

AGENDA

Planning and Zoning Commission

April 15, 2020 – REGULAR MEETING

5:30 PM

The New Business items have been placed on the agenda in the order they were received. Please note that at 9:00 p.m., the Commission will evaluate the remainder of the agenda to determine if time constraints will permit the full agenda to be heard at this meeting. All items not heard at this meeting will be postponed to the next regularly scheduled PC/BOA meeting of May 6, 2020 or to a special meeting scheduled by the Commission.

NOTICE: THE VIDEO AND AUDIO FOR THIS MEETING ARE STREAMED TO THE PUBLIC VIA THE INTERNET AND MOBILE DEVICES WITH VIEWS THAT ENCOMPASS ALL AREAS, PARTICIPANTS AND AUDIENCE MEMBERS

PLEASE SILENCE ALL ELECTRONIC DEVICES DURING THE MEETING

1. NEW PUBLIC COMMENT OPTIONS

I Please read the attached document regarding how to give public comment.

WebEx link:

<https://townofjacksonwy.webex.com/townofjacksonwy/onstage/g.php?MTID=ea49ae3daaa40177d13e8bd83f2f69>

Meeting password: toj

Meeting number: 961 164 661

2. CALL TO ORDER

3. ROLL CALL

4. MATTERS FROM THE PUBLIC

5. APPROVAL OF MINUTES

I. April 1, 2020

6. OLD BUSINESS

7. NEW BUSINESS

8. BOARD OF ADJUSTMENT

9. PLANNING COMMISSION

I. **ITEM P19-242:** REQUEST FOR APPROVAL OF A CONDITIONAL USE PERMIT TO OPERATE A GONDOLA FACILITY IN PHIL BAUX PARK FOR SNOW KING RESORT.

- II. **ITEM P20-035 & P20-036:** DEVELOPMENT PLAN AND HILLSIDE CONDITIONAL USE PERMIT FOR A L
DIVISION AT 808 UPPER REDMOND ROAD IN THE NEIGHBORHOOD LOW DENSITY – 1 (NL-1) ZONE.
- III. **ITEMS P20-009 & P20-010:** DEVELOPMENT PLAN & HILLSIDE CONDITIONAL USE PERMIT (CUP) FOR
FUTURE 5-LOT SUBDIVISION AT 984 BUDGE DRIVE.

10. MATTERS FROM THE COMMISSION

11. AGENDA FOLLOWUP

12. MATTERS FROM STAFF

13. ADJOURNMENT

Due to recommended social distancing practices the public is encouraged to view meetings online and participate remotely. Planning Commissioners, presenters, and staff members may not be physically present at the meeting and may all be participating remotely.

Your options for watching or participating in public meetings:

To just watch a meeting live: www.jacksonwy.gov/live (town's website)

3 Ways to Make Public Comment, either on items that are on the agenda or not on the agenda

1. Public comment can be sent anytime via email to planningcommission@jacksonwy.gov. These emails get sent to each Planning Commissioner and are placed in the public record.
2. Public comment can be made virtually through a Webex platform in real-time.
 - a. In brief, those wishing to make verbal public comment may do so by joining the meeting via Webex and using the 'hand raise' feature.
 - b. Instructions are below for using the Webex platform.
3. Public comment can be made in-person at the Town Hall.
 - a. Planning Commissioners may participate remotely, so don't expect an in-person audience.
 - b. You will be speaking into a microphone without the Planning Commissioners present (please consider using Webex).
 - c. Due to the Public Health Order prohibiting gatherings of 10 or more people, and for the public's safety, the Town will be managing the social distance of public in attendance.
 - d. If a large number of community members come to a council meeting, you may be asked to wait outside or in your car until the item you are interested in begins.
 - i. Additional measures may be taken to ensure distancing.

Instructions to join a meeting via Webex:

This option is intended for those who wish to participate in a meeting as the applicant or a member of the community making public comment.

1. Pull-up the meeting agenda. The Webex link is provided on the agenda and is shown as the first item.
 2. Click the link or copy the URL to your browser. The Webex password is “toj”
 - a. Remember, Webex links will change for each meeting and will be found on the agenda.
 - i. Find meeting agendas here: <http://townofjackson.com/491/Agendas-Minutes>
 3. Type in your first and last name and your email address as prompted. The password is “toj”
 - a. Those who do not provide a valid name will not be recognized and will not have the ability to speak in the meeting.
 4. Once you have joined the meeting, familiarize yourself Webex’s tools and options.
 - a. Of particular importance is the “raise hand” feature. Please locate this tool if you desire to make public comment. This is the only way we will know you want to make a comment.
 - b. As you join the meeting, your audio will automatically be muted.
 5. When public comment is open. Town staff will look for those that have “raised their hand.” Your name will be announced, and your microphone will be unmuted. At that time, you can state your name and comment.
 - a. You will be heard by all those participating in or watching the meeting. Your video will not be projected, only audio.
 - b. Please be in a place with no background noise and speak in a clear, strong voice.
- Those using only the telephone call-in feature through Webex telephone will not be recognized.
 - The Webex chat feature will not be used.
 - We encourage you to log in early for any given meeting. Generally, the Town of Jackson strives to have the Webex platform ready at least 10 minutes before a listed meeting’s start time.
 - If you’ve not used Webex before, you may be required to download Webex’s tools and/or software and apps. The Webex platform, its tools, and apps are provided by Webex directly. As these services are from a third party, we aren’t able to provide support directly to end users. If you should have trouble with the platform, please reference Webex’s help resources at <https://help.Webex.com/en-us/>

Please understand for these virtual Planning Commission meetings, just like any public meeting, uncivil discourse, threatening language, or disruptions will not be allowed from participants.

**MINUTES
SPECIAL MEETING
PLANNING AND ZONING COMMISSION
TOWN OF JACKSON, WYOMING
APRIL 1, 2020**

The meeting of the Planning and Zoning Commission was called to order at 5:30 p.m. on 4/1/20, in the Town Hall Council Chambers.

ROLL CALL:

☒ Anne Schuler, ☒ David Vandenberg, ☒ Katie Wilson, ☒ Abby Petri,
☐ William Gale, ☒ Thomas Smit

STAFF:

MATTERS FROM THE PUBLIC:

APPROVAL OF MINUTES:

January 15, 2020

A motion was made by: Anne Schuler seconded by: Katie Wilson
Motion approved by a 5 to 0 vote

February 5, 2020

A motion was made by: Anne Schuler seconded by: Katie Wilson
Motion approved by a 5 to 0 vote

February 19, 2020

A motion was made by: Anne Schuler seconded by: Katie Wilson
Motion approved by a 5 to 0 vote

March 4, 2020

A motion was made by: Anne Schuler seconded by: Katie Wilson
Motion approved by a 5 to 0 vote

March 23, 2020

A motion was made by: Anne Schuler seconded by: Katie Wilson
Motion approved by a 5 to 0 vote

OLD BUSINESS:

PLANNING COMMISSION

1. **ITEMS P20-009 & P20-010:** DEVELOPMENT PLAN & HILLSIDE CONDITIONAL USE PERMIT (CUP) FOR A FUTURE 5-LOT SUBDIVISION AT 984 BUDGE DRIVE.

STAFF PRESENTATION: Tyler Valentine

APPLICANT PRESENTATION:

PUBLIC COMMENT:

PC DISCUSSION:

MOTION:

I move to **continue** these items to the Planning Commission meeting scheduled for April 15, 2020.

A motion was made by: Anne Schuler seconded by: Katie Wilson

Motion approved by a 5 to 0 vote

2. **ITEM P20-025:** DEVELOPMENT PLAN TO DEVELOP AN 8-UNIT APARTMENT BUILDING AT 445 VINE STREET

STAFF PRESENTATION: Brendan Conboy

APPLICANT PRESENTATION: Ken Rizzoti

PUBLIC COMMENT: N/A

PC DISCUSSION:

- Should there be a reduction in parking? No because this project is following all the rules. Also, parking per unit is very important.
- Could the town improve the ally now that there will be increased density?
- Where is the bike rack?
- Where will dogs go?
- Is snow shedding off the roof onto the parking a possible problem? No

MOTION:

Based upon the findings as presented in the staff report and made by the applicant for a Development Plan (Item P20-025), I move to make findings 1-6 in Section 8.3.2.C of the Land Development Regulations related to 1) Consistency with the Comprehensive Plan; 2) Achieves purpose of NRO & SRO overlays; 3) Impact of public facilities & services; 4) Complies with Town Design Guidelines; 5) Compliance with relevant LDRs & Town Ordinances; 6) Conformance with past permits & approvals, and to recommend approval to the Town Council of a Development Plan for an 8-unit residential building for the property located at 445 Vine Street, legally known as LOT 1, BLK. 3, MEADOWLAND, subject to the departmental reviews as provided in the staff report dated March 13, 2020, and the following condition of approval:

1. The applicant shall provide a bond in the amount to be determined by the town engineer for the cost of sidewalk improvements on the property. held for a time not to exceed 5 years.

A motion was made by: Katie Wilson seconded by: Ann Schuler
Motion approved by a 5 to 0 vote

NEW BUSINESS: N/A

MATTERS FROM COMMISSION: N/A

AGENDA FOLLOWUP: N/A

MATTERS FROM STAFF: The planning department is following council orders that business should continue as normal as possible.

ADJOURN: 6:20pm

A motion was made by: Anne Schuler seconded by: Abby Petri
Motion approved by a _5_ to _0_ vote



TOWN OF JACKSON PLANNING COMMISSION AGENDA DOCUMENTATION

PREPARATION DATE: APRIL 10, 2020
MEETING DATE: APRIL 15, 2020

SUBMITTING DEPARTMENT: PLANNING
DEPARTMENT DIRECTOR: PAUL ANTHONY
PRESENTER: TYLER SINCLAIR

SUBJECT: **ITEM P19-242:** REQUEST FOR APPROVAL OF A CONDITIONAL USE PERMIT TO OPERATE A GONDOLA FACILITY IN PHIL BAUX PARK FOR SNOW KING RESORT.

APPLICANT/OWNER: MR. RYAN STANLEY / SNOW KING MOUNTAIN RESORT

REQUESTED ACTION

The applicant is requesting approval of a Conditional Use Permit to locate and operate a gondola facility at the base of Snow King Resort in Phil Baux Park at 100 E. Snow King Ave.

Staff is requesting that these items be continued to the next regularly scheduled Planning Commission meeting on May 6, 2020.

SUGGESTED MOTION

I move to **continue** the items to the next scheduled Planning Commission meeting on May 6, 2020.



SUBJECT: **ITEM P20-035 & P20-036:** DEVELOPMENT PLAN AND HILLSIDE
CONDITIONAL USE PERMIT FOR A LAND DIVISION AT 808 UPPER REDMOND
ROAD IN THE NEIGHBORHOOD LOW DENSITY – 1 (NL-1) ZONE.

APPLICANT: Y2 CONSULTANTS, MARK FELLERMAN

OWNER: THOMPSON FAMILY TRUST

I move to **continue** the items to the next scheduled Planning Commission meeting on May 6, 2020.



TOWN OF JACKSON PLANNING COMMISSION AGENDA DOCUMENTATION

PREPARATION DATE: APRIL 10, 2020
MEETING DATE: APRIL 15, 2020

SUBMITTING DEPARTMENT: PLANNING
DEPARTMENT DIRECTOR: PAUL ANTHONY
PRESENTER: TYLER VALENTINE

SUBJECT: **ITEMS P20-009 & P20-010:** DEVELOPMENT PLAN & HILLSIDE CONDITIONAL USE PERMIT (CUP) FOR A FUTURE 5-LOT SUBDIVISION AT 984 BUDGE DRIVE.

APPLICANT: JORGENSEN ASSOCIATES – BRENDAN SCHULTE

OWNER: BLUFFS DEVELOPMENT GROUP, LLC

REQUESTED ACTION

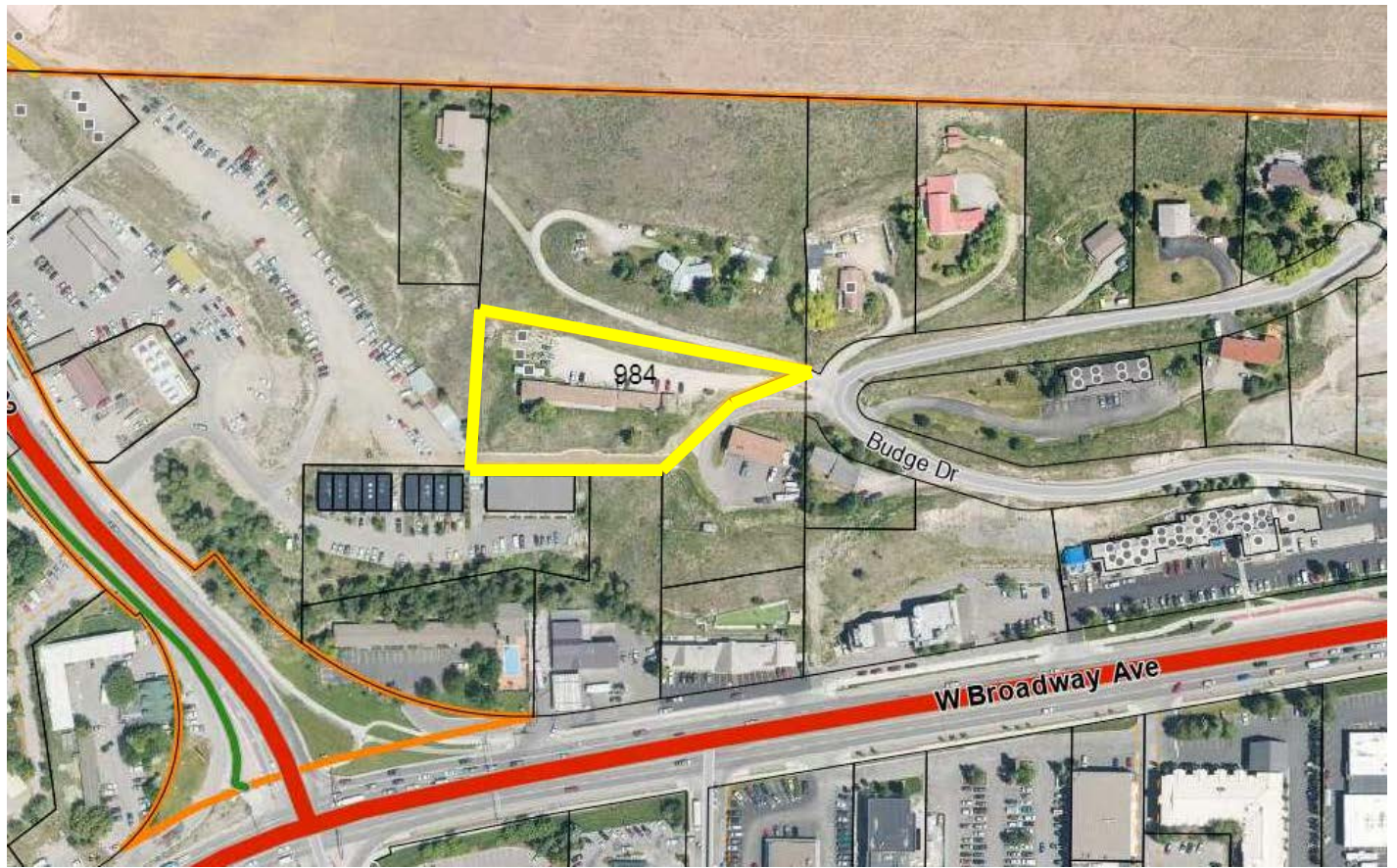
The applicant is requesting approval of a Development Plan and Hillside Conditional Use Permit (CUP) for a future 5-lot subdivision of a 1.47 acre lot at 984 Budge Drive located in the Neighborhood Low Density – 5 (NL-5) zoning district. These applications are required prior to submitting a subdivision plat.

