defined in 33 CFR part 328.3, of waters identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3.

- **Complete Spreadsheet Tab "(a)(5)" - Required**

☐ (a)(6): All waters adjacent to a water identified in paragraphs (a)(1)-(a)(5) of 33 CFR part 328.3, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters.

- **Complete Spreadsheet Tab "(a)(6)" - Required**

☐ Bordering/Contiguous.

Neighboring:

☐ (c)(2)(i): All waters located within 100 feet of the ordinary high water mark (OHWM) of a water identified in paragraphs (a)(1)-(a)(5) of 33 CFR part 328.3.

☐ (c)(2)(ii): All waters located within the 100-year floodplain of a water identified in paragraphs (a)(1)-(a)(5) of 33 CFR part 328.3 and not more than 1,500 feet of the OHWM of such water.

☐ (c)(2)(iii): All waters located within 1,500 feet of the high tide line of a water identified in paragraphs (a)(1) or (a)(3) of 33 CFR part 328.3, and all waters within 1,500 feet of the OHWM of the Great Lakes.

☐ (a)(7): All waters identified in 33 CFR 328.3(a)(7)(i)-(v) where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3.

- **Complete Spreadsheet Tab "(a)(7)" for the significant nexus determination. Attach a map delineating the SPOE watershed boundary with (a)(7) waters identified in the similarly situated analysis. – Required**

☐ Includes water(s) that are geographically and physically adjacent per (a)(6), but are being used for established, normal farming, silviculture, and ranching activities (33 USC Section 1344(f)(1)) and therefore are not adjacent and require a case-specific significant nexus analysis.

☐ (a)(8): All waters located within the 100-year floodplain of a water identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3 not covered by (c)(2)(ii) above and all waters located within 4,000 feet of the high tide line or OHWM of a water identified in paragraphs (a)(1)-(a)(5) of 33 CFR part 328.3 where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3.

- **Complete Spreadsheet Tab "(a)(8)" for the significant nexus determination. Attach a map delineating the SPOE watershed boundary with (a)(8) waters identified in the similarly situated analysis. – Required**

☐ Includes water(s) that are geographically and physically adjacent per (a)(6), but are being used for established, normal farming, silviculture, and ranching activities (33 USC Section 1344(f)(1)) and therefore are not adjacent and require a case-specific significant nexus analysis.

C. NON-WATERS OF THE U.S. FINDINGS:

Check all that apply.

☐ The review area is comprised entirely of dry land.

☐ Potential-(a)(7) Waters: Waters that DO NOT have a significant nexus to a water identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3.

- **Complete Spreadsheet Tab "NonWaters-No SigNex". Attach a map delineating the SPOE watershed boundary with potential (a)(7) waters identified in the similarly situated analysis. – Required**

☐ Includes water(s) that are geographically and physically adjacent per (a)(6), but are being used for established, normal farming, silviculture, and ranching activities (33 USC Section 1344(f)(1)) and therefore are not adjacent and require a case-specific significant nexus analysis.

☐ Potential-(a)(8) Waters: Waters that DO NOT have a significant nexus to a water identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3.

- **Complete Spreadsheet Tab "NonWaters-No SigNex". Attach a map delineating the SPOE watershed boundary with potential (a)(8) waters identified in the similarly situated analysis. – Required**

☐ Includes water(s) that are geographically and physically adjacent per (a)(6), but are being used for established, normal farming, silviculture, and ranching activities (33 USC Section 1344(f)(1)) and therefore are not adjacent and require a case-specific significant nexus analysis.

☒ Excluded Waters (Non-Waters of U.S.), even where they otherwise meet the terms of paragraphs (a)(4)-(a)(8):

- **Complete Spreadsheet Tab "NonWaters-Excluded" - Required**

☐ (b)(1): Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA.

☐ (b)(2): Prior converted cropland.

☐ (b)(3)(i): Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.

☐ (b)(3)(ii): Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.

☒ (b)(3)(iii): Ditches that do not flow, either directly or through another water, into a water identified in paragraphs (a)(1)-(a)(3).

☒ (b)(4)(i): Artificially irrigated areas that would revert to dry land should application of water to that area cease.

☐ (b)(4)(ii): Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds.

☐ (b)(4)(iii): Artificial reflecting pools or swimming pools created in dry land.[1]

☐ (b)(4)(iv): Small ornamental waters created in dry land.[1]

☐ (b)(4)(v): Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water.

☐ (b)(4)(vi): Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways.[1]

☐ (b)(4)(vii): Puddles.[1]

☐ (b)(5): Groundwater, including groundwater drained through subsurface drainage systems.[1]

☐ (b)(6): Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.[1]

☐ (b)(7): Wastewater recycling structures created in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

Other non-jurisdictional waters/features within review area that do not meet the definitions in 33 CFR 328.3 of (a)(1)-(a)(8) waters and are not excluded waters identified in (b)(1)-(b)(7).

- **Complete Spreadsheet Tab "NonWaters-Other" - Required**

D. ADDITIONAL COMMENTS TO SUPPORT JD:

[1] In many cases these excluded features will not be specifically identified on the approved JD form, unless specifically requested. Corps Districts may, in case-by-case instances, choose to identify some or all of these features within the review area.

Jurisdictional Waters of the U.S.

Table 1. (a)(1) Traditional Navigable Waters

(a)(1) Waters Name	(a)(1) Criteria	Rationale to Support (a)(1) Designation Include High Tide Line or Ordinary High Water Mark indicators, when applicable.
N/A	Choose an item.	N/A

Table 2. (a)(2) Interstate Waters

(a)(2) Waters Name	Rationale to Support (a)(2) Designation
N/A	N/A

Table 3. (a)(3) Territorial Seas

(a)(3) Waters Name	Rationale to Support (a)(3) Designation
N/A	N/A

Table 4. (a)(4) Impoundments

(a)(4) Waters Name	Rationale to Support (a)(4) Designation
N/A	N/A
N/A	N/A

Table 5. (a)(5)Tributaries

(a)(5) Waters Name	Flow Regime	(a)(1)-(a)(3) Water Name to which this (a)(5) Tributary Flows	Tributary Breaks	Rationale for (a)(5) Designation and Additional Discussion. Identify flowpath to (a)(1)-(a)(3) water or attach map identifying the flowpath; explain any breaks or flow through excluded/non-jurisdictional features, etc.
N/A	Choose an item.	N/A	Choose an item.	N/A
N/A	Choose an item.	N/A	Choose an item.	N/A
N/A	Choose an item.	N/A	Choose an item.	N/A
N/A	Choose an item.	N/A	Choose an item.	N/A

Table 6. (a)(6) Adjacent Waters

(a)(6) Waters Name	(a)(1)-(a)(5) Water Name to which this Water is Adjacent	Rationale for (a)(6) Designation and Additional Discussion. Identify the type of water and how the limits of jurisdiction were established (e.g., wetland, 87 Manual/Regional Supplement); explain how the 100-year floodplain and/or the distance threshold was determined; whether this water extends beyond a threshold; explain if the water is part of a mosaic, etc.
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Table 7. (a)(7) Waters

SPOE Name	(a)(7) Waters Name	(a)(1)-(a)(3) Water Name to which this Water has a Significant Nexus	Significant Nexus Determination Identify SPOE watershed; discuss whether any similarly situated waters were present and aggregated for SND; discuss data, provide analysis, and summarize how the waters have more than speculative or insubstantial effect on the physical, chemical, or biological integrity of the (a)(1)-(a)(3) water, etc.
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Table 8. (a)(8) Waters

SPOE Name	(a)(8) Waters Name	(a)(1)-(a)(3) Water Name to which this Water has a Significant Nexus	Significant Nexus Determination Identify SPOE watershed; explain how 100-yr floodplain and/or the distance threshold was determined; discuss whether waters were determined to be similarly situated to subject water and aggregated for SND; discuss data, provide analysis, and then summarize how the waters have more than speculative or insubstantial effect the on the physical, chemical, or biological integrity of the (a)(1)-(a)(3) water, etc.
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Non-Jurisdictional Waters