APPLICABLE REGULATIONS

Section 8.3.1 Development Plan
Section 8.4.2 Conditional Use Permit
Section 5.4.1 Steep Slopes

LOCATION

The property is located at 984 Budge Drive, legally described as Lot 1 of the Crystal Valley Addition to the Town of Jackson. An aerial photo and zoning map are shown below:



BACKGROUND

The subject property is an irregularly shaped 1.47 acre (64,033 sf) lot within the NL-5 zoning district. The surrounding zoning to the north is Neighborhood Low Density – 3 (NL-3), to the east is NL-5 and to the west and south is Commercial Residential – 3 (CR-3). Vehicular access to the site is taken off Budge Drive via a recorded access easement over the adjacent lot to the east addressed as 982 Budge Drive. Historically the site consisted of 15 units within 5 structures: 3 mobile homes, one larger apartment building of 11 substandard units, and a small cabin. However, 2 of the mobile homes have recently been removed.

PROJECT DESCRIPTION

This Development Plan and Hillside CUP is being submitted for review prior to a Subdivision Plat request to subdivide the existing 1.47 acre property into 5 lots. No physical development is proposed at this time but all future development will be subject to the NL-5 zoning that allows up to three units per lot. Lot sizes will range from 10,827 sf to 15,800 sf which exceed the 7,500 sf minimum lot size for the NL-5 zoning district. Vehicular access will remain in the existing location and run along the northern portion of the property. The applicant is proposing a 30-foot wide access easement which includes a 20-foot wide private road, utilities, and snow storage. The western-most lots (Lots 4 & 5) will share 6 parking spaces located in the road easement on Lot 4 that will serve future development of these lots. No sidewalks are proposed at this time. When developed each new lot would allow between 3,200 - 4,700 sf of above ground habitable and a maximum of 3 dwelling units per lot. The applicant has stated, however, that they do not anticipate developing at maximum density and instead plan to build a maximum of 6 units total for the entire 5-lot subdivision. Per the requirements of a Hillside CUP (Section 5.4.1 and 8.4.2), the applicant has provided the required findings for a CUP and has provided a preliminary & final slope stability analysis, geotechnical report, visual analysis, wildlife statement, and preliminary utility plan.

The applicant is also requesting that the 1-year expiration date for the CUP be extended to 18 months in order to line-up with the 18-month expiration date for Development Plan.

STAFF ANALYSIS

Development Plan

Staff has reviewed the proposed development for compliance with the dimensional limitations of the NL-5 zone. The dimensional limitations for each lot are listed below:

	Allowed / Required	Proposed	Complies?
Minimum Lot Size	7,500 sf	10,800 sf – 15,800 sf	Yes
Maximum FAR	1 unit - 0.30 2 units - 0.35 3 units - 0.40	None at this time	Yes
Minimum LSR	1 unit - 0.45 2 units - 0.35 3 units - 0.30	None at this time	Yes
Secondary Street Setback (measured from road)	10 feet	10 feet	Yes
Rear Setback (south)	10 feet	25 feet	Yes
Side Setback (east)	10 feet	10 feet	Yes
Side Setback (west)	10 feet	10 feet	Yes
Stories	2	None at this time	Yes

Building Height	26 – 30 feet	None at this time*	Yes
Density	Max of 3 units max per lot	None at this time	Yes
Vehicular Access	Private Road – 30 foot easement w/ 20 foot wide road	Private Road – 30 foot easement w/ 20 foot wide road	Yes
Fire Turnaround	Required unless each building is fire sprinklered	Fire sprinkler all buildings	Yes
Building Envelop	n/a	3,500 sf – 4,500 sf	Yes

*Any future house that skylines will be limited to 20 feet in height per Section 5.3.2.H.

After reviewing the request, staff was able to make the required findings for a Development Plan and find the request to be consistent with the desired future character for this area as described in the Comprehensive Plan. The NL-5 zone allows for land division and all proposed lots comply with the 7,500 sf minimum lot size. In addition, the location of access and building envelopes are laid out so that the majority of future site disturbance stays within already disturbed areas. Furthermore, the proposed lots are all generally smaller than the lots in the immediate vicinity which will limit the size, bulk and scale of future buildings.

Density & Building Envelopes

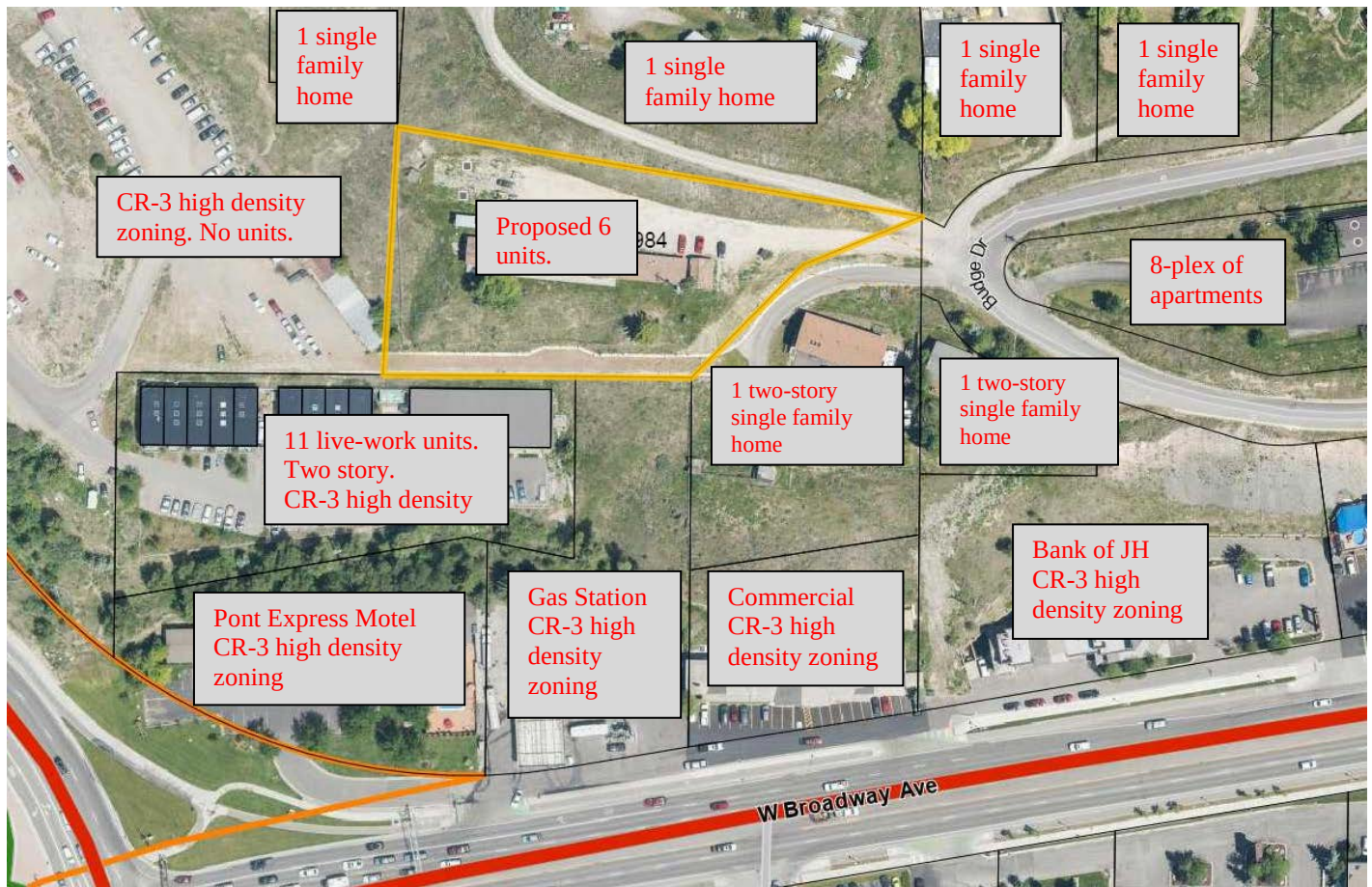
Regarding density, the applicant stated that they intend to build a total of 6 units for the entire 5-lot subdivision even though the NL-5 zoning allows a maximum of 3 units per lot. Even if the applicant sought 3 units per lot, the resulting density would still not exceed the existing density of 15 units. Staff would like to point out that maximum densities are not guaranteed and are typically driven by parking requirements. In this particular case of creating 5 new lots, it is unlikely that 3 units per lot could be parked without significantly reducing the allowed habitable square footage. In addition, the applicant is aware that the existing areas of the site that have slopes over 25% cannot be developed unless a variance is granted or if these slopes are determined to be man-made. As a result of the slopes over 25%, the actual buildable area on each lot is much smaller than the building envelope range shown above at 3,500 – 4,500 sf. In reality, the buildable envelopes range from 2,475 – 3,147 sf. These limitations on development ultimately reduce space for maximizing the density on each lot, but do not impact each lot's ability to be reasonably developed.

Private Road Standards

Regarding road standards, this subdivision is similar to the recently approved 115 Nelson Drive 7-lot subdivision that also includes a 20-foot wide private road allowing enough space for two-way traffic but not for street parking. Currently the Town does not have guest parking requirements and on-street parking on Budge Drive is non-existent. However the proposal shows 6 parking spaces within the road easement on Lot 4, some of which could potentially serve as guest parking depending on whether on-site parking is provided on these two lots. Staff encourages the applicant to consider the use of some of these 6 parking spaces as guest parking and provide ample parking on each lot as they individually develop. Also similar to the 115 Nelson Drive subdivision, no sidewalks are proposed or required. Snow plowing and ownership of utilities (i.e. water, sewer, etc.) will be the responsibility of the private homeowners. The proposed private road does not have a cul-de-sac or turnaround for the Fire Department. The reason for this is the owner plans to provide fire sprinklers in all habitable structures and the Fire Department supports this proposal as noted in the department reviews. To ensure that all habitable structures are sprinklered, staff has added a condition of approval that the applicant provide a note on the plat requiring that all habitable structures be fire sprinklered as long as the private road remains without a compliant fire turnaround.

Density Comparison

Finally, staff provided the following comparison of the proposed subdivision to existing development and the surrounding development/zoning:



Park & School Exactions

The applicant has submitted preliminary worksheets for Park and School Exaction fees. However Park and School Exactions fees are not paid until the time of plat recordation in association with a Subdivision Plat. Housing mitigation fees will be paid at time of construction and will be based on development of individual lots.

2 Year Expiration Date

With regard to the request to extend the 1-year expiration date of the CUP to 18 months to line up with the Development Plan, staff has no concerns. A condition of approval has been added related to CUP and Development Plan deadlines.

Hillside Conditional Use Permit (CUP)

Hillside CUP: Under Sec. 5.4.1.D Standards for Hillside Areas, any lot of record with an average cross-slope of 10% or more requires a Hillside CUP to allow any terrain disturbance, even if the proposed development would not disturb any slope of greater than 10%. The applicant's site requires a Hillside CUP for development. It is important to note that this CUP is a use permit and does not review or approve physical development. This CUP seeks to mitigate visual impacts, minimize impacts to slope stability, and minimize impacts to wildlife and natural resources.

The following standards and criteria are required to be met for approval of Hillside CUP:

1. *The amount of terrain disturbance related to the otherwise allowable or conditioned uses for the property and the proposed mitigation efforts;*

The majority of future terrain disturbance will be within already disturbed areas which are relatively flat. As shown on the proposed site plan, the location of the road will be in the same location as the existing road and future buildings will generally be located where existing buildings are located. Staff finds that the amount of proposed land disturbance is minimal and slope stability risk levels are low provided that the recommendations in the slope stability analysis and site specific geotechnical report are considered regarding excavation, foundations, proper construction, etc. The conclusion of the slope stability analysis states that the factors of safety with regard to slope stability exceed those generally accepted as indicating stable conditions. The Town Engineer generally agrees with the findings in the report, however the slope analysis has been sent out for 3rd party review which is expected to be completed in the coming weeks. A condition of approval has been added requiring that the 3rd party review be completed prior to Town Council review.

2. *Retention or replacement of native, existing vegetation consistent with any proposed lawful use of the property;*

Because the future road and buildings will mostly be located with already disturbed areas, there will be minimal disturbance to native vegetation. Given these conditions, the amount of vegetation proposed to be impacted will be consistent with any proposed lawful use of the property as conditioned by staff.

3. *Mitigation measures for mitigating impacts on wildlife or crucial winter range; and*

The applicant has provided a wildlife use and habitat inventory report from Alder Environmental that analyses the potential impacts to wildlife from the proposed project. General wildlife use of the site is considered moderate, whereas mule deer specifically use the site extensively during the winter months as crucial winter range and as a movement corridor on the East Gros Ventre Butte. The existing vegetation (mesic shrub – sparse sagebrush) within the undisturbed areas has a low to moderate quality for wildlife habitat. Although this site is frequently used by mule deer during winter months, the report concludes that minimizing impacts to wildlife can be achieved by following a series of recommendations related to limits on future site disturbance, avoiding tall fencing and retaining walls over 4 feet, and spacing buildings at least 15 feet apart. In addition, the report states that because individual lots will be created, future development will be broken up which will be an improvement for mule deer movement through the site compared to existing conditions. As conditioned, staff finds that the project is consistent with this Hillside CUP standard. A condition of approval requiring compliance with the 4 recommendations in the Alder report has been added.

4. *Mitigation measures for avoiding or minimizing visual impacts, subsurface, and any other natural hazards associated with hillside development.*

Visual analysis: The applicant has provided a visual analysis of a future development scenario. The proposed buildings will generally be located in the same location as the existing development. In most hillside developments, it is recommended that buildings be pushed up against, or even into the hillside to reduce visual impacts and stabilize the slopes. With this proposal, the building envelopes are not shifted north up against the hillside because the applicant desires to keep the road in its current location to maximize building envelope size and to maintain the current straight driveway into the site versus a curved roadway along the south. Based on the location of the building envelopes, the visual analysis demonstrated that future development on several lots will skyline for a short segment along Highway 89 and Highway 22. As stated in more detail below under CUP Finding #3, each lot will be required to provide a skyline analysis and comply with the standards in Section 5.3.2.H at the time of building permit submittal. Skyline Standards have a 20-foot height limit for structures that skyline. A condition of approval has been added stating that future development must comply with Section

5.3.2.H. These standards are not intended to prohibit subdivision or development, but rather mitigate developments that penetrate the skyline through height restrictions, design, vegetative screening, exterior materials/colors, etc.

Geotechnical study: The applicant has also provided a preliminary and final slope stability analysis of the proposed site along with a site-specific geotechnical report. The study's conclusion is that the slopes are generally stable and that there are no apparent 'red flags' or obviously high risks to developing the site. The report also provides recommendations for excavation, cut/fill, foundations, etc., and staff has added a condition of approval requiring that all concerns be addressed and all recommendations be considered at the time of building permit and construction.

The Town Engineer has reviewed the applicant's slope stability analysis' and geotechnical report and concurs with the general recommendations within the report. The Town Engineer has sent the slope stability analysis to a 3rd party review because the subdivision is near the West Broadway landslide. Staff has added a formal condition of approval addressing this matter.

As conditioned, staff finds that the project is consistent with this Hillside CUP standards for visual and geotechnical impacts for Development Plan.

PUBLIC COMMENT

Staff has received public comment from Tim Bohan who lives at 990 Budge Drive. Mr. Bohan expressed concerns over the increased traffic that may result from the subdivision.