Table 9. Non-Waters/No Significant Nexus

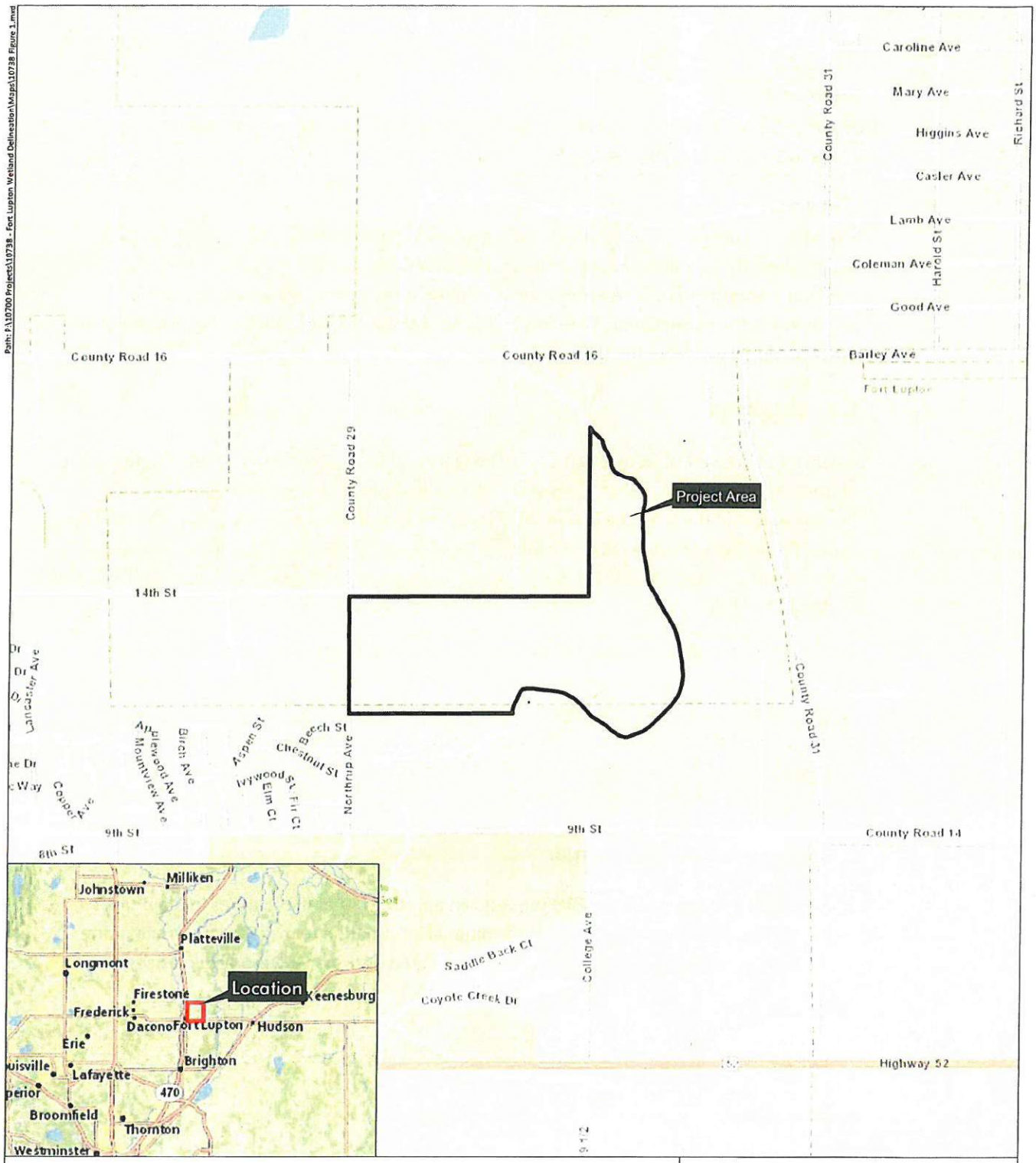
SPOE Name	Non-(a)(7)/(a)(8) Waters Name	(a)(1)-(a)(3) Water Name to which this Water DOES NOT have a Significant Nexus	Basis for Determination that the Functions DO NOT Contribute Significantly to the Chemical, Physical, or Biological Integrity of the (a)(1)-(a)(3) Water. Identify SPOE watershed; explain how 100-yr floodplain and/or the distance threshold was determined; discuss whether waters were determined to be similarly situated to the subject water; discuss data, provide analysis, and summarize how the waters did not have more than a speculative or insubstantial effect on the physical, chemical, or biological integrity of the (a)(1)-(a)(3) water.
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Table 10. Non-Waters/Excluded Waters and Features

Paragraph (b) Excluded Feature/Water Name	Rationale for Paragraph (b) Excluded Feature/Water and Additional Discussion.
Fulton Ditch	Fulton Ditch is a non-tidal irrigation ditch excavated in upland. It does not flow, either directly or through another water, into any a(1)-a(3) water. Therefore, Fulton Ditch is excluded under paragraph b(3)(i) and is not jurisdictional.
Wetland 1	Wetland 1 is a wetland adjacent to Fulton Ditch that appears to receive its entire hydrology from ditch leakage. Since Wetland 1 is directly associated with Fulton Ditch, it is excluded under paragraph b(4)(i) and is therefore not jurisdictional.
Wetland 2	Wetland 2 is a wetland abutting Fulton Ditch that appears to receive its entire hydrology from ditch leakage. Since Wetland 2 is directly associated with Fulton Ditch, it is excluded under paragraph b(4)(i) and is therefore not jurisdictional.
Wetland 3	Wetland 3 is a wetland abutting Fulton Ditch that appears to receive its entire hydrology from ditch leakage. Since Wetland 3 is directly associated with Fulton Ditch, it is excluded under paragraph b(4)(i) and is therefore not jurisdictional.

Table 11. Non-Waters/Other

Other Non-Waters of U.S. Feature/Water Name	Rationale for Non-Waters of U.S. Feature/Water and Additional Discussion.
N/A	N/A



Fort Lupton Coyote Creek North

Section 33, T2N, R66W; 6th PM

UTM NAD 83: Zone 13N; 518378mE, 4438144mN

Longitude 104.784409°W, Latitude 40.093380°N

USGS Fort Lupton, CO Quadrangle

Weld County, Colorado

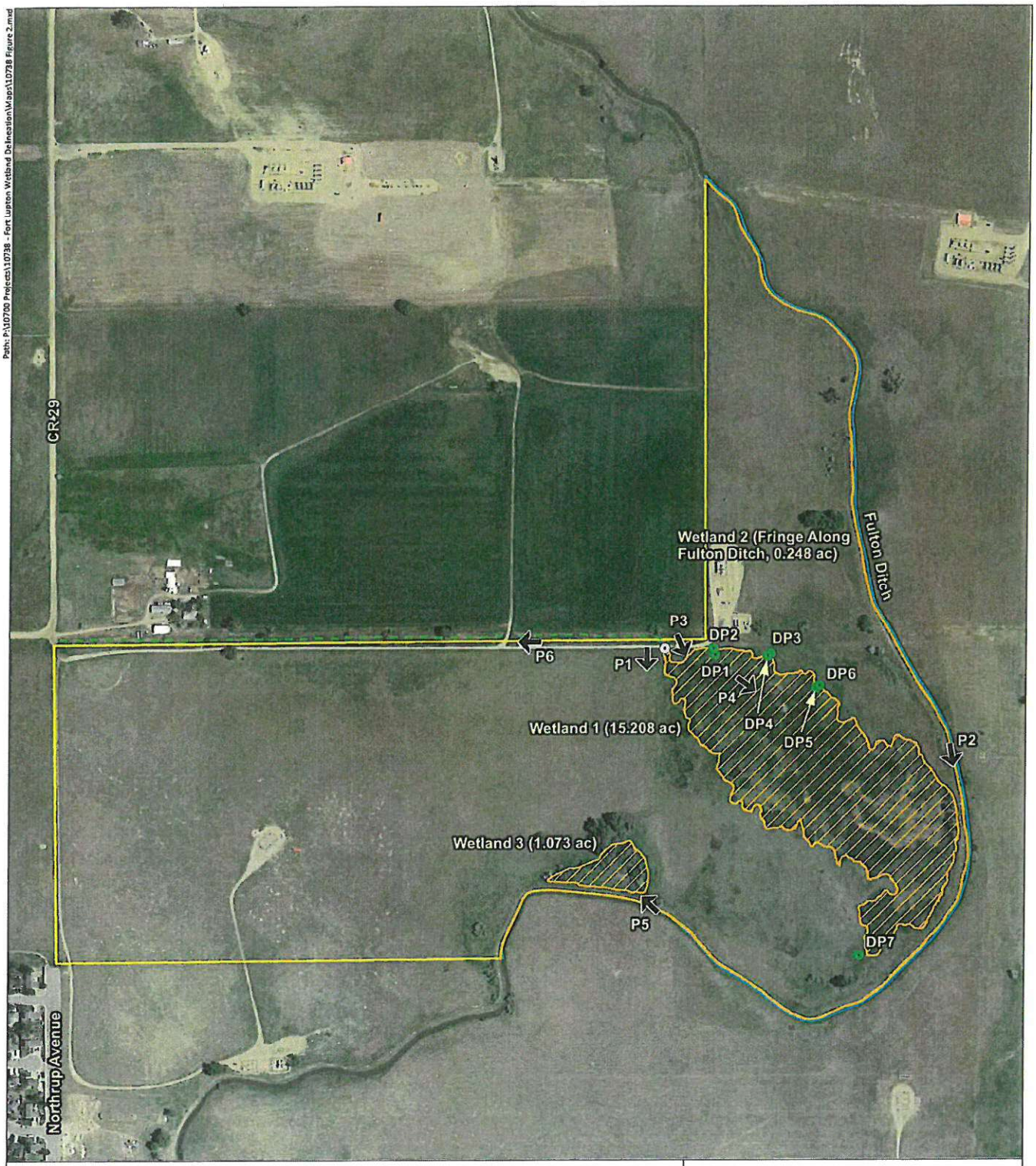
0 750 1,500 Feet

N

Figure 1
Vicinity Map

Prepared for: Sun Communities, Inc.
File: 10738 Figure 1.mxd (GS)
June 28, 2019

ERO Resources Corp.



Fort Lupton Coyote Creek North

- Data Point
- Photo Point
- Culvert
- Wetland Ditch
- Ditch (0.886 ac)
- Wetland (16.529 ac)
- Project Area Boundary/Limit of Delineation

0 275 550 Feet

N

Figure 2
Existing Conditions

Image Source: Google Earth©, May 2018

Prepared for: Sun Communities, Inc.
File: 10738 Figure 2.mxd (GS)
July 15, 2019

ERO Resources Corp.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Christine Sveum, Atwell, LLC.	File Number: NWO-2019-01310-DEN	Date: August 27, 2019
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found in Corps regulations at 33 CFR Part 331, or at http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/FederalRegulation.aspx

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

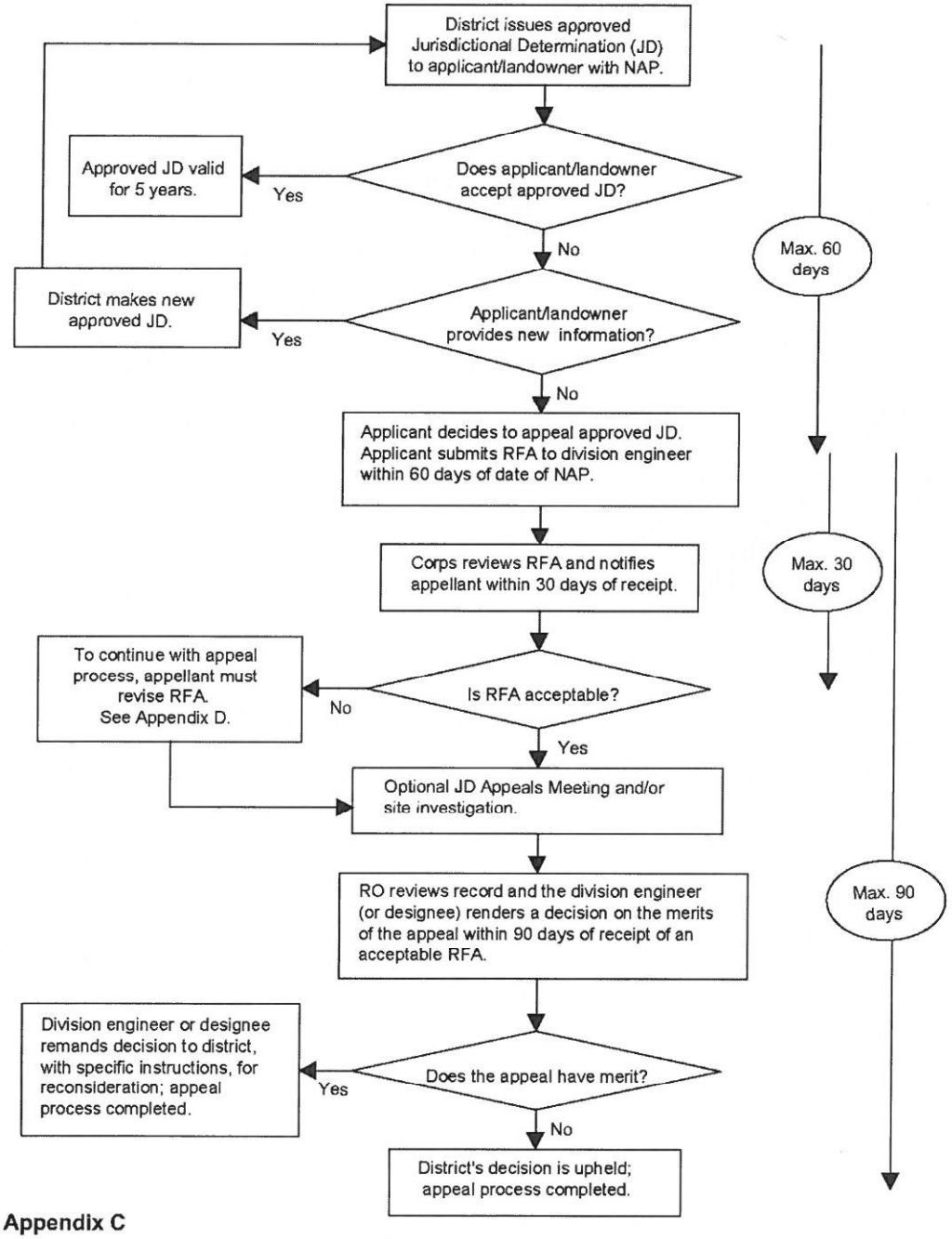
POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact: US Army Corps of Engineers, Denver Regulatory Office Attn: Nicholas Franke, Regulatory Project Manager 9307 S. Wadsworth Blvd Littleton, CO 80128 Telephone (303) 979-4120 Nicholas.A.Franke@usace.army.mil	If you only have questions regarding the appeal process you may also contact: US Army Corps of Engineers, Northwestern Division Attn: Melinda Larsen, Regulatory Appeals Review Officer 1201 NE Lloyd Blvd Ste 400 Portland, OR 97232-1257 Telephone (503) 808-3888 Melinda.M.Larsen@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:

Administrative Appeal Process for Approved Jurisdictional Determinations



Appendix C

REFERRAL RESPONSES

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
DENVER REGULATORY OFFICE, 9307 SOUTH WADSWORTH BOULEVARD
LITTLETON, COLORADO 80128-6901

SUBJECT: Section 404 of the Clean Water Act Initial Comments

To whom it concerns:

In accordance with Section 404 of the Clean Water Act (Section 404), the U.S. Army Corps of Engineers regulates the discharge of dredged or fill material, and any excavation associated with a dredged or fill project, either temporary or permanent in waters of the United States (WOUS). WOUS may include ephemeral, intermittent and perennial streams, wetlands, lakes, ponds, drainage ditches and irrigation ditches.

In order to determine if a discharge of fill material would occur in a WOUS, we recommend a wetland delineations be conducted in the field by a qualified environmental consultant that identifies any aquatic resource boundaries. A wetlands delineation identifies the aquatic resources and its boundaries on a project site and must be conducted using the methods outlined in the *Corps of Engineers Wetlands Delineation Manual (*Environmental Laboratory 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual:* (using applicable Regional Supplement). Once the aquatic resources and its boundaries have been identified, the wetland delineation is not official unless verified by the Corps. Please note that the discharge of dredged or fill material into upland areas or non-jurisdictional aquatic resources does not require authorization from this office.

Nationwide Permits (NWP) authorize common types of fill activities in WOUS that will result in a minimal adverse effect to the environment. Descriptions of the 54 types of nationwide permit activities and their general conditions can be found on our website: https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Colorado/. Some fill activities require a pre-construction notification to the Corps prior to any work. The pre-construction notification requirements are enclosed. Additionally, some types/sizes of work may require additional information or mitigation.

Regional General Permits (RGP) authorize specific types of fill activities in WOUS that will result in a minimal adverse effect to the environment. Descriptions of the 4 types of regional general permit activities and their general conditions can be found on our website: https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Colorado/Regional-General-Permits/. These fill activities require notification to the Corps prior to starting work, and possibly other local or state agencies. Please note several of the RGP's are applicant and location specific.

Individual permits authorize fill activities that are not covered under the NWP or RGP. This permit will be processed through the public interest review procedures, including public notice and receipt of comments. An alternative analysis must be provided with this permit action. The alternative analysis must contain an evaluation of environmental impacts for a range of alternatives. Other action alternatives should include other practicable alternatives (with regards to cost, logistics, and technology) that meet the overall project purpose. The alternatives could include offsite alternatives and alternative designs. When evaluating individual permit applications, the Corps can only issue a permit for the least environmentally damaging practicable alternative (LEDPA). In some cases, the LEDPA may not be the applicant's preferred action. The individual permit application form and form instructions can be found

Pre-Construction Notification (PCN) Requirements

(Nationwide Permit General Condition No. 32
from the January 6, 2017 Federal Register)

US Army Corps of Engineers, Omaha District, Denver Regulatory Office
9307 South Wadsworth Blvd, Littleton, CO 80128
Phone: (303) 979-4120

Contents of Pre-Construction Notification:

The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) Identify the specific NWP or NWP(s) the prospective permittee want to use to authorize the proposed activity;

(4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

Stephanie Darnell

From: Hice-Idler - CDOT, Gloria <gloria.hice-idler@state.co.us>
Sent: Tuesday, January 14, 2020 11:12 AM
To: Alyssa Knutson; Todd Hodges
Cc: Allyson Mattson - CDOT; Bilobran, Timothy; Stephanie Darnell
Subject: Fulton Ranch/City of Fort Lupton/US 85 off

CDOT has reviewed the above submittal. The applicant will need to obtain a new access permit reflecting the increased volumes at the US 85 and 14th Street intersection. The northbound to eastbound PM right deceleration volume is increasing more than 20% as a result of this development.

Gloria Hice-Idler
Rocksol Consulting

(970) 381-8629

10601 W. 10th Street, Greeley, CO 80634
gloria.hice-idler@state.co.us | www.codot.gov | www.cotrip.org

COLORADO
Parks and Wildlife
Department of Natural Resources

Area 2 – Lon Hagler
4207 W CR16E
Loveland, CO 80537
P 970.472.4460 | F 970.472.4468

February 2, 2020

Alyssa Knutson
City of Fort Lupton
130 S. McKinley Ave.
Fort Lupton, CO 80621
Aknutson@fortluptonco.gov

RE: Fulton Ranch Residential Development

Dear Ms. Knutson:

Thank you for the opportunity to comment on the Fulton Ranch Residential Development project. The mission of Colorado Parks and Wildlife (CPW) is to perpetuate the wildlife resources of the state, to provide a quality park system, and to provide enjoyable and sustainable outdoor recreation opportunities that educate and inspire current and future generations to serve as active stewards of Colorado's natural resources. Our goal in responding to land use proposals such as this is to provide complete, consistent, and timely information to all entities who request comment on matters within our statutory authority.

Colorado Parks and Wildlife has reviewed this project to assess any impacts to wildlife. The project site is approximately 127.5 acres in size and is located on the south side of future 14th Street and southeast of County Road 29 (parcel no. 130933000043). The site is primarily disturbed pasture land and is bordered on the south and east by the Fulton ditch. This site is currently occupied by a colony of prairie dogs that extend throughout the property. Along the Fulton ditch are mature trees that may provide nesting habitat for various species of raptors and habitat for other wildlife.

A potential exists for the presence of burrowing owls within the development site. Burrowing owls live on flat, treeless land with short vegetation, and nest underground in burrows dug by prairie dogs. These raptors are classified as a state threatened species and are protected by both state and federal laws, including the Migratory Bird Treaty Act. These laws prohibit the killing of burrowing owls or disturbance of their nest. Therefore, if any earth-moving will occur between March 15th and October 31st, a burrowing owl survey should be performed. Guidelines for performing a burrowing owl survey can be obtain from your local District Wildlife Manager.

Prairie dogs should either be moved to another location alive or humanely euthanized before onset of construction. A permit must be obtained from CPW prior to any live relocation. Once the prairie dogs have been relocated or euthanized, their burrows should be covered to prevent burrowing owls from occupying the empty burrows. If this work is done between March 15 and October 31st, a burrowing owl survey should be performed to prevent unlawful take of burrowing owls or their nests when the burrows are filled.

The presence of mature trees along the Fulton ditch provides nesting habitat for various species of raptors and other birds. Raptors which include hawks, owls, and eagles are protected under the Federal Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. Colorado Parks and Wildlife has developed a set of recommended setbacks away from these nests to prevent disturbance during the nesting season. Those recommended buffer zones can be found at:

https://cpw.state.co.us/Documents/WildlifeSpecies/LivingWithWildlife/RaptorBufferGuidelines2008.pdf#search=raptor%20guidelines

If earthwork or other construction activities begin between January 1 and July 31st, CPW recommends that the site be surveyed for raptor nests. If a nest is found, please contact the District Wildlife Manager for recommendations on mitigating impacts to the nesting bird. Mature trees are of high habitat importance on the eastern plains to many species of raptors and other birds. CPW encourages developers to incorporate these habitat features into their development projects.