STAFF FINDINGS

Item A: Development Plan. Development Plan proposals may be approved only if all of the following findings are made:

1. *The proposed project is consistent with the desired future character described for the site in the Jackson/Teton County Comprehensive Plan.*

Complies. The proposed application is located in Character District #4 Midtown, specifically Sub-area 4.2 Northern Hillside of the 2012 Comprehensive Plan. In order to review the application for conformance with the Comprehensive Plan, staff has reviewed the Policy Objectives for District 4 as follows:

Common Value 1: Ecosystem Stewardship

Policy 1.1.c: Design for wildlife permeability

Complies. As conditioned, staff finds that the proposed project will allow a development that will be designed for wildlife permeability based on the habitat review conducted by Alder Environmental. The research and analysis concluded that the proposed 5-lot split is not anticipated to have significant adverse impacts on the ability of deer to move through the site, but in fact will allow better wildlife movement than the existing buildings by breaking up the buildings. Staff has added a condition consistent with the recommendations in the habitat review to ensure that mule deer movement is not negatively impacted.

Common Value 2: Growth Management

Policy 4.1.b: Emphasize a variety of housing types, including deed-restricted housing

Complies. The current NL-5 zoning allows for a variety of housing types including single-family homes, apartments and accessory residential units. Staff finds that the proposal to create 5 lots will encourage a variety of residential uses.

Policy 4.1.d: Maintain Jackson as the economic center of the region

Not applicable.

Policy 4.2.c: Create vibrant walkable mixed use subareas

Not applicable.

Policy 4.3.a: Preserve and enhance stable areas

Not applicable.

Policy 4.3.b: Create and develop transitional areas

Complies. As conditioned, staff finds that the proposed 5-lot split will encourage a development that will revitalize a site with aging and dilapidated buildings. The proposed project is located within a transitional area and staff finds the development to be consistent with the desired future vision described for Subarea 4.2 which encourages a variety of housing types including single-family homes.

Policy 4.4.b: Enhance Jackson gateways

Not applicable.

Policy 4.4.d: Enhance natural features in the built environment

Complies. Staff finds that the proposed development plan will encourage a development that will enhance natural features in the built environment. Specifically staff is able to make the necessary finding required for a Hillside CUP which is designed to protect our steep slopes from the impacts of development.

Common Value 3: Quality of Life

Policy 5.2.d: Encourage deed-restricted rental units

Complies. A housing mitigation plan will be required at the time of building permit submittal for all future development.

Policy 5.3.b: Preserve existing workforce housing stock

Complies. Staff acknowledges that 15 existing units will be removed which serve a lower household income category and the future six replacement units will not serve this same demographic. However the existing combination of mobile homes, cabin, and motel converted to apartments fall far below acceptable living standards. These existing units are severely deteriorated and have outlived their reasonable lifespan. Two of the mobile homes have already been removed due to their poor

conditions. Based on these poor living conditions, staffs prioritizes the removal of un-safe dwellings units over their preservation.

Policy 6.2.b: Support businesses located in the community because of our lifestyle

Not applicable.

Policy 6.2.c: Encourage local entrepreneurial opportunities

Not applicable.

Policy 7.1.c: Increase the capacity for use of alternative transportation modes

Not applicable.

Policy 7.2.d: Complete key Transportation Network Projects to improve connectivity

Not applicable.

Policy 7.3.b: Reduce wildlife and natural and scenic resource impacts

Complies. According to the habitat review conducted by Alder Environmental, impacts to mule deer can be minimized by minimizing development mostly to already disturbed areas, maintaining movement corridors between structures, and avoiding the use of fencing, and avoiding the use of retaining walls over 4 feet. Staff has added a condition of approval requiring that all future development abide by the recommendations in the Alder report. No significant impacts to other natural resources, such as wetlands, watercourses, are anticipated either. Furthermore, based on the submitted visual analysis, it appears that future development will skyline for a short section of Highway 89 and Highway 22. Because no physical development is proposed with this request, staff has added a condition of approval requiring a skyline analysis for all future lots that meets the standards of Section 5.3.2.H Skyline Standards. Staff finds the proposed project is consistent with this policy.

In addition, staff finds that the application should be reviewed for consistency specifically with subarea 4.2 Northern Hillside which states as follows as the desired vision for the subarea:

This TRANSITIONAL Subarea must strike a delicate balance between allowing some mixed use and residential development while maintaining wildlife permeability and the natural form of the undeveloped hillsides. A key to successful future development will be to sensitively place development in harmony with the existing terrain in order to minimize land disturbance. Development intensity in this area should be less than that found within the adjacent Midtown Highway Corridor (Subarea 4.1). Structures will be allowed up to two stories and may be configured in a variety of layouts with attached and detached units blending into the natural surroundings. Smaller building footprints will be encouraged in order to provide adequate open and/or landscaped areas. A variety of residential types, including live/work, multifamily, and duplexes, may be appropriate in this area depending on the specific characteristics of a site and its existing topography. Low density single family housing may continue to be appropriate at the edges of this area, particularly when adjacent to existing undisturbed hillsides. Future development should address wildlife permeability and assist in guiding wildlife movement to future roadway crossings.

Complies. As conditioned, staff finds that the proposed project is consistent with the desired vision for this transitional subarea. Based on the wildlife and site analysis done by Alder Environmental, the proposed subdivision will better serve wildlife movement by breaking up structures on individual lots which will allow more options for wildlife movement between structures than the existing buildings. The report does provide recommendations for future site disturbance to stay within already disturbed areas and avoiding certain types/heights of fencing and retaining walls. Staff has conditioned this approval to ensure future development meets the recommendations of the Alder report. In addition to wildlife permeability, the future development of each lot will allow 2-story structures located on building envelopes that are limited due to surrounding steep slopes which will keep development out of undisturbed hillsides which is consistent with the above vision that seeks to limit development on undisturbed hillsides. Furthermore, the underlining zoning and limited building areas will allow a low-density development which is desired for properties along the edges of this area.

2. *The proposed project achieves the standards and objective of the Natural Resource Overlay (NRO) and Scenic Resources Overlay (SRO).*

Complies. As conditioned, staff finds that even though the project is not within the SRO, future development of each lot will be required to meet the skyline standards in Section 5.3.2.H. In addition, although not located within the NRO, the wildlife and site analysis conducted by Alder Environmental provides development recommendations that will encourage improved wildlife permeability and protect existing undisturbed areas.

3. *The proposed project does not have a have a significant impact on public facilities and services, including transportation, portable water and wastewater facilities, parks, schools, police, fire, and EMS facilities.*

Complies. As conditioned, staff finds that the proposed 5-lot split is not anticipated to have adverse impacts on public facilities including Police, Fire and EMT. Future buildings will be fire sprinklered which is preferred by the Fire Department as being the most effective first response to a fire. The applicant is also coordinating with the Town Engineer to properly address stormwater runoff and to identify the necessary water and sewer service improvements to ensure available capacity to serve the development.

4. *The proposed project complies with the Town of Jackson Design Guidelines, if applicable.*

Not applicable.

5. *The proposed project complies with all relevant standards of these LDRs and other Town Ordinances*

Complies. As conditioned, staff finds that the proposed project complies with the standards of these LDRs with regard to minimum lot size, access, utilities, etc. All future development will be required to comply with the physical development standards in the NL-5 zone such as building height, FAR, LSR, etc. In addition the project is in compliance with all other Town Ordinances.

6. *The proposed project is in substantial conformance with all standards or conditions of any prior applicable permits or approvals.*

Not applicable.

Item B: Pursuant to Section 5.4.1.D.5 Findings for Hillside Areas of the Land Development Regulations, the following finding shall be made for the approval of a Conditional Use Permit.

1. **Findings.** *The following finding shall be made before granting a Conditional Use Permit for hillside areas: that the mitigation measures identified will be effective in mitigating any adverse impacts identified, and associated with the proposed physical development, uses, development option, or subdivision.*

Complies. Staff finds that, as conditioned, the proposed mitigation measures will be effective in mitigating any adverse impacts identified with the proposed physical development and use. The final slope stability report and site-specific geotechnical report provided by Jorgensen Associates found that the site did not present significant slope stability concerns. Town Engineering has reviewed the applicant's reconnaissance level reports and generally agrees with its findings and recommendations. However, the Town Engineer has sent the slope stability analysis to be reviewed by a 3rd party because the Town does not have an in-house geotechnical engineer. Staff has added a formal condition of approval requiring that the 3rd party review be completed prior to Town Council review.

In addition, Pursuant to Section 8.4.2.C (Conditional Use Permit Standards) of the Land Development Regulations, a Hillside CUP requires that the following regular CUP findings shall be made for the approval of a Hillside CUP.

1. *The proposed project is compatible with the desired future character of the area.*

Complies. Staff finds the proposed project is compatible with the desired future character of the area as stated above in **Item A**, finding #1.

2. *The proposed projects complies with the use specific standards of Division 6.1.*

Complies. Staff finds that this Hillside CUP will encourage a project that complies with the use specific standards of Division 6.1. The proposal is for single-family homes which is an allowed use in the NL-5 zone.

3. *The proposed project minimizes adverse visual impacts.*

Complies. Although this application does not include physical development, a visual analysis was provided which depicts a future development scenario. Based on the visual analysis, future development would skyline for a short stretch of road along Highway 89 (near Teton Motors) and a short stretch of road along Highway 22 (near Avis car rental). Staff considered requiring the applicant to conduct a full skyline analysis with this application, but because the physical development (i.e. building plans) of each lot is unknown, and because this application does not require review of physical development, staff found it more appropriate to apply the skyline standards at the time of building permit when final plans are prepared. This approach is consistent with the County Planning Department procedure that deals with skylining developments more often. They concurred that the skyline standards should be applied along with a physical development permit and not when reviewing land division.

The skyline standards are not intended to prohibit development, but are intended to mitigate developments that penetrate the skyline on buttes or hillsides as viewed from state highways and other local roads mentioned in Section 5.3.2.H. Although this site is not at the top of Gros Ventre Butte, it is located on the lower end of the butte and so the skyline standards still apply even though it occurs for such short period of time. As conditioned, staff finds that the proposed project will be required to minimize adverse visual impacts by complying with the skyline standards in Section 5.3.2.H. prior to

building permit approval. The skyline standards address several items such as building height, building design, roof pitch, exterior materials/colors, landscaping, etc.

Staff finds that the skyline standards in Section 5.3.2.H. will adequately address adverse visual impacts.

4. *The proposed project minimizes adverse environmental impacts.*

Complies. Based on the wildlife and habitat summary prepared by Alder Environmental, staff finds the proposed project has minimal adverse environmental impacts provided that future development follows the report's recommendations regarding minimizing site disturbance, providing corridors between structures, avoid fencing, and avoid tall retaining walls. Staff has added a condition of approval requiring that all future development abide by the recommendations in the findings and opinion section of the Alder Environmental report.

5. *The proposed project minimizes adverse impacts from nuisances.*

Complies. Compared to the existing residential use of the property, the future development of each lot is not anticipated to have any nuisances. In addition, noise and other impacts are anticipated to be far less than the adjacent commercial operations lower down the hill (gas station, motel, animal hospital, etc.).

6. *The proposed project minimizes adverse impacts on public facilities.*

Complies. As conditioned, staff finds that the proposed 5-lot split is not anticipated to have adverse impacts on public facilities including Police, Fire and EMT. Future buildings will be fire sprinklered which is preferred by the Fire Department as being the most effective first response to a fire. The applicant is also coordinating with the Town Engineer to properly address stormwater runoff and to identify the necessary water and sewer service improvements to ensure available capacity to serve the development.

7. *The proposed project complies with all other relevant standards of these LDRs and all other Town Ordinances.*

Complies. Staff finds that this Hillside CUP will encourage a project that will be required to comply with Town Ordinances and all relevant standards of these LDRs.

8. *The proposed project is in substantial conformance with all standards or conditions of any prior applicable permits or approvals.*

Not applicable.

[ATTACHMENTS](#)

Applicant Submittal

Department Reviews

Applicant Response to Department Reviews & Conditions of Approval

Public Comment

[RECOMMENDATIONS/ CONDITIONS OF APPROVAL](#)

Item A: The Planning Director recommends **approval** of a Development Plan for a 5-lot subdivision for the property located at 984 Budge Drive subject to the department reviews and the following conditions:

- 1) If a subdivision plat is not submitted within 18 months of Development Plan approval the Development Plan will expire.
- 2) At the time of Subdivision Plat, the applicant shall provide a note on the plat requiring that all habitable structures be fire sprinklered as long as the private road remains without a compliant fire turnaround
- 3) As part of the of building permit review process for any proposed structure on any one of the future lots, the applicant shall demonstrate compliance with the standards in Section 5.3.2.H. Skyline Standards.
- 4) At the time of building permit submittal the applicant shall demonstrate compliance with all 4 development recommendations set forth in the Alder report, dated April 6, 2020, which are as follows: (1) the majority of development shall be limited to already disturbed areas; (2) 15-ft wildlife movement corridors shall be maintained between structures; (3) fencing shall be prohibited on the property; and (4) other barriers such as retaining walls over 42” tall are prohibited between structures.

Item B: The Planning Director recommends **approval** of a Hillside Conditional Use Permit for a 5-lot subdivision for the property located at 984 Budge Drive subject to the department reviews and the following conditions:

- 1) Prior to Town Council review, the 3rd party review of the slope stability analysis shall be completed.
- 2) Prior to issuance of a Grading & Erosion Control Permit & Building Permit, the applicant shall adequately address all concerns and consider all recommendations in the final slope stability analysis and geotechnical report.
- 3) If a subdivision plat is not submitted within 18 months of CUP approval the CUP will expire.

SUGGESTED MOTIONS

Item A: Based upon the findings for a Development Plan as presented in the staff report related to 1) Consistency with the Comprehensive Plan; 2) Achieves purpose of NRO & SRO overlays; 3) Impact of public facilities & services; 4) Complies with the Town’s Design Guidelines; 5) Compliance with LDRs & Town Ordinances; 6) Conformance with past permits & approvals as presented by the applicant and staff for Item P20-009, I move to recommend **approval** to the Town Council of a Development Plan for a 5-lot subdivision at the property addressed at 984 Budge Drive, subject to the department reviews attached hereto and the following conditions:

1. If a subdivision plat is not submitted within 18 months of Development Plan approval the Development Plan will expire.
2. At the time of Subdivision Plat, the applicant shall provide a note on the plat requiring that all habitable structures be fire sprinklered as long as the private road remains without a compliant fire turnaround.
3. As part of the of building permit review process for any proposed structure on any one of the future lots, the applicant shall demonstrate compliance with the standards in Section 5.3.2.H. Skyline Standards.
4. At the time of building permit submittal the applicant shall demonstrate compliance with all 4 development recommendations set forth in the Alder report, dated April 6, 2020, which are as follows: (1) the majority of development shall be limited to already disturbed areas; (2) 15-ft wildlife movement corridors shall be maintained between structures; (3) fencing shall be prohibited on the property; and (4) other barriers such as retaining walls over 42” tall are prohibited between structures.