As the Fort Lupton area continues to be developed, there is an increase in the fragmentation of wildlife habitat across the landscape. The more wildlife habitat across the landscape that is fragmented the more difficult it is for wildlife to move across these landscapes. When this happens there is often an increase in conflicts between wildlife and people. Ditches serve as important migration corridors for wildlife and help reduce these conflicts. The Fulton ditch that runs along the south and eastern side of the Fulton Ranch development site serves as an important migration corridor for many species wildlife. CPW recommends an open space buffer of 100 feet from the edge of the ditch on each side to allow passage of wildlife through this area. It is recommended that the developer seeds this area with native grasses and shrubs to provide better habitat and inhibit the growth of noxious weeds.

Future residents should be informed that wildlife such as fox, coyotes, raccoons, rabbits, and skunks might frequent the development area in search of food and cover. These species have adapted well to living in urban environments. CPW recommends that people moving into and residing in this area take the proper precautions to prevent unnecessary conflicts with wildlife through the use of pet leash laws and protection of their pets when not under direct supervision.

Homeowners can do their part by **not** inviting wildlife into their yards. Due to the potential for human-wildlife conflicts associated with this project, please consider

the following recommendations when educating future homeowners about the existence of wildlife in the area:

- Pet foods and bowls should be kept indoors.
- Garbage should be kept in secure containers to minimize its attractiveness to wildlife.
- Feeding wildlife, with the exception of birds, is illegal.
- “Living with Wildlife” pamphlets are available through CPW offices or online.

For further information, CPW can provide copies of the following brochures “Your Guide to Avoiding Human-Coyote Conflicts, Don’t Feed the Wildlife”, and “Too Close for Comfort: Avoid Conflicts with Wildlife in the City” to residents of the surrounding open space. These brochures can also be downloaded from our web site at http://wildlife.state.co.us/Education/CoExisting_with_wildlife/.

Thank you again for the opportunity to comment on the Fulton Ranch development project. Please do not hesitate to contact us about ways to continue managing the property in order to maximize wildlife value while minimizing potential conflicts. If have further questions please contact your District Wildlife Manager Chris Mettenbrink at (303) 906-1979.

Sincerely,

Chris Mettenbrink
Acting Area Wildlife Manager

Cc: M. Leslie, K. Cannon, C. Mettenbrink, file.

Fort Lupton Fire Protection District
1121 Denver Avenue • Fort Lupton, Colorado 80621
Office: (303)857-4603 • Fax: (303)857-6619 • Website: www.fortluptonfire.org

Date: 01/15/2020
Project name: Fulton Ranch PUD Plat
Project address: 14th St. & Northrup Ave., Fort Lupton, Co 80621
FLFPD Project # 2020-R01
Plan reviewer: Taw Tamlin, Fire Marshal

The Fire District has reviewed the referral for **Fulton Ranch PUD Plat** located at **14th St. & Northrup Ave.**, Fort Lupton, CO 80621. The referral was reviewed for compliance with *2012 International Fire Code (IFC)* and the current National Fire Protection Association (*NFPA)* standards as adopted by the Fort Lupton Fire Protection District, City Council of Fort Lupton, and the Weld County Commissioners. The following specific and general requirements and conditions shall be met.

1. Any property owner or authorized agent who intends to conduct an operation or business, or install or modify systems and equipment which is regulated by this code, or to cause any such work to be done, shall first make application to the fire code official and obtain the required permit. Application for a permit required by this code shall be made to the fire code official in such form and detail as prescribed by the fire code official. Applications for permits shall be accompanied by such plans as prescribed by the fire code official.

    a. For information on the plan review process and fee schedule please go to https://fortluptonfire.org/contractors/

Specific Requirements:

2. Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet (7925 mm), exclusive of shoulders (see Figure D103.1). *2012 IFC, D103.1*

3. The minimum turning radius shall be determined by the fire code official. *2012 IFC, D103.3*
    a. See attached document showing the minimum turning radius needed

4. Developments of one- or two-family dwellings where the number of dwelling units exceeds 30 shall be provided with two separate and approved fire apparatus access roads, and shall meet the requirements of Section D104.3. *2012 IFC, D107.1*

   Exceptions:
   1. Where there are more than 30 dwelling units on a single public or private fire apparatus access road and all dwelling units are equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3 of the International Fire Code, access from two directions shall not be required.

   2. The number of dwelling units on a single fire apparatus access road shall not be increased unless fire apparatus access roads will connect with future development, as determined by the fire code official.

5. The minimum fire-flow and flow duration requirements for one- and two-family dwellings having a fire-flow calculation area that does not exceed 3,600 square feet (344.5 m2) shall be 1,000 gallons per minute (3785.4 L/min) for 1 hour. Fire-flow and flow duration for dwellings having a fire-flow calculation area in excess of 3,600 square feet (344.5m2) shall not be less than that specified in Table B105.1. *2012 IFC, B105.1*

   Exception: A reduction in required fire-flow of 50 percent, as approved, is allowed when the building is equipped with an approved automatic sprinkler system.

6. The minimum number of fire hydrants available to a building shall not be less than that listed in Table C105.1. The number of fire hydrants available to a complex or subdivision shall not be less than that determined by spacing requirements listed in Table C105.1 when applied to fire apparatus access roads and perimeter public streets from which fire operations could be conducted. *2012 IFC, C103.1*

TABLE C105.1
NUMBER AND DISTRIBUTION OF FIRE HYDRANTS

FIRE-FLOW REQUIREMENT (gpm)	MINIMUM NUMBER OF HYDRANTS	AVERAGE SPACING BETWEEN HYDRANTS[a, b, c] (feet)	MAXIMUM DISTANCE FROM ANY POINT ON STREET OR ROAD FRONTAGE TO A HYDRANT[d]
1,750 or less	1	500	250
2,000-2,250	2	450	225
2,500	3	450	225
3,000	3	400	225
3,500-4,000	4	350	210
4,500-5,000	5	300	180
5,500	6	300	180
6,000	6	250	150
6,500-7,000	7	250	150
7,500 or more	8 or more[e]	200	120

For SI: 1 foot = 304.8 mm, 1 gallon per minute = 3.785 L/m.
a. Reduce by 100 feet for dead-end streets or roads.
b. Where streets are provided with median dividers which cannot be crossed by fire fighters pulling hose lines, or where arterial streets are provided with four or more traffic lanes and have a traffic count of more than 30,000 vehicles per day, hydrant spacing shall average 500 feet on each side of the street and be arranged on an alternating basis up to a fire-flow requirement of 7,000 gallons per minute and 400 feet for higher fire-flow requirements.
c. Where new water mains are extended along streets where hydrants are not needed for protection of structures or similar fire problems, fire hydrants shall be provided at spacing not to exceed 1,000 feet to provide for transportation hazards.
d. Reduce by 50 feet for dead-end streets or roads.
e. One hydrant for each 1,000 gallons per minute or fraction thereof.

7. New and existing buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Where required by the fire code official, address numbers shall be provided in additional approved locations to facilitate emergency response. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall be a minimum of 4 inches (101.6 mm) high with a minimum stroke width of 0.5 inch (12.7 mm). Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure. Address numbers shall be maintained. *2012 IFC, 505.1*

8. When fire apparatus access roads or a water supply for fire protection is required to be installed, such protection shall be installed and made serviceable prior to and during the time of construction except when approved alternative methods of protection are provided. Temporary street signs shall be installed at each street intersection when construction of new roadways allows passage by vehicles in accordance with Section 505.2. *2012 IFC, 501.4*

9. Approved vehicle access for firefighting shall be provided to all construction or demolition sites. Vehicle access shall be provided to within 100 feet (30 480 mm) of temporary or permanent fire department connections. Vehicle access shall be provided by either temporary or permanent roads, capable of supporting vehicle loading under all weather conditions. Vehicle access shall be maintained until permanent fire apparatus access roads are available. *2012 IFC, 3310.1*

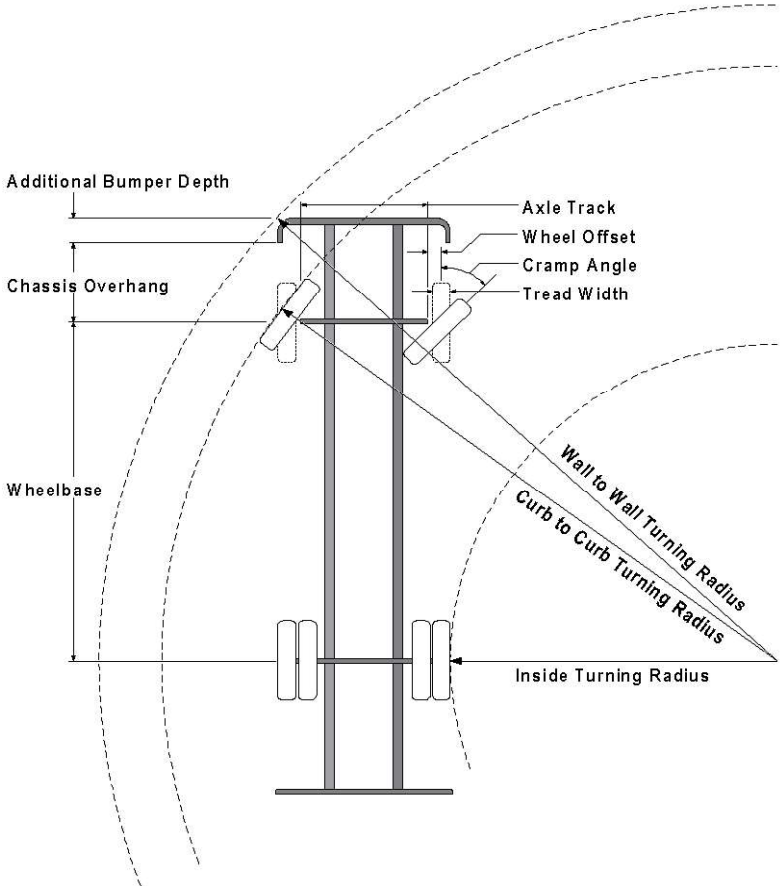
Please contact Fire Marshal, Taw Tamlin at 303-857-4603 if you have questions or need further assistance.