Item B: Based upon the findings for a Hillside Conditional Use Permit as presented in the staff report related to 1) Compatibility with Future Character; 2) Use Standards; 3) Visual Impacts; 4) Minimizes adverse environmental impact; 5) Minimizes adverse impacts from nuisances; 6) Impact on Public Facilities; 7) Other Relevant Standards/LDRs; and 8) Previous Approvals for a Conditional Use Permit and findings required by Sec. 5.4.1 Steep Slopes regarding hillside mitigation measures as presented by the applicant and staff for Item P20-010, I move to recommend **approval** to the Town Council of a Hillside Conditional Use Permit for a 5-lot subdivision for the property addressed at 984 Budge Drive, subject to the departmental reviews attached hereto and the following conditions:

- 1) Prior to Town Council review, the 3rd party review of the slope stability analysis shall be completed.
- 2) Prior to issuance of a Grading & Erosion Control Permit & Building Permit, the applicant shall adequately address all concerns and consider all recommendations in the final slope stability analysis and geotechnical report.
- 3) If a subdivision plat is not submitted within 18 months of CUP approval the CUP will expire.

**Development Plan
for
The Bluffs
984 Budge Drive
Lot 1, Crystal Valley Addition**

Applicant:

Bluffs Development Group, LLC
PO Box 551
Jackson, WY 83001

Town of Jackson

Submittal Date: January 16, 2020

Updated: February 6, 2020

Project No. 16092

Prepared by:



Jorgensen Associates, Inc.
Engineers, Land Surveyors, & Planners
1315 Highway 89 South, Suites 201 & 203 83001
P.O. Box 9550 - Jackson, WY 83002
307.733.5150

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SECTION 1 – PROJECT BACKGROUND AND OVERVIEW

A. PROJECT BACKGROUND

The Bluffs is a five-lot subdivision application located at 984 Budge Drive owned by Bluffs Development Corp, LLC, who has owned this parcel for two years. This development application outlines the division of Lot 1 of the Crystal Valley Addition (Plat 1051) into five single-family residential lots.

The buildable area of the site was originally home to three mobile homes, one large apartment building moved onsite from a former motel, and one smaller cabin. Two of the mobile homes have already been removed in preparation for construction staging. The remaining structures and all non-conformities will be removed when the Development Plan has been approved and before the Subdivision Plat is recorded.

B. OWNER & PROJECT TEAM INFORMATION

PROPERTY OWNERS & APPLICANTS:

Bluffs Development Group, LLC
PO Box 551
Jackson WY 83001
307-733-2880

ENGINEERING & LAND PLANNING

Jorgensen Associates, Inc.
1315 Highway 89 South, Suites 201 & 203; 83001
P.O. Box 9550 Jackson, Wyoming 83002
307-733-5150

ARCHITECTURE

Schopfer Associates
400 Commonwealth Avenue
Boston MA 02215

C. DEVELOPMENT PROPOSAL

The applicant proposes that this development plan be approved for the subdivision of the property into five (5) lots with a variable width easement that is 30 feet wide at its center. The five (5) lots are designed to accommodate self-contained and detached structures and are accessible via the easement. 1 single-family residence is currently proposed for each lot.

FINDINGS FOR APPROVAL

Division 8.3.2.C Development Plan Findings for approval:

1. *Is consistent with the desired future character for the site in the Jackson/Teton County Comprehensive Plan.* Complies.

The Bluffs project is within the Comprehensive Plan District 4 – Midtown, Subarea 4.2 – Northern Hillside. “ *Low density single-family housing may continue to be appropriate at the edges of this area, particularly when adjacent to existing undisturbed hillsides. Future development should address wildlife permeability and assist in guiding wildlife movement to future roadway crossings.*”

This development meets the standards of the Neighborhood Low Density-5 (NL-5) Zone and proposes five single-family lots that improve upon the current non-conforming structures that are visually unappealing, outdated, sub-standard and, given their configuration, present a considerable barrier to wildlife permeability. The Bluffs project meets the intent of the NL-5 Zone and will further reduce the existing unit density from 15 to five; thereby reducing the overall density, intensity and use of the property while enhancing the character and cohesiveness of the hillside residential neighborhood.

2. *Achieves the standards and objectives of the Natural Resource Overlay (NRO) and Scenic Resources Overlay (SRO), if applicable.* Not Applicable.

Lot 1 of the Crystal Valley Addition, Plat 1051 is not located within either the NRO or the SRO and therefore is not applicable.

3. *Does not have significant impact on public facilities and services, including transportation, potable water and wastewater facilities, parks, schools, police fire, and EMS facilities.* Complies.

The Bluffs project will provide the required school and park exactions for the new residential units being developed. The existing development is already connected to public utilities for water and sewer, and the Bluffs project will continue to utilize these public utilities. New infrastructure will be installed and connections will be reduced from 10 to five, thus reducing the capacity required for this parcel from the Town Water and Sewer services. The project is within town limits and is currently served by police, fire and EMT services; the development will not result in increased impacts on availability of these services.

Multiple transportation options already exist in proximity to the property: these include pedestrian and bicycle connections to the Teton County Pathway System and Town START Shuttle stops. The Town START Shuttle stops are within 1,000 feet

located westbound on Broadway/South Highway 89 by Sidewinders Tavern, and both east and westbound located on Scott Lane by the Lodge at Jackson Hole.

4. *Complies with all relevant standards of these LDRs and other Town Ordinances.*

Complies.

The purpose of a development plan is to review a physical development or development option that is large and complex enough to benefit from a public review at a sufficient level of detail to determine compliance with these LDRs prior to preparation of final construction or plat documents.

The 1.47-acre site provides space to meet the FAR requirement within the buildable area of the five lots. While there are some interior areas within the development that meet the minimum setback limitations, the vast majority of the perimeter of the project is set back well beyond requirements and all individual buildings within the development are setback from one another and from the side street within the requirements of the LDRs.

The site plan was adjusted and revised based on provided comments during the Pre-Application process to address snow storage needs and fire sprinklers for each unit.

5. *Is in substantial conformance with all standards or conditions of any prior or applicable permits or approvals.* Complies.

There are no previous permits or approvals applicable to this property. The proposed development complies with all conditions of Plat 1051.

D. CONDITIONAL USE PERMIT

This project requires a Conditional Use Permit (CUP) based upon the Town of Jackson LDRs *Article 5.4.1 Natural Hazard Protection Standards - Steep Slopes*. Lots with average cross slopes in excess of 10% are subject to a Hillside CUP.

FINDINGS FOR APPROVAL

LDR Section 8.4.2 Conditional Use Permit, C. Findings of Approval indicates that a CUP shall be approved based upon:

1. *Is compatible with the desired future character of the area;* Complies.

The intent of the NL-5 Zone is to “*enhance the character and cohesiveness of residential neighborhoods while allowing for a flexible range of residential types...intended to create opportunities for workforce housing.*” This development meets the standards of the NL-5 Zone and proposes five single-family lots that will replace the current non-conforming structures that are visually unappealing and a

considerable barrier to wildlife permeability. The Bluffs project meets the intent of the NL-5 Zone and will further reduce the unit density from 15 to five; thereby reducing the overall intensity and use of the property while enhancing the character and cohesiveness of the hillside residential neighborhood.

2. ***Complies with the use specific standards of Div. 6.1: Allowed Uses; Complies.***
This development is composed of detached Single-Family Units in the NL-5 Zone; an allowed use according to Section 6.1.2.D of the LDRs.
3. ***Minimizes adverse visual impacts; Complies.***
Currently, 984 Budge Drive contains non-conformities with a one-story apartment building, a cabin and trailer, all built over 30 years ago and before current building code. The new project will remove the non-conformities and replace them with residential units built of new construction in compliance with the LDRs and the 2018 IRC. This development will break up the visual impact of the current long building into five separate lots, and will look aesthetically pleasing from the roads below. It will improve on the existing visual impacts. See Visual Analysis attached in **Section 3**.
4. ***Minimizes adverse environmental impacts; Complies.***
The proposed development will not increase environmental impacts on site, and will improve wildlife permeability as the new buildings will be detached to allow for wildlife accessing the undisturbed hillside of Saddle Butte. See Wildlife Review attached in **Section 3**. During construction stormwater will be detained using best management practices to protect the hillside from any erosion.
5. ***Minimizes adverse impacts from nuisances; Complies.***
There are no anticipated nuisances with this development that would have adverse impacts to the surrounding properties. Operational Standards are addressed in **Section M** of this Development Plan Narrative.
6. ***Minimizes adverse impacts on public facilities; Complies.***
There are no anticipated adverse impacts on public facilities from this development. The project will be connected to town water and sewer, with system upgrades installed to the current utilities. The reduced density will both lessen the impacts on public facilities and reduce the trip counts to the property. Budge Drive is not a busy street and vehicles from this development are not anticipated to increase traffic on Highway 89. Structures will be sprinkled for fire suppression and otherwise meet the current building codes. There are no additional adverse impacts anticipated on fire, police, or EMT services that already serve the property located within the limits of the Town of Jackson. Additionally, the owner worked with the Town of Jackson to allow a

temporary road through the southern end of the property during the reconstruction of Budge Drive and the essential water line.

7. *Complies with all other relevant standards of these LDRs and all other Town Ordinances; Complies.*

This development complies with all other applicable standards for use, layout, structure and site development characteristics in the LDRs for the NL-5 Zone.

Division 5.4 Natural Hazards in Hillside Areas – 5.4.1.C.5 Steep Slopes: Standards in Hillside Areas: *“5. The mitigation measures identified will be effective in mitigating any adverse impacts identified, and associated with the proposed physical development, uses, development option, or subdivision.”*

The Bluffs project will not impact any of the steep slopes that exist on the property. Construction will take place in previously disturbed and developed areas that are less than 5% grade. The project does not require structural retaining walls or any other mitigation structures to contain steep slopes.

8. *Is in substantial conformance with all standards or conditions of any prior applicable permits or approvals. Complies.*

There are no previous permits or approvals applicable to this property. The proposed development complies with all conditions of Plat 1051.

E. ADDITIONAL ZONE-SPECIFIC STANDARDS, SECTION 2.2.6.E.

The following standards apply in addition to all other standards applicable in the NL-1 zone:

Maximum Allowed Density

Up to three units are allowed the proposed on individual lots equal to or greater than 7,500 sf. Current plans are for one unit per lot on lots 1 - 4 and possibly two units on Lot 5. Therefore, The Bluffs project will be in conformance with the standards of this section.

Configuration Options, Section 2.2.6.F.

Configuration options in the NL-1 zone allow for the detached single-family units being proposed with this development plan.

F. PROPOSED DEVELOPMENT PROGRAM

The proposed size of each lot's building envelopes and Maximum Floor Area (for one unit per lot) is depicted within Civil plans in **Section 4**. Potential Floor Area for each lot is depicted in the table below.

Lot	Gross Site Area (sf)	FAR 1 unit	FAR 2 units	FAR 3 units
		0.3	0.35	0.4
1	15,220	4,566	2,435	6,088
2	11,930	3,579	1,909	4,772
3	12,650	3,795	2,024	5,060
4	12,340	3,702	1,974	4,936
5	11,800	3,540	1,888	4,720

G. ENVIRONMENTAL STANDARDS

1. **Natural Resource Buffers (Wetlands and Water bodies)** there are no wetlands or water bodies on the property
2. **Wildlife Friendly Fencing** – no fencing is proposed.
3. **Water Quality** - See subsequent Engineer's report in **Section 2** of this application for discussion on this item.
4. **Natural Resources Overlay (NRO)** The property is not located within the NRO.
5. **Bear Conflict Area** – The property is not mapped as a bear conflict area.

H. SCENIC STANDARDS

1. **Exterior Lighting** - Exterior lighting will be addressed during the Building Permit and will follow requirements in LDRs.
2. **Scenic Resource Overlay (SRO) Standards** - The property is not located within SRO.

I. NATURAL HAZARDS TO AVOID - Steep Slopes – See Section D. CONDITIONAL USE PERMIT and Geotechnical Report included with this application.

J. SIGNS - No signage is proposed at this time.

K. GRADING, EROSION CONTROL, DRAINAGE, & STORMWATER

See subsequent Engineer's report in **Section 2** of this application for discussion on these items.

L. ALLOWED USES & USE REQUIREMENTS

1. **Allowed Uses** - The proposed uses within the Bluffs development include Detached Single-Family Units.
2. **Parking** - See subsequent Engineer's report in **Section 2** of this application for discussion on these items.
3. **Operational Standards**
 - a. **Outside Storage** - The proposed uses within the Bluffs development will not include the storage of boats, snowmobiles, trailers, RVs, or similar vehicles and equipment on any yard. No structures will be stored within the lots and no vehicles will be kept within vacant lots. The five planned lots will be for residential use, and thus, will not be using outdoor displays.
 - b. **Refuse and Recycling** - The development will include an area for consolidating trash and recycling within access and utility easement near the front of the property on Lot 1.
 - c. **Noise** - Noise levels will be kept within the permitted 55 DBA, consistent with LDR restrictions for Zone NL-5.
 - d. **Vibration** - The development does not include uses in which any regular activity shall cause or create displacements for given frequencies as prescribed by LDR restrictions.
 - e. **Electrical Disturbance** - The planned residential use does not include any activities which could cause electromagnetic radiation and disturbed operation of equipment such as radios and TVs.
 - f. **Fire and Explosive Hazards** - No manufacturing, possession, storage, transportation or use of hazardous materials are part of the planned development.

M. ALLOWED SUBDIVISION AND DEVELOPMENT OPTIONS

1. **Standards Applicable to all Subdivisions** - The project will adhere to all standards provided in Section 7.2.2 of the LDRs which include developer responsibilities, permits required, installation, working with a professional engineer, over sizing and off-site improvements, and acceptance by Town.
2. **Land Division Standards** - The development will comply with Section 7.2.4 of the LDRs.

N. RESIDENTIAL SUBDIVISION REQUIREMENTS

1. **Affordable Housing** –The project will generate a small affordable housing requirement that will be addressed at the first building permit submitted for the site.
2. **School and Parks Exactions** - Total school and park exactions fee-in lieu is \$28,900. Calculations are provided in **Section 3**.

O. INFRASTRUCTURE

1. **Transportation Facilities** - See plan sheets provided in **Section 4**.
2. **Required Utilities** - See plan sheets provided in **Section 4**.

SECTION 2 – ENGINEER’S REPORT

A. INTRODUCTION

The following Engineer’s Report is intended to provide the engineering basis for design and to discuss engineering related items for The Bluffs Development Plan. Supporting infrastructure will include driveway access improvements and utility connections to the Town of Jackson water and sewer mains as well as connections to cable utility mains that serve this portion of the Town of Jackson. The basic layout and design elements are shown on the plan set attached in **Section 4**.

B. BACKGROUND

The Bluffs is a subdivision development project located off Budge Drive in the Town of Jackson near the intersection of Highway 89 and 22. The project plans to subdivide the existing property into 5 single-family residential lots. Historically the site was a motel building that was converted to an apartment structure. In addition, the site also housed a cabin and 3 mobile home units, 2 of which have since been removed. The proposed project will remove all existing structures on the property. The existing utilities on site will be reconfigured or abandoned for the new development. From an infrastructure perspective, the new development does not appreciably alter the current load and configuration from the existing arrangement.

C. SOILS AND SITE CONDITIONS

The proposed project site is located on the lower southwestern flank of East Gros Ventre Butte. Jorgensen Geotechnical prepared a Slope Stability Analysis Report for the project site in July 2017. In summary, five boreholes were drilled to depths ranging from 31.5 to 121.5 feet below the existing ground surface in order to conduct the stability analysis. With applied surcharge loads at the location of the proposed buildings, the stability analysis shows the site is stable. Factors of safety for this site exceed those generally accepted by engineering practice as indicating stable conditions. A single vibrating wire piezometer was installed to monitor groundwater levels following the investigation. In general, the site stratigraphy is made up wind-blown loess, coarse and fine-grained alluvium and colluvium deposits, as well as lacustrine deposits. The report describes the geologic site conditions and includes a site location and geologic map, geologic cross sections, stability analysis results, borehole logs, and laboratory tests results. A copy of the Slope Stability Analysis Report by Jorgensen Geotechnical is included in **Section 5** of this report.

In general, construction of homes on this site will utilize helical piers, grade beams, and structural slabs to reduce the risk of structural distress posed by the observed soil

conditions. A Geotechnical Engineering Report was issued by Jorgensen Geotechnical on April 23, 2019, which references the subsurface exploration performed in 2017 and documented in the Slope Stability Analysis Report. This scope of work included installation of several helical pier test probes and a verification load test of a helical pier. The report provides engineering analysis and recommendations necessary for the design and construction of proposed structures at 984 Budge Drive. A copy of the Geotechnical Engineering Report by Jorgensen Geotechnical is included in **Section 5** of this report.

D. GRADING, EROSION CONTROL, DRAINAGE, & STORMWATER

Development on the site will accommodate stormwater by routing drainage through the available green spaces on site. These areas are sufficient to accommodate stormwater runoff. The parcel is relatively flat and underlain by semi-permeable surface soils and very permeable subsoils. The lots are spaced to provide landscape areas around the future buildings that will help infiltrate stormwater and spring snow melt water. The expected runoff from the buildings will likely be channeled through roof drains and a piping network and directed to stormwater detention areas onsite away buildings as much as practicable. Details of the specific stormwater management will be addressed in the building permit applications of the individual residence.

A Town of Jackson Grading and Erosion Control Permit will be required prior to construction of site infrastructure. The GEC permit application drawings will incorporate any revisions made during the Development Plan process and as a result of incorporating final design elements and coordination with the Town and other utility companies.

E. ROADS, ACCESS, AND PARKING

The site is presently served by access directly off of Budge Drive. The proposed project plans to utilize the existing access with improvements limited to formalizing the access and parking arrangement to fit the new development. The proposed development and use of this road by residents of the Bluffs has been reviewed with the Town of Jackson Planning Department through the Sketch Plan process. The existing access road is approximately 20' in width and in order to limit disturbance at the intersection, will be formalized and essentially remain unchanged for the new development.

The required number of parking spaces for the five lots of the Bluffs is 10 spaces as per the base NL-5 Zoning in the LDRs which requires 2 spaces per lot. The expected parking layout for the Bluffs for this DEV application suggests that Lots 1-3 will accommodate 2 spaces per lot within the individual lot boundary, while parking spaces for Lots 4-5 will be accommodated within the access and utility easement. Additional auxiliary parking area within the easement is available.

F. TRAFFIC

Multi-modal transportation options are available in the vicinity of The Bluffs. They include pedestrian and bicycle connections to local town services. The Town Shuttle operated by START flows in both east and west bound directions nearby to the site on Scott Lane south of West Broadway. The Town Shuttle has stops along Scott Lane with 30-minute intervals within walking distance from to the Budge Drive and West Broadway intersection. Proximity to multi-modal options will be an incentive for residents to choose alternative modes of transportation for short and medium distance trips.

G. WATER SUPPLY AND DISTRIBUTION SYSTEM

The proposed water distribution system for the development consists of an extension from the existing Town of Jackson water main in Budge Drive with individual service connections to the proposed lots. The maximum domestic water demand for the development is estimated based on the current configuration to be approximately 9,600 gallons per day. This value is based upon Wyoming DEQ standards by occupancy and includes irrigation. Using a typical peak factor of 4, the peak hour flow is expected to be approximately 26 gallons per minute. The expected demand for irrigation is estimated separately to be approximately 5,000 gallons per day based on an average 0.25" square foot per day of landscape area. The required site fire flow is 1000 gpm for 1 hour based upon Table B105.1(1) from Section B105 of the 2018 International Fire Code for residential Group R-3 and R-4 buildings (0 - 3,600 square feet). A 50% reduction is allowed for buildings of this type equipped with an automatic sprinkler system. The expected water demand for fire suppression is estimated for one building to be 30 gpm based on an automatic fire sprinkler system with 2 sprinkler heads active with an operating pressure of at least 55-60 psi. Water demand values are included in **Section 5** of this report.

The Town of Jackson water system currently extends along Budge Drive adjacent to the proposed development and includes a fire hydrant at the intersection of the access drive. Further, the lot owner granted an easement to the Town of Jackson for a water line on the southern portion of the property increasing circulation flow and providing redundancy. It is expected that the existing hydrant is capable of providing the site fire flow requirements. The proposed access drive is approximately 390' in length and the site layout will not accommodate an adequate fire truck turn-around. Therefore, all future residential occupancies of this subdivision will be required to be protected by an approved automatic residential fire sprinkler system meeting the standards of NFPA 13-D. Discussions with the Jackson Hole Fire EMS Fire Marshal have confirmed this is acceptable.

The connection to the TOJ water system will require an encroachment permit and coordination with the TOJ Public Works Department to identify the appropriate arrangement. A permit to construct will be required through the Wyoming DEQ. The new

waterlines within the property will be owned and operated by the development and all maintenance will be the responsibility of the development.

H. WASTEWATER COLLECTION AND TREATMENT

The proposed wastewater collection system for the development consists of sewer manholes and service lines from each lot with a connection to the existing private sewer main and ultimately connected to the Town of Jackson sanitary sewer system. The maximum sanitary sewer demand is estimated based on the current arrangement to be approximately 3,300 gallons per day with a peak hour flow of approximately 9 gallons per minute (Peak Factor 4). These values are based upon Wyoming DEQ standards of 150 gallons per bedroom and 22 total bedrooms within the project at buildout. The construction plans for the project will be required to follow the Town of Jackson Standards for construction. Wastewater demand calculations are included in **Section 5** of this report.

The connection to the TOJ sewer system will require coordination with the TOJ Public Works Department to identify the appropriate arrangement. A permit to construct will be required through the Wyoming DEQ. The new sewer lines within the property will be owned and operated by the development and all maintenance will be the responsibility of the development.

I. CABLE UTILITIES AND GAS

Power and Communications lines will be accessible to all units on the project. Lower Valley Energy Electrical Power and Natural Gas, Silverstar Fiber-Optic Communications, Charter Cable Television and Communication, and Century Link communications services are all available to this location. Opportunities to connect to all of these service providers will be afforded all lots pending negotiations. Spare conduits may be provided should other utilities not currently available be anticipated.

J. SNOW STORAGE

The shared access road and parking of the Bluffs Development creates approximately 9,000 square feet of impervious surfaces requiring approximately 225 square feet of snow storage. The current layout anticipates adequate space exists within the access and utility easement for proper snow storage. Additionally, open space in the southeast portion of the access and utility easement will provide additional snow storage in large snowfall years. Snow storage within the lots will be the responsibility of the individual lot owner and will be coordinated with the landscaping to limit damage that can occur during snow clearing.

SECTION 3 – PHYSICAL DEVELOPMENT REQUIREMENTS

- **3.1 Visual Analysis**
- **3.2 Wildlife Review**
- **3.3 Park Exaction Calculations**
- **3.4 School Exaction Calculations**







1024 US-89
Jackson, Wyoming

Google

Street View



Google



To: Town of Jackson Planning & Building Department

Cc: Jorgenson Associates, Brendan Schulte

From: Brian Remlinger, Principal, Alder Environmental, LLC
Julie Polasik, Wildlife Ecologist, Alder Environmental, LLC



Date: April 6, 2020

**Re: Proposed Subdivision for the Bluffs Development - 984 Budge Drive, Wildlife Use / Habitat Review
PIDN: 22-41-16-32-1-07-001**

The Bluffs Development Group, LLC is proposing a development plan that includes a subdivision with five lots (Jorgenson Associates Exhibit 1/31/20) on the property located at 984 Budge Drive within the Town of Jackson limits. Jorgenson Associates requested the services of Alder Environmental, LLC to assist with submittal requirements related to the standards in the Town of Jackson Land Development Regulations (LDRs) Section 5.4.1. Steep Slopes. The submittal requirement for the proposed development includes a:

Report summarizing wildlife use of the subject property and any potential impacts from the proposed development. (LDR 5.4.1.C.6.a)

For the purposes of this review, *wildlife* shall be defined as those species and associated habitat protected in the current LDRs (Div. 5.2) and those species identified in the Teton County Focal Species Habitat Mapping Project (Alder 2017). *Impacts* shall be defined as development and/or uses that will detrimentally affect the food supply and/or cover provided by the habitat or detrimentally affect the potential for survival of the protected and focal wildlife species.

SITE INVENTORY & DATA REVIEW

A site visit was conducted on February 4, 2020 to evaluate existing wildlife habitat conditions and use. The enclosed photos document the site conditions. The central portion of the Property contains a driveway, apartment building and a trailer (Figure 1). The hillside to the north of the driveway is comprised of mesic shrub (sparse sagebrush) and mesic grassland habitat. The hillside to the south and west of the structures on the Property is comprised of mesic shrub (sparse sagebrush) and mesic grassland habitat with some landscaping. Mule deer tracks and scat were observed on the north and west portions of the Property during the site visit. Mule deer were also present just north of the Property during the site visit.

Three sources of wildlife habitat data were reviewed: 1) Wyoming Game and Fish Department (WGFD) designated ungulate crucial winter ranges and migration routes and Bald Eagle nests, 2) the 2013 WYDOT / Teton Science Schools mule deer movement and habitat use study (Riginos et. al, 2013) and 3) the Teton County Focal Species Habitat Mapping Project (Alder 2017). The only protected or focal wildlife species potentially using the project site or impacted by the proposed development is mule deer.

The entire project site is mapped within WGFD designated mule deer crucial winter range (WGFD 2012, Figure 2). The Property consists of disturbed, mesic grassland, and mesic shrub habitats. The mesic shrub-grassland habitats on south facing slopes provide crucial winter range for mule deer (*LDR Section 5.2.1.B.3.d*). Wyoming Game and Fish designated mule deer crucial winter yearlong range is also mapped 0.1 miles west and south of the project site across Highway 22, and an elk migration corridor is mapped 0.6 miles southwest of the Property.

The 2013 WYDOT/TSS Mule Deer Study designates the project site as a *low use movement area* for mule deer and *moderate probability of winter use* due to the project site's location on the East Gros Ventre Butte (Figure 3). Signs of mule deer winter use and movement on the Property were also observed during the February 4,

2020 site visit. Additional *high probability of winter use* areas are located north of the Property at higher elevations on East Gros Ventre Butte.

The Teton County Focal Species Habitat Mapping layer for mule deer indicates that mule deer winter range is located on the southern and western portions of the Property (Alder 2017). This coincides with the location of south facing mesic shrub-grassland slopes.

The nearest Bald Eagle nest to the Property is located 0.67 miles southwest of the site (WGFD 2019), and the Property does not contain suitable habitat for nesting or wintering Bald Eagles. The Property also does not contain any crucial winter or nesting habitat for Trumpeter Swans, spawning habitat for Snake River cutthroat trout, or crucial elk or moose winter habitat.

The Teton County Focal Species Habitat Map quantified the relative habitat values for the Property as ranging from 10 to 19 (low to moderate value) out of a possible 42 (highest value) (Alder 2017). This indicates that the Property is of low to moderate quality for wildlife habitat. The relative values habitat map was created by combining 20 weighted focal species habitat maps that are based on well documented species habitat data, expert knowledge and peer reviews, and environmental variables, providing a thorough assessment of relative wildlife habitat values in Teton County.

FINDINGS & OPINION

Wildlife use of the subject Property is considered moderate based on the site inventory and data reviews. Mule deer use the Property extensively during the winter months as crucial winter range and as a movement corridor on the East Gros Ventre Butte. The proposed subdivision of the Property into five lots and associated development would result in the removal of the existing structures that span the Property and construction of potentially five new structures evenly distributed on the Property.

Existing mesic shrub (sparse sagebrush) will mostly remain undisturbed. The new structures should also be spaced a minimum of 15 feet apart to allow mule deer to use the areas between them as movement corridors. It is also suggested that any fencing that would impede the movements of mule deer should not be used on the proposed lots and other barriers to mule deer movement should not be placed between the new structures.

The proposed subdivision of the Property would have impacts to mule deer that use the area as crucial winter range and as a movement corridor. However, those impacts can be minimized by limiting development mostly to already disturbed areas, maintaining movement corridors between structures, and avoiding the use of fencing and other barriers such as retaining walls (>42" tall) to mule deer movement. There are no additional wildlife species protected by the Town of Jackson LDRs or identified in the Teton County Focal Species Habitat Mapping Project that are expected to be impacted by the proposed development.

REFERENCES

- Alder 2017. Final Report: Focal Species Habitat Mapping for Teton County, WY. Alder Environmental LLC. Jackson, WY. April 2017.
- Riginos, C., Krasnow, K.D., Hall, E., Graham, M., Sundaresan, S., Brimeyer, D., Fralick, G., & Wachob, D. 2013. Mule Deer (*Odocoileus hemionus*) Movement and Habitat Use Patterns in Relation to Roadways in Northwest Wyoming. FHWA-WY-13/08F.
- WGFD. 2012. Big Game Ranges Geographic Information Systems Layers. Cheyenne, WY.
- WGFD. 2019. Bald Eagle Nest Flight Survey Data. Wyoming Game and Fish Department. Jackson, WY.

Encl: Photos, Figures 1-3



Photo 1. Looking west at the Property from the eastern boundary.



Photo 2. Looking east from the end of the driveway.



Photo 3. Looking southwest at western edge of Property.



Photo 4. Looking west at southern hillside of Property.



Photo 5. Mule deer tracks in the northwest portion of the Property.



Photo 6. Mule deer located just north of Property in mesic shrub.