Turning Performance Analysis

12/6/2012

Bid Number: 299
Department:

Chassis: Arrow-XT Chassis, PAP/SkyArm/Midmount MUX, 2010
Body: Aerial, Platform 100', Alum Body



Parameters:

Inside Cramp Angle:	45°
Axle Track:	82.92 in.
Wheel Offset:	5.25 in.
Tread Width:	17.4 in.
Chassis Overhang:	68.99 in.
Additional Bumper Depth:	19 in.
Front Overhang:	156.6 in.
Wheelbase:	247 in.

Calculated Turning Radii:

Inside Turn:	19 ft. 5 in.
Curb to curb:	35 ft. 6 in.
Wall to wall:	44 ft. 2 in.

Comments:

CategoryID	Category Description	OptionCode	OptionDescription
6	Axle, Front, Custom	0018453	Axle, Front, Oshkosh TAK-4, Non Drive, 22,800 lb, DLX/Enf/Qtm/AXT
30	Wheels, Front	0001656	Wheels, Front, 22.50" x 12.25", Steel, Hub Pilot
31	Tires, Front	0594821	Tires, Front, Goodyear, G296 MSA, 425/65R22.50, 20 ply
38	Bumpers	0550016	Bumper, 19" Extended, AXT, Dash CF
437	Aerial Devices	0592931	Aerial, 100' Pierce Platform, 50 MPH Wind Rating, 150lb Tip Load Allowance

Notes:

Actual Inside Cramp Angle may be less due to highly specialized options.

Curb to Curb turning radius calculated for a 9.00 inch curb.

Turning Performance Analysis

12/6/2012

Bid Number: 299
Department:

Chassis: Arrow-XT Chassis, PAP/SkyArm/Midmount MUX, 2010
Body: Aerial, Platform 100', Alum Body

Definitions:

Inside Cramp Angle	Maximum turning angle of the front inside tire.
Axle Track	King-pin to King-pin distance of the front axle.
Wheel Offset	Offset from the center-line of the wheel to the king-pin.
Tread Width	Width of the tire tread.
Chassis Overhang	Distance of the center-line of the front axle to the front edge of the cab. This does not include the bumper depth.
Additional Bumper Depth	Depth that the bumper assembly adds to the front overhang.
Wheelbase	Distance between the center lines of the vehicle's front and rear axles.
Inside Turning Radius	Radius of the smallest circle around which the vehicle can turn.
Curb to Curb Turning Radius	Radius of the smallest circle inside of which the vehicle's tires can turn. This measurement assumes a curb height of 9 inches.
Wall to Wall Turning Radius	Radius of the smallest circle inside of which the entire vehicle can turn. This measurement takes into account any front overhang due to chassis,bumper extensions and/or aerial devices.

CITY OF Fort Lupton EST 1836
COME PAINT YOUR FUTURE WITH US

Public Works

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303-857-6694
Fax: 303.857.0351
www.fortlupton.org

MEMO

To: Todd Hodges
Alyssa Knutson
CC: Chris Sveum (Atwell)

From: Roy Vestal

Date: January 31, 2020

Subject: Fulton Ranch Sketch Plat; LUP2019-0039; SPL2019-0005
Public Works Review

Public Works has reviewed the submitted documents for the above referenced development project with the following comments that can be addressed with Preliminary Plat submittal.:

1. **Sketch**
    a. Depending on purpose of the northern point open space, access may be required.
    b. Detention ponds will be consider privately owned and maintained.

2. **Drainage**
    a. Drainage Memo – Proposed concept is acceptable. Additional detail will be required related to passing flows under 14th Street. The current irrigation lateral is in in use and is outside of the existing ROW. Storm pipes may be required for 14th Street to run along the south side. Additional coordination with the lateral users and the Fulton Ditch Company are required.
    b. Will need to identify emergency overflow paths and maximum ponding potential elevation at sump locations. Finish floor elevations will be required to prevent potential property damage.
    c. Need to provide grading proposed through the blocks and conveyance as required to the ponds.

3. **Transportation**
    a. 14th Street will be required to be constructed for half of the roadway section for a rural arterial to include a 10-ft concrete sidewalk detached

and located 2' from edge of ROW. The required section will consist of 2 travel lanes with center turn lane and roadside swales for drainage.

b. Northrup Avenue will be required to be construct for half of the roadway section for an urban collector to include a 10-ft concrete sidewalk detached and located 2' from edge of ROW. The required section will consist of 2 travel lanes with center turn lane and roadside swales for drainage.
c. Typical Private Road section - need to provide means of conveying drainage

4. Utilities

a. Please provide water demand calculations for determination of required water shares.

b. Water - Chapter 3

i. *Section 3.12.01 Water System Utility Study* required.
ii. *Section 3.18.01* Water mains will be required to extended the entire frontage of the property.

c. Sanitary Sewer - Chapter 4

i. *Section 4.12.00* A utility study will be required.

d. Traffic Control - Chapter 8 *Section 8.10.01* The Traffic Study submitted is acceptable.

5. Public Improvement Agreement – A Public Improvements Agreement will be required for the construction of Northrup Avenue, 14th Street along property line frontage and the public utility improvements.

There may be additional concerns as this design develops.

Hello,

Thank you for inviting United Power, Inc. and giving us the opportunity to review and comment on Fulton Ranch Sketch Plat; LUP2019-0039; SPL2019-0005. After review, please include the below requirements for our dry utilities as you get further into the project plats:

- **General** - 8' to 10' wide utility easements along rear of all lots, sides of lots abutting roads, and across tracts. This allows United Power to install electric facilities in a continuous manner for our loop feed which provides reliability.
- **Tracts/Open Space/Parks** - 8' to 10' wide utility easements along perimeter of tracts, along perimeter of tracts abutting roads, and through tracts between lots. United Power prefers blanket utility use within tracts be dedicated as this gives us the opportunity to set above ground equipment, if needed and coordinated with the developer.
- **Streetlights** – When streetlight locations are identified, we will need a 5' wide utility easement along one side of the lot closest to the streetlight location. All streetlight locations must be approved and signed off by the city/town, etc.

As a Reminder: No permanent structures are acceptable within the utility easement(s); such as, window wells, wing walls, retaining walls, basement walls, roof overhang, anything affixed to the house like decks, etc. United Power would consider any structure that impedes the access, maintenance, and safety of our facilities a permanent structure. No exceptions will be allowed, and any encroachments could result in penalties.

United Power would like to work with the developer early in the construction process on getting an electric design prepared so that we can request any additional easements needed and can be dedicated on the plat rather than obtaining via separate document. The developer can visit https://www.unitedpower.com/construction and submit an application along with CAD data.

We look forward to safely and efficiently providing reliable electric power and outstanding service to future members.

Thank you,

Samantha Riblett
United Power, Inc
Right of Way Administrative Assistant
Main 303-659-0551|D 303-637-1324

DEPARTMENT OF PLANNING SERVICES
1555 N. 17th Ave
Greeley, CO 80631
Website: www.weldgov.com
Email: jflesher@weldgov.com
Phone: (970) 400-3552
Fax: (970) 304-6498

Via Email

January 21, 2020

Alyssa Knutson, Planner
City of Fort Lupton
130 S. McKinley Avenue
Fort Lupton, CO 80621

Subject: Fulton Ranch Sketch Plan

Dear Alyssa:

The Weld County Department of Planning Services has reviewed this proposal and submits the following comments for your consideration.

There is no County commitment to upgrade County roads and bridges to accommodate municipal developments.

Weld County Planning recommends ensuring rights-of-way are cleared of easements and pipelines prior to acceptance.

The present zoning of adjacent and surrounding unincorporated properties are predominantly Agricultural. Owners of property in the area of this proposal should be made aware that agricultural uses, even when done in a manner consistent with good agricultural practices, may generate impacts such as noise, dust, flies, odors, aerial spraying, and slow-moving equipment on County roadways. It is important for future residents to note that adjacent properties may be in unincorporated Weld County and that Weld County has adopted a Right-to-Farm Statement and a Right to Extract Mineral Resources Statement and recommends they be placed on all plats adjacent to unincorporated areas:

Right-to-Farm Statement

Weld County is one of the most productive agricultural counties in the United States, typically ranking in the top ten counties in the country in total market value of agricultural products sold. The rural areas of Weld County may be open and spacious, but they are intensively used for agriculture. Persons moving into a rural area must recognize and accept there are drawbacks, including conflicts with long-standing agricultural practices and a lower level of services than in town. Along with the drawbacks come the incentives which attract urban dwellers to relocate to rural areas: open views, spaciousness, wildlife, lack of city noise and congestion, and the rural atmosphere and way of life. Without neighboring farms, those features which attract urban dwellers to rural Weld County would quickly be gone forever.

Agricultural users of the land should not be expected to change their long-established agricultural practices to accommodate the intrusions of urban users into a rural area. Well-run agricultural activities will generate off-site impacts, including noise from tractors and equipment; slow-moving farm vehicles on rural roads; dust from animal pens, field work, harvest and gravel roads; odor from animal confinement, silage and manure; smoke from ditch burning; flies and mosquitoes; hunting and trapping activities; shooting sports, legal hazing of nuisance wildlife; and the use of pesticides and fertilizers in the fields, including the use of aerial spraying. It is common practice for agricultural producers to utilize an accumulation of agricultural machinery and supplies to assist in their agricultural operations. A concentration of miscellaneous agricultural materials often produces a visual disparity between rural and urban areas of the County. Section 35-3.5-102, C.R.S., provides that an agricultural operation shall not be found to be a public or private nuisance if the agricultural operation alleged to be a nuisance employs methods or practices that are commonly or reasonably associated with agricultural production.