FIGURE 1

Proposed
Subdivision

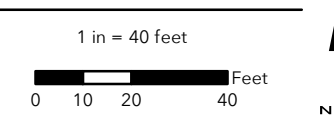
Bluffs Development
Group, LLC
WILDLIFE REVIEW
984 Budge Drive
Jackson, WY 83001

Legend

- Subject Property
- Proposed Lot Boundaries
- Lots & Parcels
- Roads

Sources

Teton County
- Aerial Imagery, June 2019
- Ownership Boundaries
- Roads
Jorgenson Associates
- Proposed Lot Boundaries



February 04, 2020

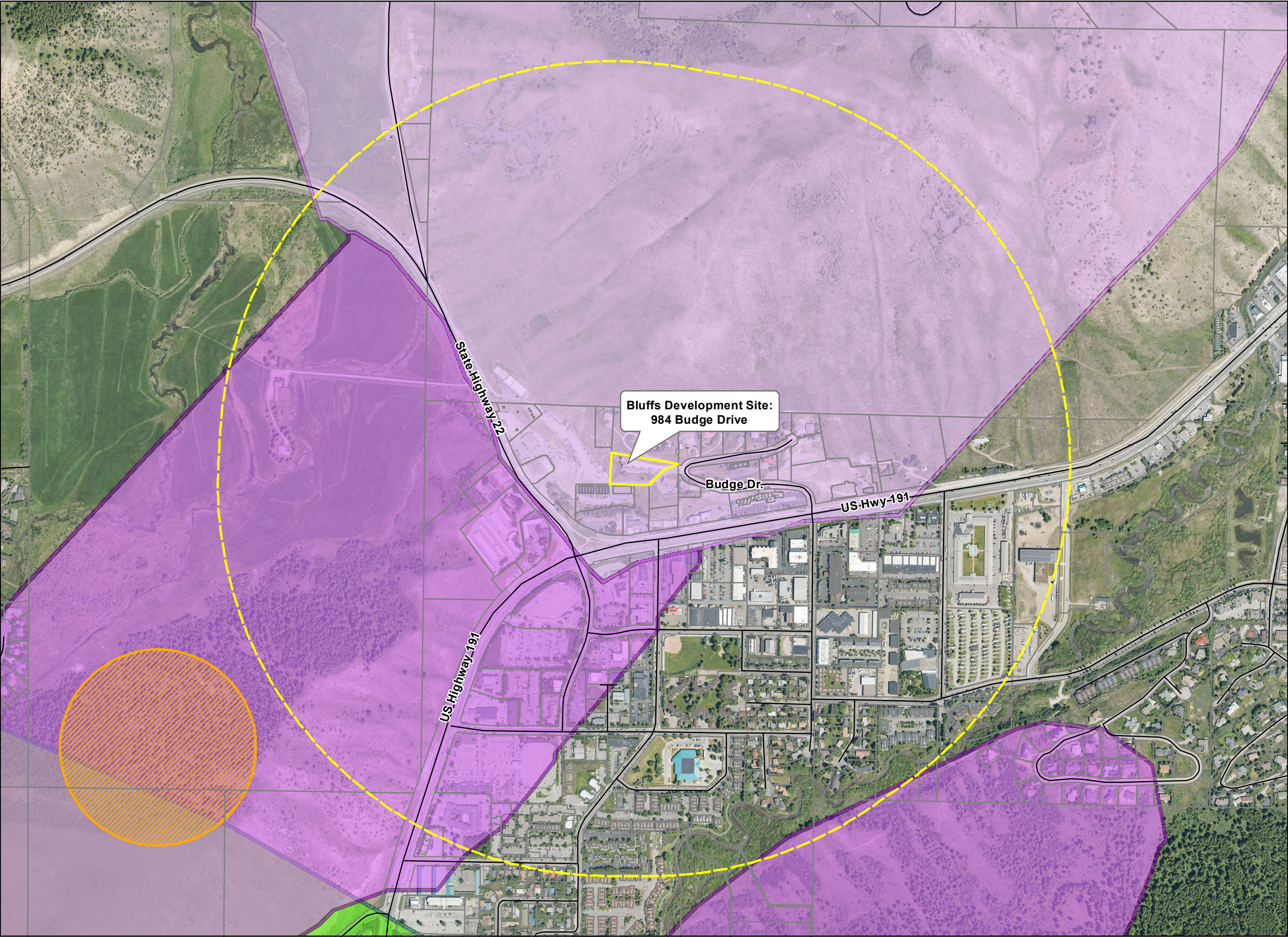


FIGURE 2

Protected Wildlife
Resources

Bluffs Development
Group, LLC

WILDLIFE REVIEW

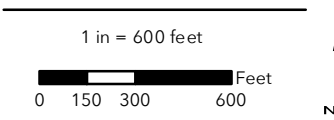
984 Budge Drive
Jackson, WY 83001

Legend

- Subject Property
- 1/2 Mile Property Buffer
- Roads
- Bald Eagle Nest Buffer
- Mule Deer Crucial Winter Range
- Mule Deer Crucial Winter/Yearlong Range
- Elk Migration Route 1/2 Mile Buffer

Sources

- Teton County
 - Aerial Imagery, June 2019
 - Ownership Boundaries
 - Roads
- WGFD
 - Big Game Crucial Ranges and Migration Routes
 - Bald Eagle Nest Buffer



February 04, 2020

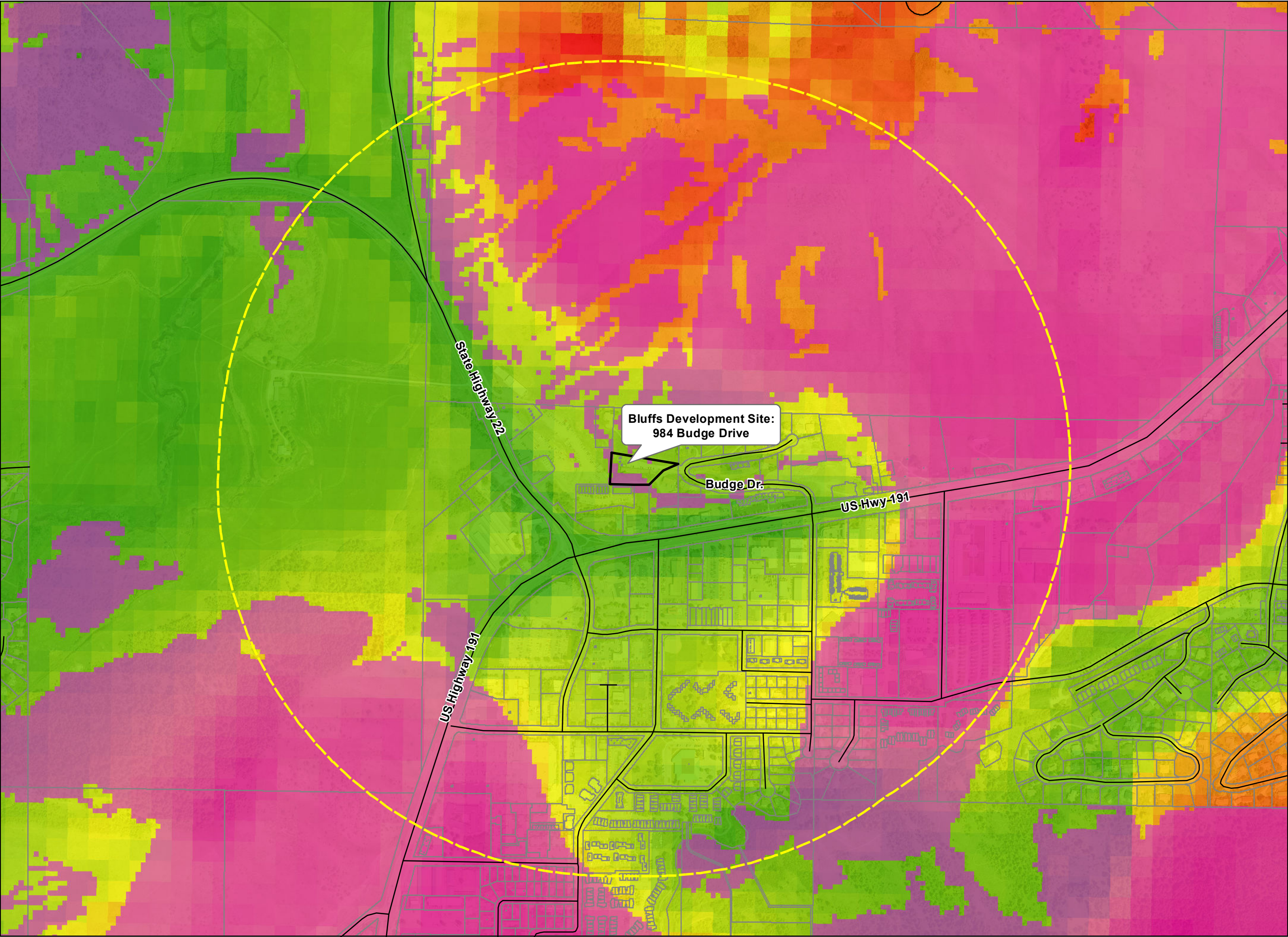


FIGURE 3

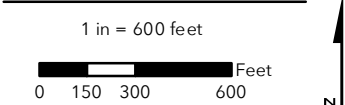
Focal Species Habitat
& TSS/WYDOT
Mule Deer Ranges
Bluffs Development
Group, LLC
WILDLIFE REVIEW
984 Budge Drive
Jackson, WY 83001

Legend

- Subject Property
- 1/2 Mile Property Buffer
- Lots & Parcels
- Roads
- Mule Deer Winter Habitat (Alder 2017)
- Mule Deer Use (TSS/WYDOT 2013)**
 - High Probability
 - Moderate Probability

Sources

- Teton County
 - Aerial Imagery, June 2019
 - Ownership Boundaries
 - Roads
- Alder Environmental (2017)
 - Focal Species Habitat Map - Mule Deer
- Teton Science School/WY Dept. of Transportation (2013)
 - Mule Deer Kernel Density and Utilization Distribution



February 04, 2020

TOWN OF JACKSON
LAND DEVELOPMENT REGULATIONS
DIVISION 7.5.2 - PARK EXACTIONS
DATE: 12/26/2019

CASH-IN-LIEU OF LAND DEDICATION: SECTION 49660

1. PROJECT NAME: 984 Budge Drive
2. LOCATION: 984 Budge Drive, Jackson WY
3. PROJECT NUMBER: 16092

4. CALCULATE PROPOSED PROJECT POPULATION:

<u>UNIT TYPE</u>	<u># OF UNITS</u>	X	<u>PERSONS HOUSED PER UNIT</u>	<u>PROJECTED POPULATION</u>
STUDIO	<u>0</u>		1.25	<u>0</u>
1 BEDROOM	<u>0</u>		1.75	<u>0</u>
2 BEDROOM	<u>1</u>		2.25	<u>2.25</u>
3 BEDROOM	<u>0</u>		3.00	<u>0</u>
4 BEDROOM	<u>5</u>		3.75	<u>18.75</u>
5 BEDROOM	<u>0</u>		4.50	<u>0</u>
EACH ADDITIONAL BEDROOM	<u>0</u>		0.50	<u>0</u>
DORMITORY	<u>0</u>		1 per 150 sf of net habitable area	<u>0</u>
TOTAL				<u>21</u>

5. CALCULATE REQUIRED PARK ACREAGE:

$$\frac{21}{\text{TOTAL PROJECTED POPULATION}} \times \frac{9 \text{ ACRES}}{1000 \text{ RESIDENTS}} = \frac{0.189}{\text{REQUIRED ACRES}}$$

6. CALCULATE CASH-IN-LIEU:

$$\frac{0.189}{\text{REQUIRED ACRES}} \times \$100,000 \text{ (VALUE OF LAND)} = \$18,900 \text{ CASH-IN-LIEU}$$

7. FOR INFORMATION ON PROVIDING AN INDEPENDENT CALCULATION, SEE LDR SECTION 7.5.2 OPTION FOR INDEPENDENT CALCULATION OF DEDICATION STANDARDS

TOWN OF JACKSON
LAND DEVELOPMENT REGULATIONS
DIVISION 7.5.3 - SCHOOL EXACTIONS
DATE: 12/26/2019

CASH-IN-LIEU OF LAND DEDICATION: SECTION 49770

1. PROJECT NAME: 984 Budge Drive
2. LOCATION: 984 Budge Drive, Jackson WY
3. PROJECT NUMBER: 16092

4. CALCULATE REQUIRED DEDICATION OF LAND:

LAND DEDICATION REQUIREMENT	X	# OF UNITS	=	LAND DEDICATION
.020 ACRES PER UNIT SINGLE & TWO-FAMILY		984 Budge Drive, Jackson WY <u> </u>		<u>.10</u>
.015 ACRES PER UNIT MULTI-FAMILY		<u>0</u>		<u>0</u>

5. CALCULATE CASH IN-LIEU:

$$\frac{0.10}{\text{LAND DEDICATION STANDARD}} \times \$100,000 \text{ (VALUE OF LAND)} = \$ \frac{18,900}{\text{CASH-IN-LIEU}}$$

6. FOR INFORMATION ON PROVIDING AN INDEPENDENT CALCULATION, SEE LDR SECTION 7.5.3 OPTION FOR INDEPENDENT CALCULATION OF DEDICATION STANDARDS

SECTION 4 – CIVIL DRAWINGS

- DRAWINGS 11" X 17' FORMAT

DEVELOPMENT PLAN

BLUFFS DEVELOPMENT GROUP, LLC

LOT 1, CRYSTAL VALLEY ADDITION

984 BUDGE DRIVE

LOCATED WITHIN
S 1/2 NE 1/4, SECTION 32, T41N, R116W,
TOWN OF JACKSON, WYOMING

OWNER:

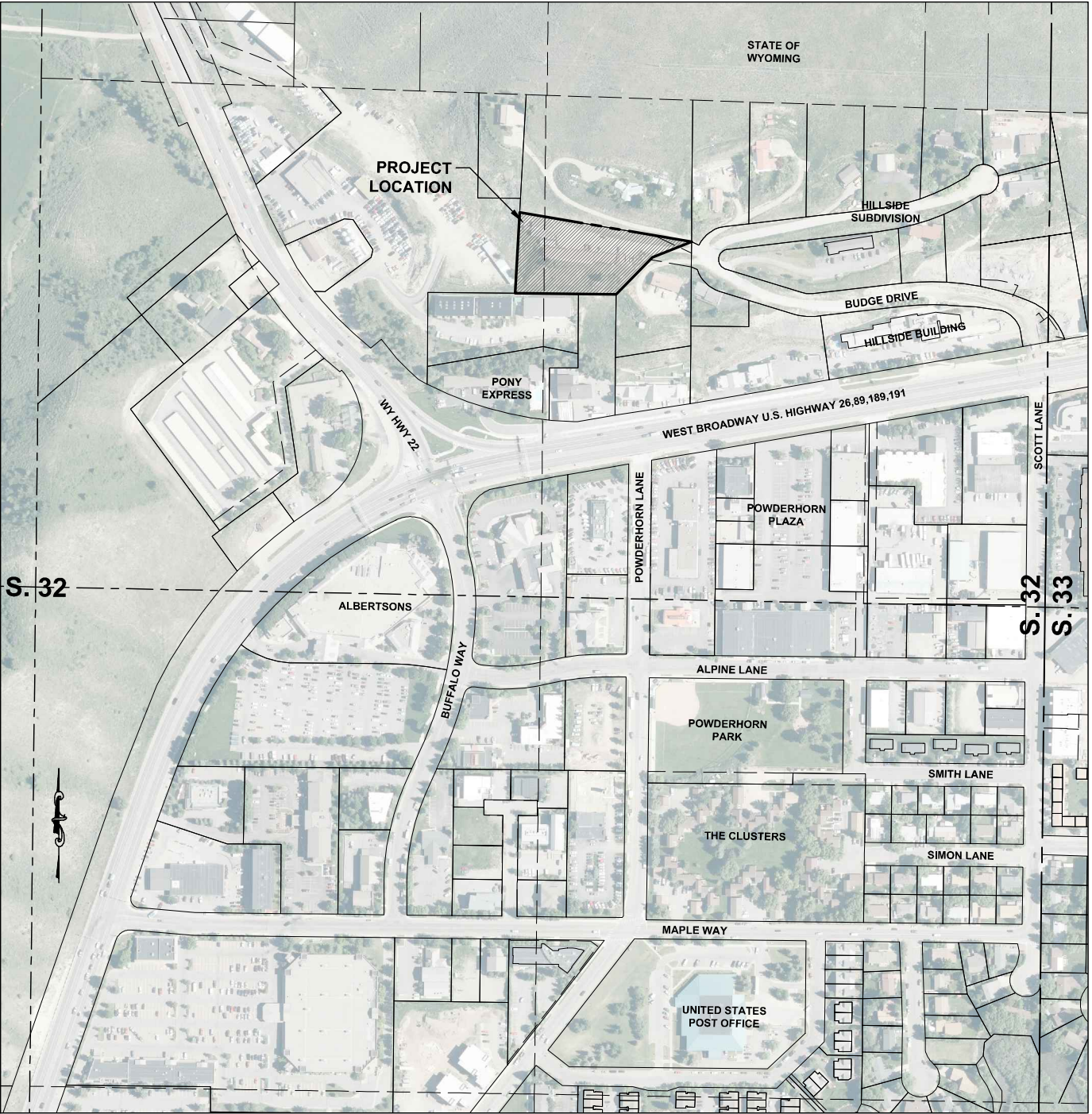
Bluffs Development Group, LLC
P.O. Box 551 / 984 Budge Drive
Jackson, Wyoming 83001