Water has been, and continues to be, the lifeline for the agricultural community. It is unrealistic to assume that ditches and reservoirs may simply be moved "out of the way" of residential development. When moving to the

County, property owners and residents must realize they cannot take water from irrigation ditches, lakes or other structures, unless they have an adjudicated right to the water.

Weld County covers a land area of approximately four thousand (4,000) square miles in size (twice the size of the State of Delaware) with more than three thousand seven hundred (3,700) miles of state and County roads outside of municipalities. The sheer magnitude of the area to be served stretches available resources. Law enforcement is based on responses to complaints more than on patrols of the County, and the distances which must be traveled may delay all emergency responses, including law enforcement, ambulance and fire. Fire protection is usually provided by volunteers who must leave their jobs and families to respond to emergencies. County gravel roads, no matter how often they are bladed, will not provide the same kind of surface expected from a paved road. Snow removal priorities mean that roads from subdivisions to arterials may not be cleared for several days after a major snowstorm. Services in rural areas, in many cases, will not be equivalent to municipal services. Rural dwellers must, by necessity, be more self-sufficient than urban dwellers.

People are exposed to different hazards in the County than in an urban or suburban setting. Farm equipment and oil field equipment, ponds and irrigation ditches, electrical power for pumps and center pivot operations, high-speed traffic, sand burs, puncture vines, territorial farm dogs and livestock and open burning present real threats. Controlling children's activities is important, not only for their safety, but also for the protection of the farmer's livelihood.

Weld County Right to Extract Mineral Resources Statement

Weld County has some of the most abundant mineral resources, including, but not limited to, sand and gravel, oil, natural gas, and coal. Under title 34 of the Colorado Revised Statutes, minerals are vital resources because (a) the State's commercial mineral deposits are essential to the State's economy; (b) the populous counties of the state face a critical shortage of such deposits; and (c) such deposits should be extracted according to a rational plan, calculated to avoid waste of such deposits and cause the least practicable disruption of the ecology and quality of life of the citizens of the populous counties of the state.

Mineral resource locations are widespread throughout the County and person moving into these areas must recognize the various impacts associated with this development. Often times, mineral resource sites are fixed to their geographical and geophysical locations. Moreover, these resources are protected property rights and mineral owners should be afforded the opportunity to extract the mineral resource.

Thank you for the opportunity to comment on this proposal. This response addresses general requirements, concerns, or issues and is intended to assist in your community's decision-making process regarding this land use proposal. Weld County respectfully reserves the right to make further comment on information or issues as they are discovered.

Sincerely,

Jim Flesher, AICP
Long-Range Planner
Weld County

LEGAL NOTIFICATIONS

CITY OF
Fort Lupton
EST 1836
COME PAINT YOUR FUTURE WITH US

CERTIFICATE OF MAILING

I, the undersigned, hereby certify that on the 28th day of January 2020, a true and correct copy of the foregoing Notice of Public Meeting, and sketch PUD Plat maps for the Fulton Ranch Sketch PUD Plat was sent via U.S. Mail, postage pre-paid, to the following addresses:

FEHRN LAWRENCE NELSON &
FEHRN WILLIAM WALTER JR
1861 14TH ST
FORT LUPTON, CO 806218722

SORIANO ESTEBAN FLORES
1116 BEECH ST
FORT LUPTON, CO 806212310

WELD COUNTY SCHOOL DISTRICT RE8
301 REYNOLDS ST
FORT LUPTON, CO 806211329

SCHIERS LESLIE DAWN &
SCHIERS DAVID
1109 CHERRY CT
FORT LUPTON, CO 806212308

REIGENBORN RAY ANN &
REIGENBORN JERAMY
1117 BEECH ST
FORT LUPTON, CO 806212311

HUDSON KELLEY J &
HUDSON DOUGLAS P
1115 CHERRY CT
FORT LUPTON, CO 806212308

HARRIS BRANDI L &
HARRIS JASON D
1125 BEECH ST
FORT LUPTON, CO 806212311

SALINAS GUADALUPE IVONNE
AVILA &
SANDOVAL ALVARO
1121 CHERRY CT
FORT LUPTON, CO 806212308

FILE JUSTINE P
1133 BEECH ST
FORT LUPTON, CO 806212311

ROMERO RICHARD LEE
1129 CHERRY CT
FORT LUPTON, CO 806212308

LEIGH ERIC S &
LEIGH LINDA L &
LEIGH WILLIAM A
1141 BEECH ST
FORT LUPTON, CO 806212311

LEBLANC MARY LOU &
LEBLANC MATTHEW J
2152 S DENVER AVE
FORT LUPTON, CO 806218309

LESIAK WILLIAM W
1149 BEECH ST
FORT LUPTON, CO 806212311

ROCHA FRANCISCO
1157 BEECH ST
FORT LUPTON, CO 806212311

PEREZ HERIBERTO R
1165 BEECH ST
FORT LUPTON, CO 806212311

HAMBLIN TONIA &
HAMBLIN DAVID
1173 BEECH ST
FORT LUPTON, CO 806212311

ARNDT SARAH ANN &
HOFFMAN JOSHUA A
1148 BEECH ST
FORT LUPTON, CO 806212310

MALTOS FLORA STELLA
1140 BEECH ST
FORT LUPTON, CO 806212310

HERNANDEZ KIMBERLY A &
HERNANDEZ SANJUANA
1132 BEECH ST
FORT LUPTON, CO 806212310

HAAS STEPHEN &
SAITI MELINA
1124 BEECH ST
FORT LUPTON, CO 806212310

PATTON LUANN D &
PATTON DONALD D
4502 COUNTY ROAD 31
FORT LUPTON, CO 806218214

MARTINEZ ERMA J &
MARTINEZ ERNEST R
1114 CHERRY CT
FORT LUPTON, CO 806212308

CARTER ELIZABETH A &
CARTER CLIFFORD D
1621 14TH ST
FORT LUPTON, CO 806218718

DOCKTER LA LANI F TRUST &
DOCKTER JAMES A SR TRUST
6518 COUNTY ROAD 29
FORT LUPTON, CO 806218702

RANCH ESTATES THE
C/O JOHN J VANDEMOER
8791 CIRCLE DR
WESTMINSTER, CO 800313675

COYOTE CREEK NORTH LLC
5300 DTC PKWY STE 100
GREENWOOD VILLAGE, CO
801113024

AIMS I
5305 W 86TH AVE
ARVADA, CO 800031421

THERMO-FARMS
5305 W 86TH AVE
ARVADA, CO 800031421

RENNOC CORPORATION
5303 S BELLVIEW RD
ROGERS, AR 727588816

CONNER FAMILY TRUST
2797 BUCKNER LN
THOMPSONS STATION, TN 371799776

Stephanie Dowell

City Official

CITY OF
Fort Lupton
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CITY OF FORT LUPTON
NOTICE OF PUBLIC MEETING

Notice is hereby given that the City of Fort Lupton is in receipt of an application for a Sketch PUD Plat for a proposed subdivision referred to as the Fulton Ranch Sketch PUD Plat located east and adjacent to County Road 29, and south and adjacent to 14th Street right of way in Fort Lupton, Colorado, pursuant to the City of Fort Lupton Municipal Code Notice Requirements.

The public meetings have been scheduled for Thursday, February 13, 2020 at 6:00 PM with the Fort Lupton Planning Commission and Tuesday, March 3, 2020 at 7:00 PM with the Fort Lupton City Council.

The public meetings shall be held in the City Hall, 130 South McKinley Avenue, Fort Lupton, Colorado, or at such other time or place in the event this hearing is adjourned. Further information is available through the City Planning and Building Department at (303) 857-6694 or at BIT.LY/FLDEVELOPMENT and scrolling down to the rows titled: Fulton Ranch Sketch PUD Plat.

ALL INTERESTED PERSONS MAY ATTEND.