CIVIL ENGINEER:

Jorgensen Associates, Inc.
P.O. Box 9550 / 1315 S. HWY 89, Suite 203
Jackson, Wyoming 83002
307.733.5150

ARCHITECT:

Schopfer Associates, LLC
400 Commonwealth Ave
Boston, MA 02215
617.262.1410



VICINITY MAP
1" = 200'
FOR 22x34 PRINTS

SHEET INDEX

C0.1	COVER, VICINITY MAP, SHEET INDEX
C0.2	EXISTING CONDITIONS
C1.1	SITE PLAN



JORGENSEN
JACKSON, WYOMING
307.733.5150
www.jorgensenassociates.com

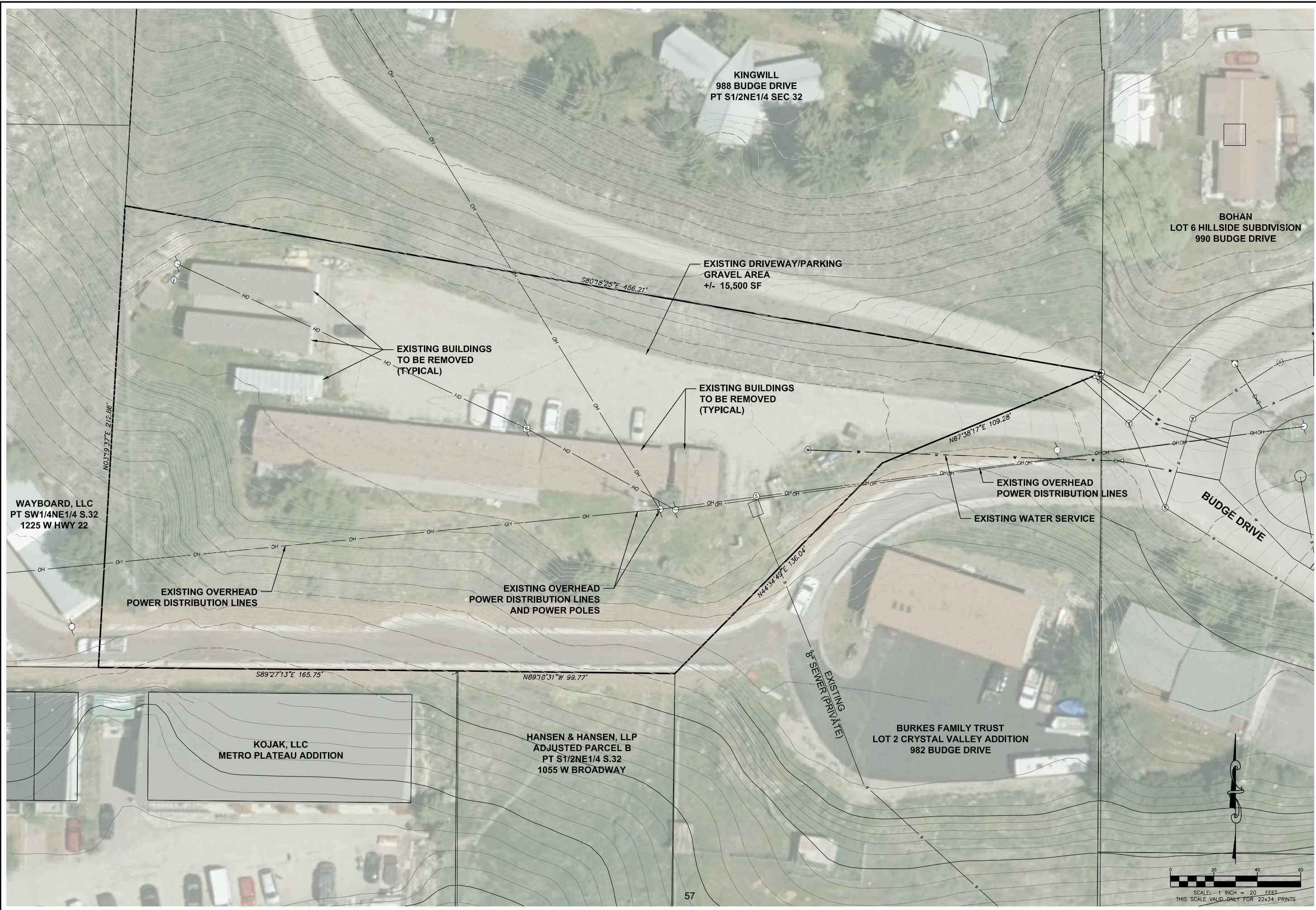
PROJECT TITLE:
BLUFFS DEV GROUP, LLC
DEVELOPMENT PLAN
LOT 1, CRYSTAL VALLEY ADDITION
984 BUDGE DRIVE
TOWN OF JACKSON, WYOMING

SHEET TITLE:
COVER, VICINITY MAP, SHEET INDEX

DRAFTED BY:	JK
REVIEWED BY:	AJ
PLAN VERSION	DATE
DEV PRE-APP	11/06/2019
DEV PERMIT	01/13/2020

PROJECT NUMBER
16092.04

SHEET
C0.1





JORGENSEN
JACKSON, WYOMING
307.733.5150
www.jorgensenassociates.com

PROJECT TITLE:
**BLUFFS DEV GROUP, LLC
DEVELOPMENT PLAN
LOT 1, CRYSTAL VALLEY ADDITION
984 BUDGE DRIVE
TOWN OF JACKSON, WYOMING**

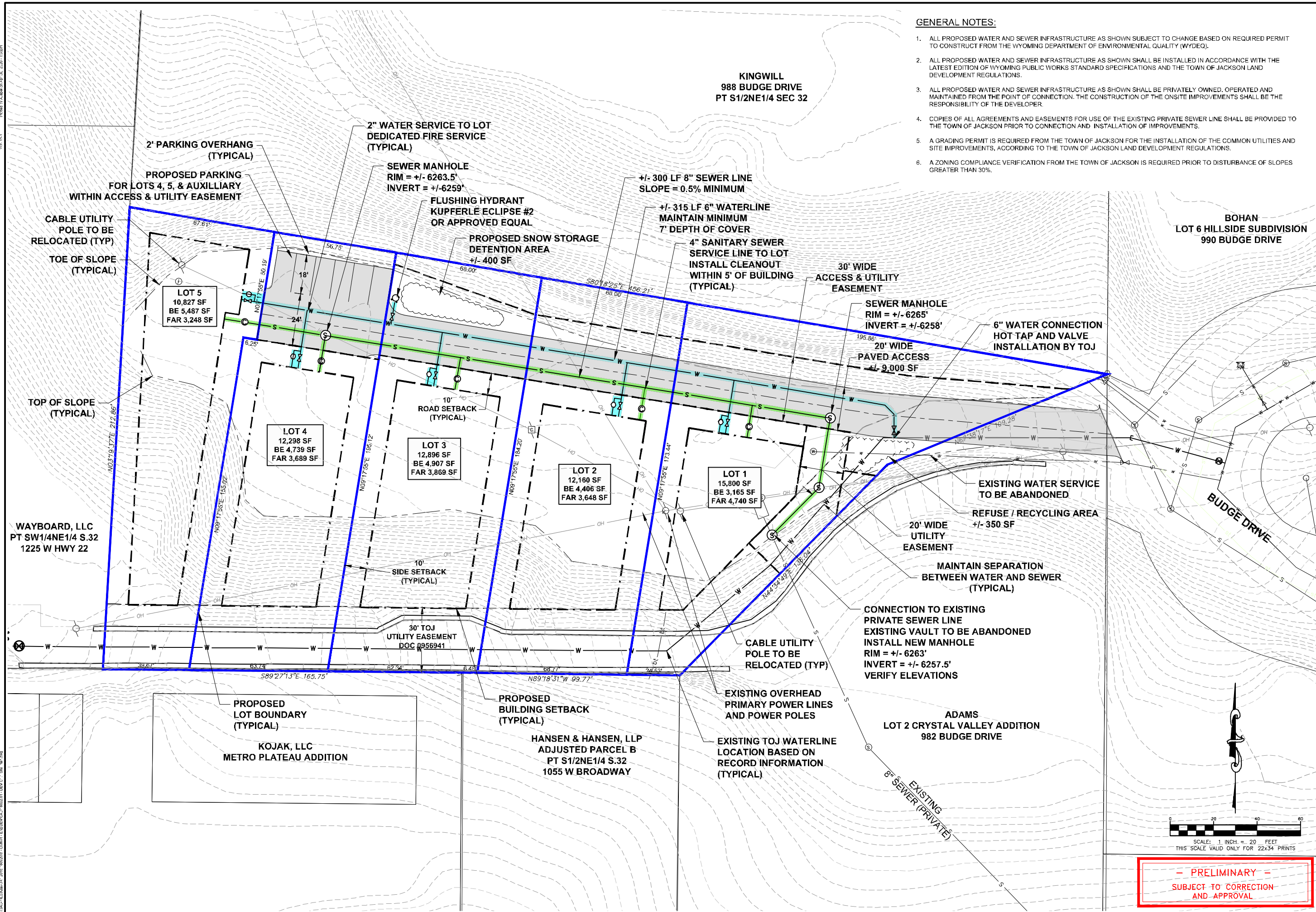
SHEET TITLE:
EXISTING CONDITIONS

DRAFTED BY:	JK
REVIEWED BY:	AJ
PLAN VERSION	DATE
DEV PRE-APP	11/06/2019
DEV PERMIT	01/13/2020

PROJECT NUMBER	16092.04
SHEET	C0.2

10/10/2019 10:00 AM 10/10/2019 10:00 AM 10/10/2019 10:00 AM

10/10/2019 10:00 AM 10/10/2019 10:00 AM 10/10/2019 10:00 AM



GENERAL NOTES:

1. ALL PROPOSED WATER AND SEWER INFRASTRUCTURE AS SHOWN SUBJECT TO CHANGE BASED ON REQUIRED PERMIT TO CONSTRUCT FROM THE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY (WYDEQ).
2. ALL PROPOSED WATER AND SEWER INFRASTRUCTURE AS SHOWN SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF WYOMING PUBLIC WORKS STANDARD SPECIFICATIONS AND THE TOWN OF JACKSON LAND DEVELOPMENT REGULATIONS.
3. ALL PROPOSED WATER AND SEWER INFRASTRUCTURE AS SHOWN SHALL BE PRIVATELY OWNED, OPERATED AND MAINTAINED FROM THE POINT OF CONNECTION. THE CONSTRUCTION OF THE ONSITE IMPROVEMENTS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER.
4. COPIES OF ALL AGREEMENTS AND EASEMENTS FOR USE OF THE EXISTING PRIVATE SEWER LINE SHALL BE PROVIDED TO THE TOWN OF JACKSON PRIOR TO CONNECTION AND INSTALLATION OF IMPROVEMENTS.
5. A GRADING PERMIT IS REQUIRED FROM THE TOWN OF JACKSON FOR THE INSTALLATION OF THE COMMON UTILITIES AND SITE IMPROVEMENTS, ACCORDING TO THE TOWN OF JACKSON LAND DEVELOPMENT REGULATIONS.
6. A ZONING COMPLIANCE VERIFICATION FROM THE TOWN OF JACKSON IS REQUIRED PRIOR TO DISTURBANCE OF SLOPES GREATER THAN 30%.



PROJECT TITLE:
BLUFFS DEV GROUP, LLC
DEVELOPMENT PLAN
LOT 1, CRYSTAL VALLEY ADDITION
984 BUDGE DRIVE
TOWN OF JACKSON, WYOMING

SHEET TITLE:
SITE PLAN

DRAFTED BY:	JK
REVIEWED BY:	AJ
PLAN VERSION	DATE
DEV PRE-APP	11/06/2019
DEV PERMIT	01/13/2020
DEV PERMIT V2	04/06/2020

PROJECT NUMBER
16092.04
SHEET
C1.1

SECTION 5 – SUPPORTING INFORMATION

- 5.1 Slope Stability Analysis Report
- 5.2 Geotechnical Engineering Report
 - 5.3 Water/Sewer Demands
- 5.4 Comprehensive Plan: District 4.2 Northern Hillside

March 10, 2017

Mr. Dennis Callaghan
45 River Avenue
Monmouth Beach, NJ 07750

RE: PRELIMINARY SLOPE STABILITY ANALYSIS, 984 BUDGE DRIVE, JACKSON, WYOMING

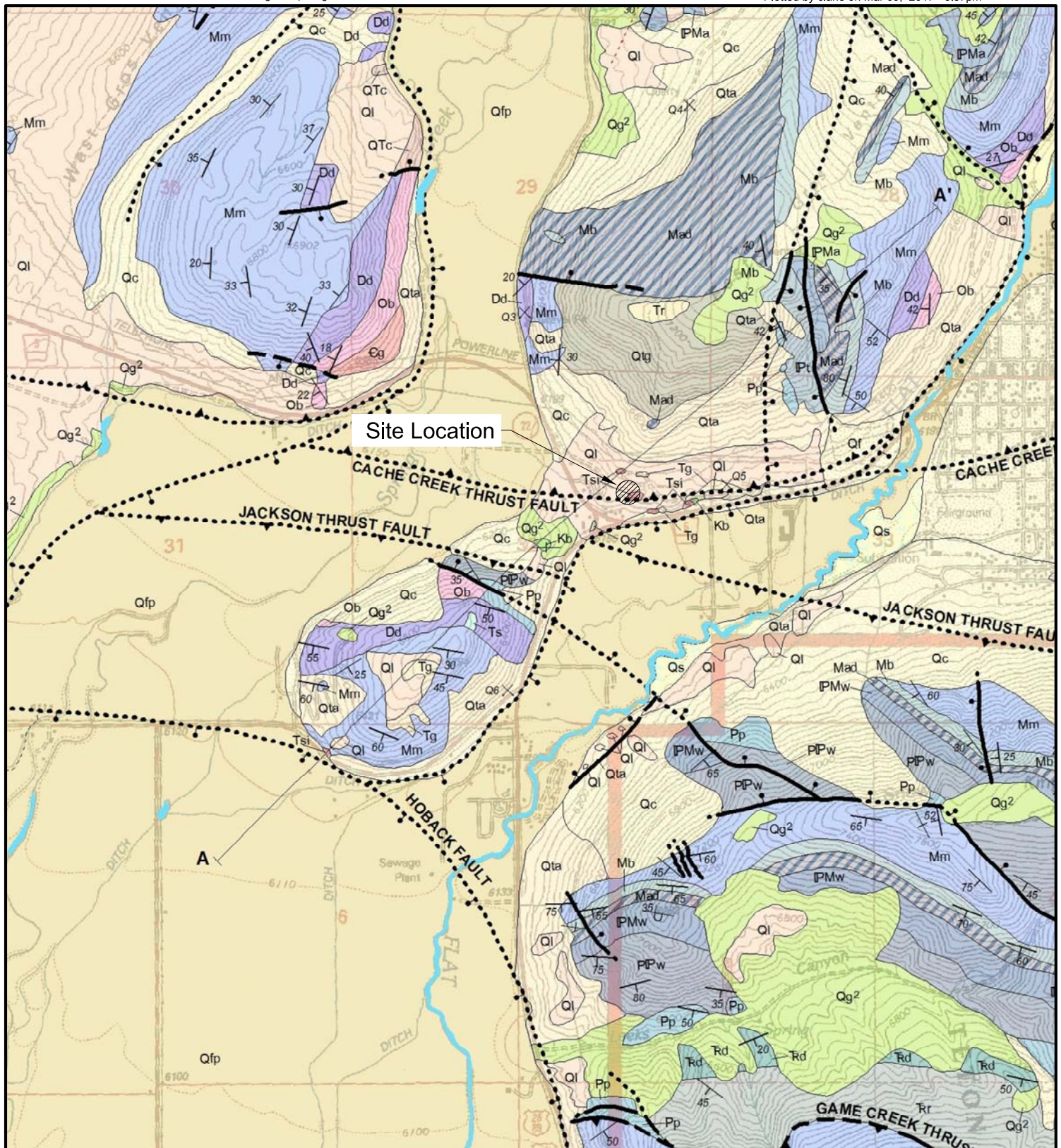
Dear Mr. Callaghan:

At your request, we have performed a preliminary slope stability analysis for the proposed residential development located at 984 Budge Drive in Jackson, Wyoming. This letter briefly summarizes our procedure and presents our recommendations for the project. In summary, the preliminary modeling indicates the slope is likely to be stable and there is relatively low risk of destabilizing the slope with the proposed development. Please note, however, **this analysis does not constitute an appropriate level of effort to support final development design; additional investigation and analysis is necessary.**

This preliminary modeling effort relies on our experience and knowledge of nearby sites. However, the toe of East Gros Ventre Butte is a very complex geologic area (Figure 1), with subsurface conditions varying dramatically over short distances. **A site specific geotechnical investigation is required to better characterize the underlying subsurface conditions.** The purpose of additional investigation is to reduce uncertainty related to depth and lateral extent of weak soil layers (i.e., anticipated failure planes), soil parameters of underlying soils (i.e., shear strength and unit weight), and seasonal high groundwater levels. We are happy to provide a scope of work for such an investigation and analysis at your request.