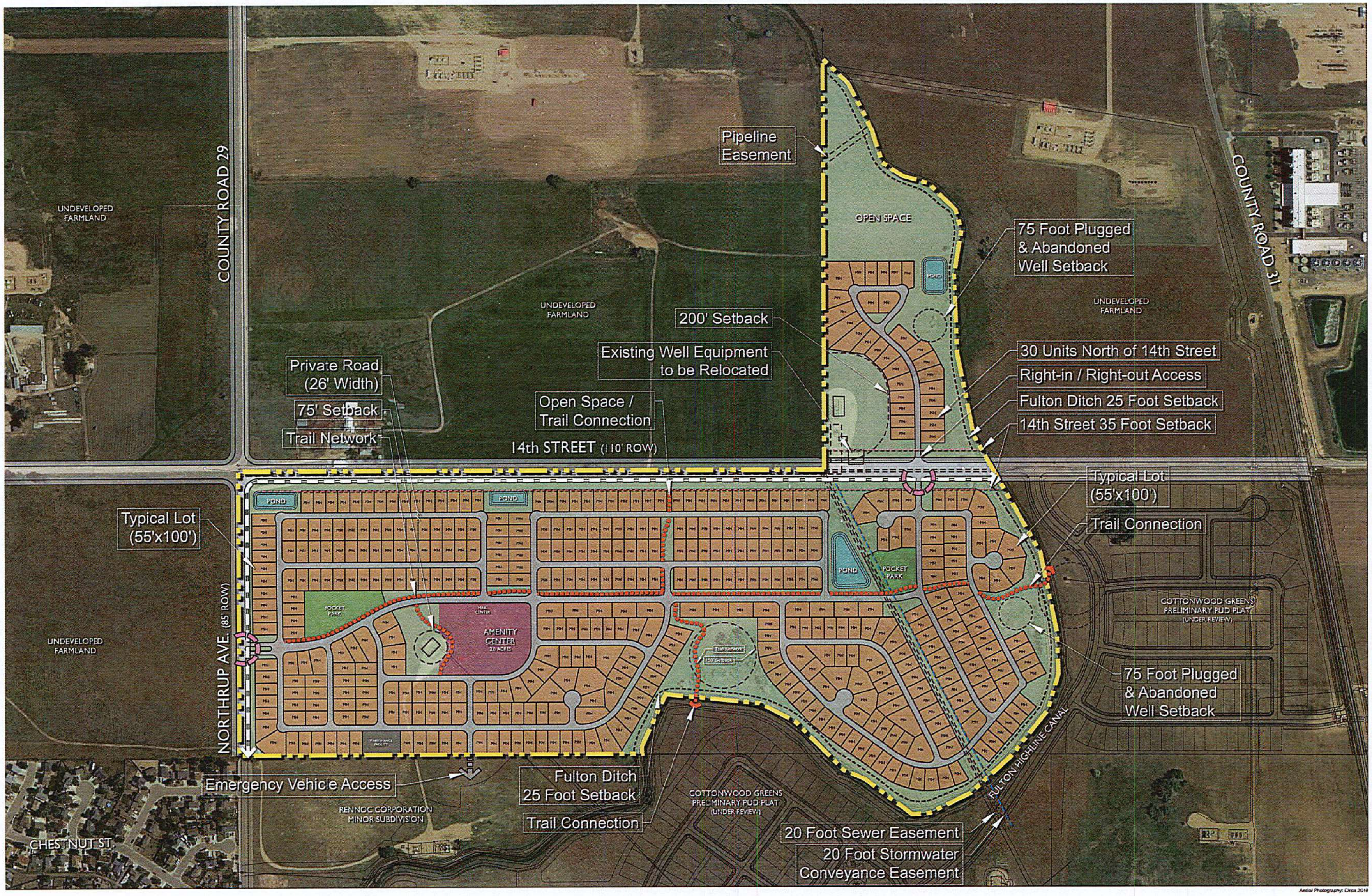
LEGAL DESCRIPTION

A PARCEL OF LAND LOCATED IN SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE W 1/4 CORNER OF SAID SECTION 33 WHENCE THE SW CORNER OF SAID SECTION 33 BEARS S 00° 09' 06" E A DISTANCE OF 2642.24 FEET; THENCE S 00° 09' 06" E ALONG THE WESTERLY LINE OF THE SW 1/4 OF SAID SECTION 33, A DISTANCE OF 30.00 FEET TO A POINT ON THE SOUTHERLY RIGHT OF WAY LINE OF A COUNTY ROAD AS DESCRIBED IN BOOK 76 AT PAGE 126 IN THE OFFICE OF THE WELD COUNTY CLERK AND RECORDER; THENCE N 89° 58' 58" E ALONG SAID SOUTHERLY RIGHT OF WAY LINE A DISTANCE OF 2645.56 FEET TO A POINT ON THE EASTERLY LINE OF SAID SW 1/4 OF SAID SECTION 33; THENCE N 00° 07' 27" W ALONG THE EASTERLY LINE OF THE SW 1/4 OF SECTION 33, A DISTANCE OF 30.00 FEET TO THE CENTER 1/4 CORNER OF SAID SECTION 33; THENCE N 00° 07' 27" W ALONG THE WESTERLY LINE OF THE NE 1/4 OF SAID SECTION 33, A DISTANCE OF 1842.72 FEET TO THE CENTER LINE OF FULTON DITCH; THENCE ALONG THE CENTERLINE OF FULTON DITCH THE FOLLOWING 27 COURSES; THENCE S 46° 07' 25" E, A DISTANCE OF 161.55 FEET; THENCE S 26° 34' 05"

E, A DISTANCE OF 237.68 FEET; THENCE S 17° 04' 05" E, A DISTANCE OF 155.48 FEET; THENCE S 56° 15' 25" E, A DISTANCE OF 109.68 FEET; THENCE S 74° 00' 07" E, A DISTANCE OF 122.26 FEET; THENCE S 45° 23' 07" E, A DISTANCE OF 173.34 FEET; THENCE S 15° 59' 13" E, A DISTANCE OF 92.72 FEET; THENCE S 09° 12' 24" W, A DISTANCE OF 208.15 FEET; THENCE S 02° 08' 23" E, A DISTANCE OF 360.18 FEET; THENCE S 11° 11' 43" E, A DISTANCE OF 382.01 FEET; THENCE S 29° 30' 23" E, A DISTANCE OF 84.81 FEET; THENCE S 29° 30' 23" E, A DISTANCE OF 525.26 FEET; THENCE S 11° 44' 38" E, A DISTANCE OF 367.91 FEET; THENCE S 02° 12' 33" E, A DISTANCE OF 191.55 FEET; THENCE S 16° 43' 32" W, A DISTANCE OF 177.03 FEET; THENCE S 39° 02' 35" W, A DISTANCE OF 270.24 FEET; THENCE S 47° 57' 25" W, A DISTANCE OF 237.78 FEET; THENCE S 63° 34' 45" W, A DISTANCE OF 205.14 FEET; THENCE S 85° 20' 22" W, A DISTANCE OF 82.20 FEET; THENCE N 53° 16' 08" W, A DISTANCE OF 266.98 FEET; THENCE N 67° 18' 03" W, A DISTANCE OF 102.80 FEET; THENCE N 44° 43' 06" W, A DISTANCE OF 119.52 FEET; THENCE N 44° 08' 03" W, A DISTANCE OF 187.15 FEET; THENCE N 62° 30' 08" W, A DISTANCE OF 185.25 FEET; THENCE N 84° 26' 58" W, A DISTANCE OF 426.35 FEET; THENCE S 24° 35' 52" W, A DISTANCE OF 259.75 FEET; THENCE S 04° 38' 28" E, A DISTANCE OF 31.90 FEET TO A POINT ON THE SOUTHERLY LINE OF THE N 1/2 OF THE SW 1/4 OF SAID SECTION 33; THENCE S 89° 55' 18" W ALONG SAID SOUTHERLY LINE OF THE N 1/2 OF THE SW 1/4 OF SECTION 33, A DISTANCE OF 1818.84 FEET TO A POINT ON THE WESTERLY LINE OF THE SW 1/4 OF SECTION 33; THENCE N 00° 09' 06" W ALONG SAID WESTERLY LINE OF THE SW 1/4 OF SECTION 33 A DISTANCE OF 1291.12 FEET TO THE POINT OF BEGINNING.

EXCEPT THAT PORTION LYING WITHIN COUNTY ROAD DESCRIBED IN BOOK 76 AT PAGE 126.



RVi
712 Congress Avenue
Suite 300
Austin, Texas 78701
Tel 512.480.0032
www.rviplanning.com

SUN COMMUNITIES, INC.

ATWELL
866.850.4200 www.atwell-group.com
143 Union Boulevard, Suite 700
Lakewood, CO 80228
303.462.1100

DEVELOPER
27777 Franklin Road
Suite 200
Southfield, MI 48114
(248) 208-2556
John B. McLaren

CLIENT
SUN COMMUNITIES
FULTON RANCH
FORT LUPTON, COLORADO
SKETCH PLAT
CONCEPTUAL LAYOUT

DATE 10/10/2019

REVISIONS

DR. KJK CH. CBS
P.M. CSB
JOB 19001956
SHEET NO. 03

CAD FILE: 19001956-SKETCH PLAN.DWG

ADDITIONAL INFORMATION AND DOCUMENTS ON THIS APPLICATION CAN BE FOUND AT BIT.LY/FLDEVELOPMENT AND SCROLLING DOWN TO THE ROW TITLED: FULTON RANCH SKETCH PUD PLAT.

CITY OF
Fort Lupton
EST 1836
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Planning Department

130 S. McKinley Avenue
Fort Lupton, CO 80621

Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

Affidavit of Mineral Notice

CERTIFICATION OF NOTICE PURSUANT TO C.R.S. 24-65.5-103

Fulton Ranch

The undersigned applicant, Christine Sveum, hereby certifies:

(a) To the best of his or her knowledge, the attached list is a true and accurate list of the names and addresses of all mineral owners and lessees of mineral owners on or under the parcel of land being considered pursuant to C.R.S. 24-65.5-103(1)(a).

(b) Notice was sent to mineral estate owner(s) by certified mail, return receipt requested, or by a nationally recognized overnight courier not less than 30 days prior to the date scheduled for the initial public hearing by the City of Fort Lupton;

(c) Notice contained the time and place of the initial public hearing, the nature of the hearing, the location and legal description by section, township, and range of the property that is subject of the hearing, and the name of the applicant. A copy of the notice sent is attached hereto.

Christine Sveum

Signature of Owner or Owner's Representative

The foregoing instrument was acknowledged before me by Chris Sveum, this 10th day of January, 2020. Witness my hand and seal.

My commission expires January 13, 2020.

Ronda Klopfer

Notary Public

RONDA KLOPFER
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID # 20164001432
MY COMMISSION EXPIRES JANUARY 13, 2020

(SEAL)

ZEREN
LAND SERVICES
OIL AND GAS TITLE

P.O. Box 336337
Greeley, CO 80633

Phone (970) 351-0733
Fax (970) 351-0867

LIST OF MINERAL OWNERS AND MINERAL LESSEES for NOTIFICATION
(SUN ACQ LLC Property)

Subject Property:

Township 2 North, Range 66 West, 6th P.M., Weld County, CO
Section 33: A parcel of land situate in the E½ and N½SW¼, being more particularly on Exhibit A

Zeren Land Services, an oil and gas title research company, states that to the best of its knowledge the following is a true and accurate list of the names and addresses of the mineral owners and mineral leasehold owners entitled to notice under the Surface Development Notification Act, Colorado Revised Statutes §24-65.5-101, et seq. in the Subject Property based upon the records of the Weld County Assessor and Clerk Recorder as of December 30, 2019 at 7:45 a.m.:

Mineral Owners:

Anadarko E&P Company LP
c/o Anadarko Petroleum Corporation
Attn: Manager Land- Western Division
P.O. Box 9149
The Woodlands, TX 77387-9147

Anadarko Land Corporation
c/o Anadarko Petroleum Corporation
Attn: Manager Property & Rights-of-Way
P.O. Box 9149
The Woodlands, TX 77387-9147

Mineral Leasehold Owners:

Kerr-McGee Oil & Gas Onshore LP
Attn: Land Manager/Wattenberg
1099 18th Street, Suite 1500
Denver, CO 80211

K.P.K Kauffman Company, Inc. (KPK)
1675 Broadway, Suite 2800
Denver, CO 80202

Dated this 6th day of January, 2020.

ZEREN LAND SERVICES

By: Cynthia A. E. Zeren, CPL
Certified Professional Landman #4044

At the request of **Lyons Gaddis** ("Client"), Zeren Land Services, an independent land consulting firm, has prepared the foregoing list of mineral estate owners entitled to notice under the Surface Development Notification Act, Colorado Revised Statutes §24-65.5-101, et seq.

Zeren Land Services, searched (i) the records of the Weld County Assessor relating to the Subject Property for persons identified therein as mineral estate owners, and (ii) the records of the Weld County Clerk and Recorder relating to the Subject Property for recorded requests for notification in the form specified in the Surface Development Notification Act. The results of these searches are set forth above in this List of Mineral Owners Entitled to Notice. At the date of the search, the records of the Assessor and the Clerk and Recorder were posted through December 30, 2019 at 7:45 A.M.

Zeren Land Services, agreed to prepare this listing for the Client only if the Client agreed that the liability of Zeren Land Services, would be strictly limited to the amount paid by the Client for such services. Zeren Land Services, makes no warranty, express, implied or statutory, in connection with the accuracy, completeness or sufficiency of such listing of mineral estate owners. In the event the listing proves to be inaccurate, incomplete, insufficient or otherwise defective in any way whatsoever or for any reason whatsoever, **the liability of Zeren Land Services, shall never exceed the actual amount paid by Client to Zeren Land Services**, for the listing.

In order to induce Zeren Land Services, to provide such services**, Client further agreed to indemnify and hold Zeren Land Services, its managers, members and employees, harmless from and against all claims by all persons (including, but not limited to Client) of whatever kind or character arising out of the preparation and use of each such listing of mineral estate owners, to the extent that such claims exceed the actual amount paid to Client by Zeren Land Services, for such listing.** Client specifically intends that both the foregoing limitation on liability and foregoing indemnification shall be binding and effective without regard to the cause of the claim, inaccuracy or defect, including, but not limited to, breach of representation, warranty or duty, any theory of tort or of breach of contract, or the fault or negligence of any party (including Zeren Land Services) of any kind or character (regardless of whether the fault or negligence is sole, joint, concurrent, simple or gross). **Client's use of this listing evidences Client's acceptance of, and agreement with, this limitation on liability and the indemnification.**

ZEREN LAND SERVICES

Date: January 6, 2020

By: _____
Cynthia A. E. Zeren, as President

Exhibit A

Township 2 North, Range 66 West, 6th P.M.

Section 33: Commencing at the West 1/4 Corner of said Section 33 whence the Southwest Corner of said Section 33 bears South 00°09'06" East a distance of 2642.24 feet; thence South 00°09'06" East along the Westerly line of the Southwest 1/4 of said Section 33, a distance of 30.00 feet to a point on the Southerly right of way line of a county road as described in Book 76 at Page 126 in the office of the Weld County Clerk and Recorder; thence North 89°58'58" East along said Southerly right of way line a distance of 2645.56 feet to a point on the Easterly line of said Southwest 1/4 of said Section 33; thence North 00°07'27" West along the Easterly line of the Southwest 1/4 of Section 33, a distance of 30.00 feet to the center 1/4 Corner of said Section 33; thence North 00°07'27" West along the Westerly line of the Northeast 1/4 of said Section 33, a distance of 1842.72 feet to the center line of Fulton Ditch; thence along the centerline of Fulton Ditch the following 27 courses:

Thence South 46°07'25" East, a distance of 161.55 feet; thence South 26º35'05" East a distance of 237.68 feet; thence South 17°04'05" East, a distance of 155.48 feet; thence South 56º15'25" East, a distance of 109.68 feet; thence South 74°00'007" East, a distance of 122.26 feet; thence South 45°23'07" East, a distance of 173.34 feet; thence South 15°59'13" East, a distance of 92.72 feet; thence South 09°12'24" West a distance of 208.15 feet; thence South 02°08'23" East, a distance of 360.18 feet; thence South 11°11'43" East, a distance of 382.01 feet; thence South 29°30'23" East, a distance of 84.81 feet; thence South 29°30'23" East, a distance of 525.26 feet; thence South 11°44'38" East, a distance of 367.91 feet; thence South 02°12'33" East, a distance of 191.5 feet; thence South 16°43'32" West, a distance of 177.03 feet; thence South 39°02'35" West, a distance of 270.24 feet; thence South 47°57'25" West, a distance of 237.78 feet; thence North 63°34'45" West, a distance of 205.14 feet; thence South 85°20'22" West, a distance of 82.20 feet; thence North 53°16'08" West, a distance of 266.98 feet; thence North 67°18'03" West, a distance of 102.80 feet; thence North 44°43'06" West, a distance of 119.52 feet; thence North 44°08'03" West, a distance of 187.15 feet; thence North 62°30'08" West, a distance of 185.25 feet; thence North 84°26'58" West, a distance of 426.35 feet; thence South 24°35'52" West, a distance of 259.75 feet; thence South 04°38'28" East, a distance of 31.90 feet to a point on the Southerly line of the North 1/2 of the Southwest 1/4 of said Section 33; thence South 89°55'18" West along said Southerly line of the North 1/2 of the Southwest 1/4 of Section 33, a distance of 1818.84 feet to a point on the Westerly line of the Southwest 1/4 of Section 33; thence North 00°09'06" West along said Westerly line of the Southwest 1/4 of Section 33 a distance of 1219.12 feet to the Point of Beginning.

EXCEPT that portion lying within County Road described in Book 76 at Page 126

Weld County Tax ID Number(s):
130933000043, 130933400002, 130933400003

The above-described lands lie within the E½ and N½SW¼ of said Section 33

ATWELL

CONSULTING. ENGINEERING. CONSTRUCTION.

January 10, 2020

VIA CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Anadarko E&P Company LP
c/o Anadarko Petroleum Corporation
Attn: Land Manager – Western Division
PO Box 9149
The Woodlands, TX 77387-9147

Re: Mineral Deed Notice – Weld County, Colorado

To Whom It May Concern,

This letter is being prepared on behalf of Sun Communities, who is the applicant for a sketch plat submittal for a parcel of land located in a the East half and the North half of the Southwest Quarter of Section 33, Township 2 North, Range 66 West, 6th P.M., Weld County, CO (see attached legal description). An application for a Sketch Plat entitled "Fulton Ranch" is currently being reviewed by the City of Fort Lupton for approval.

Through title research, your name was listed as apparent holders of mineral rights on the aforementioned Property. According to Colorado State Law, notice of public hearings related to this application must be provided to owners of minerals and oil and gas leases. You are hereby notified that two hearings have been set for the Fulton Ranch Sketch Plat on the following dates and times:

- **Planning Commission Hearing on Thursday, February 13, 2020 at 6:00 PM**
- **City Council Hearing on Tuesday March 3, 2020 at 7:00 PM**

Enclosed with this notice is a list of mineral owners and mineral lessees prepared by Zeren Land Services and a reduced copy of the sketch plat for your records. If you have any questions regarding this matter, please do not hesitate to contact me at 303-928-6733.

Sincerely,

Christine Sveum
Project Manager

Enclosures

ATWELL

CONSULTING. ENGINEERING. CONSTRUCTION.

January 10, 2020

VIA CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Kerr-McGee Oil & Gas Onshore LP
Attn: Land Manager/Wattenberg
1099 18th Street, Suite 1500
Denver, CO 80211

Re: Mineral Deed Notice – Weld County, Colorado

To Whom It May Concern,

This letter is being prepared on behalf of Sun Communities, who is the applicant for a sketch plat submittal for a parcel of land located in a the East half and the North half of the Southwest Quarter of Section 33, Township 2 North, Range 66 West, 6th P.M., Weld County, CO (see attached legal description). An application for a Sketch Plat entitled "Fulton Ranch" is currently being reviewed by the City of Fort Lupton for approval.

Through title research, your name was listed as apparent holders of mineral rights on the aforementioned Property. According to Colorado State Law, notice of public hearings related to this application must be provided to owners of minerals and oil and gas leases. You are hereby notified that two hearings have been set for the Fulton Ranch Sketch Plat on the following dates and times:

- **Planning Commission Hearing on Thursday, February 13, 2020 at 6:00 PM**
- **City Council Hearing on Tuesday March 3, 2020 at 7:00 PM**

Enclosed with this notice is a list of mineral owners and mineral lessees prepared by Zeren Land Services and a reduced copy of the sketch plat for your records. If you have any questions regarding this matter, please do not hesitate to contact me at 303-928-6733.

Sincerely,

Christine Sveum
Project Manager

Enclosures

ATWELL

CONSULTING. ENGINEERING. CONSTRUCTION.

January 10, 2020

VIA CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Anadarko Land Corporation
c/o Anadarko Petroleum Corporation
Attn: Manager Property & Rights of Way
PO Box 9149
The Woodlands, TX 77387-9147

Re: Mineral Deed Notice – Weld County, Colorado

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January 10, 2020

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KPK Kauffman Company, Inc.
1675 Broadway, Suite 2800
Denver, CO 80202

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Project Manager

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Anadarko Land Corporation
c/o Anadarko Petroleum Corp.
Attn: Manager Property & ROW
PO Box 9149
The Woodlands, TX 77387-9147

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Postage	$1.15	
$		01/10/2020
Total Postage and Fees		

Anadarko E&P Company LP
c/o Anadarko Petroleum Corp.
Attn: Land Manager
PO Box 9149
The Woodlands, TX 77387-9147

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Total Postage and Fees		

KPK Kauffman Company, Inc.
1675 Broadway, Suite 2800
Denver, CO 80202

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☐ Adult Signature Required	$ $0.00	
☐ Adult Signature Restricted Delivery	$	
Postage	$1.15	
$		01/10/2020
Total Postage and Fees		

Kerr-McGee Oil & Gas Onshore LP
Attn: Land Manager/Wattenberg
1099 18th Street, Suite 1500
Denver, CO ~~80211~~ 80202

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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