Site Description

The project site is located in Jackson, Wyoming, near the intersection of West Broadway Avenue and Budge drive at the southwestern toe of East Gros Ventre Butte. The property covers 1.47 acres and is composed of a relatively flat, man-made platform at an approximate elevation of 6,265-feet and slopes greater than 30% which descend to the south to an approximate elevation of 6,220 feet at the property's southern boundary. Currently several trailers occupy the property. The trailers will be removed prior to the proposed development, which preliminary plans indicate will comprise several modular structures placed on a typical foundation system. The remaining area of the graded platform is an aggregate-surfaced parking area.



SCALE: 1 INCH = 2000 FEET
THIS SCALE VALID ONLY FOR 8.5x11 PRINTS

Map symbols:

Ql - Loess Qta - Talus
Tsi - Shooting Iron Formation Qc - Colluvium
Tg - Gray Basalt

From Love, J.D., 2003, Geologic Map of the Jackson Quad, Teton County, Wyoming Map LMS-9

DRAFTED BY: MW
REVIEWED BY: CL
PROJECT NUMBER
16092

SHEET TITLE:
Figure 1
Site Location and
Geologic Map

PROJECT TITLE:
Preliminary Stability Analysis
984 Budge Drive
Teton County, Wyoming



JORGENSEN
Geotechnical, LLC
307-733-5150 www.jorgeng.com

Geologic Conditions

The property is found on the Geologic Map of the Jackson Quadrangle (Love and Albee, 1972; Love, 2003), shown on Figure 1. The map shows the location of surface deposits, bedrock units, and geologic structures (i.e., faults and folds). The project site is shown on the map in an area mapped as Quaternary-age windblown deposits called loess (Ql). Loess was deposited following the retreat of glacial ice, usually “blanketing” the ancient ground surface and obscuring the underlying topography. Underlying units include glacial outwash terraces (Qtg), talus (Qta), or Tertiary-age clay and silt lake beds described in geologic maps as the Shooting Iron Formation (Tsi). Please be aware the West Broadway Landslide east of the site has demonstrated that actual geology is more complex than indicated by Love’s map.

Drilling on this and nearby properties observed stiff clay lakebeds immediately underlying fill placed during property improvements. Stony colluvium, with limestone and basalt clasts, underlies these stiff clays. Deep-seated, fine-grained lake bed deposits observed during site investigations on nearby properties, including the West Broadway Landslide (Landslide Technology, 2014), could present a risk of slope instability. Two distinct bands of lakebeds have been incorporated into the preliminary model at elevations between 3,180-ft and 3,190-ft (referred to as “Silty Lakebeds”) and 3,150-ft and 3,160-ft (referred to as “Clayey Lakebeds”). These lake beds may not extend under the slope as far as the model indicates. However, we have chosen to model subsurface conditions in this manner as it presents a conservative assessment of existing slope stability.

Stability Analysis Methodology

The following methodology was performed in order to develop each modeled cross-section:

1. **Analyses:** Slope stability analyses were performed using the SLOPE/W stability module of GeoStudio 2012 version 8.15.1.11236, produced by GEO-SLOPE International, Ltd. The Morgenstern-Price limit equilibrium method, which takes into consideration moment and force equilibrium, was used to analyze slope stability.
2. **Geometry:** Locations of the modeled cross-sections, chosen to be representative of the site’s slope geometry, are shown on Figure 2. Figures 3, 4, and 5 (attached to this letter) show the modeled external and internal geometry.

External geometry (i.e., ground surface) of the cross-section was developed using Teton County LiDAR topographic data produced in 2015 and historic aerial photography from the Teton County GIS website. Historic aerial photography indicates the flat area where the trailers are located was constructed in the 1960s. The flat area appears to have been constructed using cut and fill techniques, meaning the fill would be recycled native soil (i.e., loess or colluvium).

Internal geometry (i.e., subsurface conditions) is limited by our understanding of the subsurface conditions at the site. For this preliminary analysis, we projected conditions



DRAFTED BY:	HC
REVIEWED BY:	CHL
PROJECT NUMBER	16092

SHEET TITLE:
Figure 2
Cross Section Location Map

PROJECT TITLE:
Preliminary Slope Stability Analysis
984 Budge Drive
Jackson, Woming



JORGENSEN
Geotechnical, LLC
307-733-5150 www.jorgeng.com

from geotechnical investigations of adjacent properties. Modeled lakebeds are assumed to be horizontal and little geological movement is believed to have occurred since Tertiary time. However, borings placed on this and neighboring properties to the northwest did not reach far enough into the fill or native material to determine the nature of deep geological contacts. As mentioned above, lake beds are not anticipated to extend as far into the slope (i.e., north or northeast) as has been modeled, but this allows for a conservative analysis appropriate for preliminary modeling.

Slip surfaces were developed using a “Block Specified” approach. In this model, the left and right “blocks” were constrained to the modeled clay and silt lakebeds to examine translational failure along the lakebed deposits, assumed to be the critical mechanism of global stability. The program creates hundreds of slip surfaces by connecting points of the blocks and selects a Critical Slip Surface, or the one with the lowest Factor of Safety (FS). FS is the ratio of forces/moments resisting slope failure divided by forces/moments tending to cause failure. A FS of 1.0 indicates imminent slope failure, while $FS < 1.0$ implies failure and $FS > 1.0$ implies stability.

3. **Materials:** Effective stress shear strength parameters pertaining to a Mohr-Coulomb strength model were estimated for the site soils. Table 1 shows soil parameters used in the stability analysis. Soil shear strength consists of two parameters: cohesion (c'), which expresses the shear strength at zero overburden pressure, and friction angle (ϕ'), which expresses the relationship between overburden pressure and shear strength. For this model, we have assumed each material is cohesionless. In mathematical terms, the shear strength (τ') increases at a slope of $\tan(\phi')$ with overburden stress (σ') beginning at the origin.

Lakebeds along the base of East Gros Ventre Butte are likely composed of layers of silt and clay. Failure, should it occur, is assumed to follow the lakebeds. Strength of the lakebeds was estimated using correlations between the soil's plasticity index (PI) and peak (Ladd et al, 1977) or residual (Voight, 1973) strength. Where possible, these correlations were compared to results of shear strength testing performed on samples collected on nearby sites. Based on index testing of nearby soil samples, PI values of lakebed deposits are in the range of 25 to 30.

Residual strength results from strain-softening behavior; i.e., soils become weaker with shearing (as in the case of slope movement) decreasing from peak strength to residual strength. Reduced shear strength usually occurs only in soils that have been previously sheared while undisturbed soils typically exist at peak strength. Unless the slope is known to have previously moved, it is appropriate to use the peak strength. We have chosen to bracket the slope stability by determining FS with peak strength (upper bound) and residual strength (lower bound) of the lakebeds to account for the possibility of strain-softening by ancient slope movement.

Table 1: Soil Parameters Used in Stability Analyses

Layer Name	Unit Weight (pcf)	Cohesion (c',psf)	Friction Angle* (ϕ' , degrees)
LOESS	110	0	31
STIFF CLAY LAKEBEDS	120	0	30.9
STONY COLLUVIUM	130	0	30
SILT LAKEBEDS – PEAK STRENGTH	120	0	36
SILT LAKEBEDS – RESIDUAL STRENGTH	120	0	30.4
CLAY LAKEBEDS – PEAK STRENGTH	124	0	30
CLAY LAKEBEDS – RESIDUAL STRENGTH	124	0	18

* Friction angles were reduced by 20% in seismic analyses to account for increased pore water pressures during dynamic, earthquake-induced ground shaking (Hynes-Griffin and Franklin, 1984).

4. **Phreatic Surface:** Measurements at the nearby West Broadway Landslide indicate groundwater surface elevations of approximately 3,161-ft beneath the main slide block during June 2014. Back analysis of the landslide based on rates of movement in April 2014 estimated groundwater elevations to be 25-30 feet higher during spring runoff conditions (Landslide Technology, 2014a).

A phreatic surface has been applied to the models in order to account for static pore water pressures. In static analyses, a higher phreatic surface representing seasonal high levels was used. In seismic analyses, the models use a lower phreatic surface considered to represent conditions during most of the year. It is statistically unlikely that high groundwater will occur at the same time as a design earthquake event, and normal practice does not impose two sets of extreme conditions (i.e., peak water pressure plus a design earthquake) on a single model.

A future site investigation will install vibrating wire piezometers to measure seasonal groundwater fluctuations at the site, which will be used to update the stability models.

5. **Seismicity:** The site (Latitude: N 43.475°, Longitude: W 110.787°) is in an area of moderate seismic activity. Online tools exist to select a site specific PGA for the CSES facilities (USGS, 2014). These are based on USGS seismic hazard maps published in 2008, which form the basis of seismic loads for the ASCE 7-10 Minimum Design Loads for Buildings and Other Structures. The site specific PGA with 10% probability of exceedance in 50-years of 0.19g, where “g” is the acceleration due to gravity.

Seismicity has been incorporated into the model using a pseudo-static approach where inertial forces from seismic accelerations are applied statically to the model. Seismic loads have been applied to the critical slip surface determined by static analysis for each cross-section as is it assumed to be the most stressed region within the slope (Abramson et al., 2002). The forces from earthquake-induced ground shaking are assumed to be proportional to the weight of the sliding mass times a horizontal seismic coefficient k_h . A

seismic coefficient of $k_h = 0.1g$, or $\frac{1}{2}PGA$, has been used in this assessment with a 20% reduction in the shear strength of soil materials (Hynes-Griffin and Franklin, 1984).

6. **Building Loads:** Due to the number of construction variables at this point in design and uncertainties involved in the preliminary model, we decided not to include building loads, which are typically small compared to soil pressures. Loads from site grading are estimated to be minimal. Foundations constructed on the upper bench may actually result in a net reduction of driving force, increasing the FS with respect to slope stability.

Stability Analysis Results

Results of the preliminary stability analyses are shown in Table 2. FS values are above those generally accepted by engineering practice for slope stability ($FS \geq 1.5$ for static and $FS \geq 1.1$ for seismic). Please note these are values based on soil shear strength data estimated by extrapolating soil data from nearby sites. Laboratory testing of site soils sampled in a geotechnical site investigation will reduce uncertainty related to soil parameters.

Table 2: Summary of Stability Analyses Results

Cross-Section	Analysis Condition	Soil Strength Condition	Modeled Factor of Safety
A-A'	Static	Peak	3.12
		Residual	1.99
	Seismic	Peak	2.66
		Residual	1.72
B-B'	Static	Peak	2.35
		Residual	1.57
	Seismic	Peak	1.93
		Residual	1.32
C-C'	Static	Peak	2.13
		Residual	1.50
	Seismic	Peak	1.74
		Residual	1.24

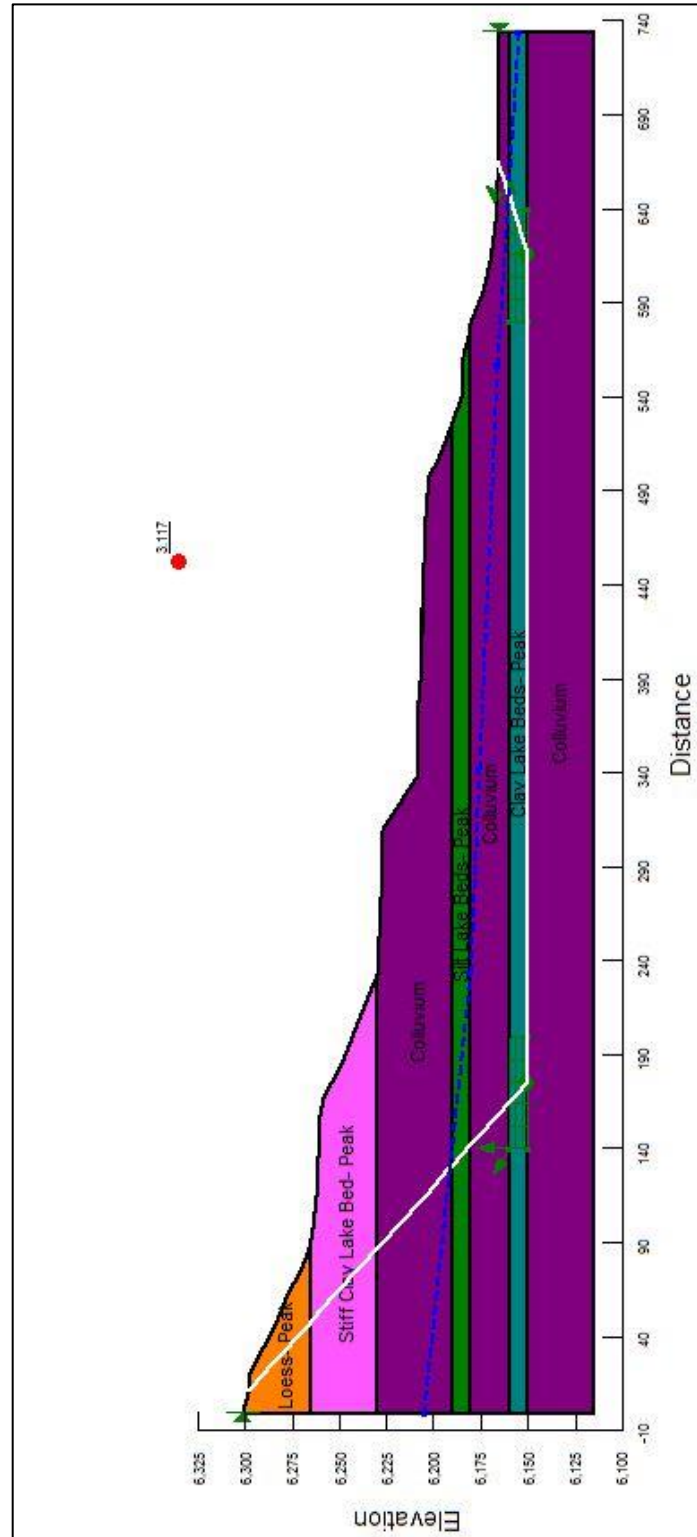


Figure 3: Cross-Section A-A'

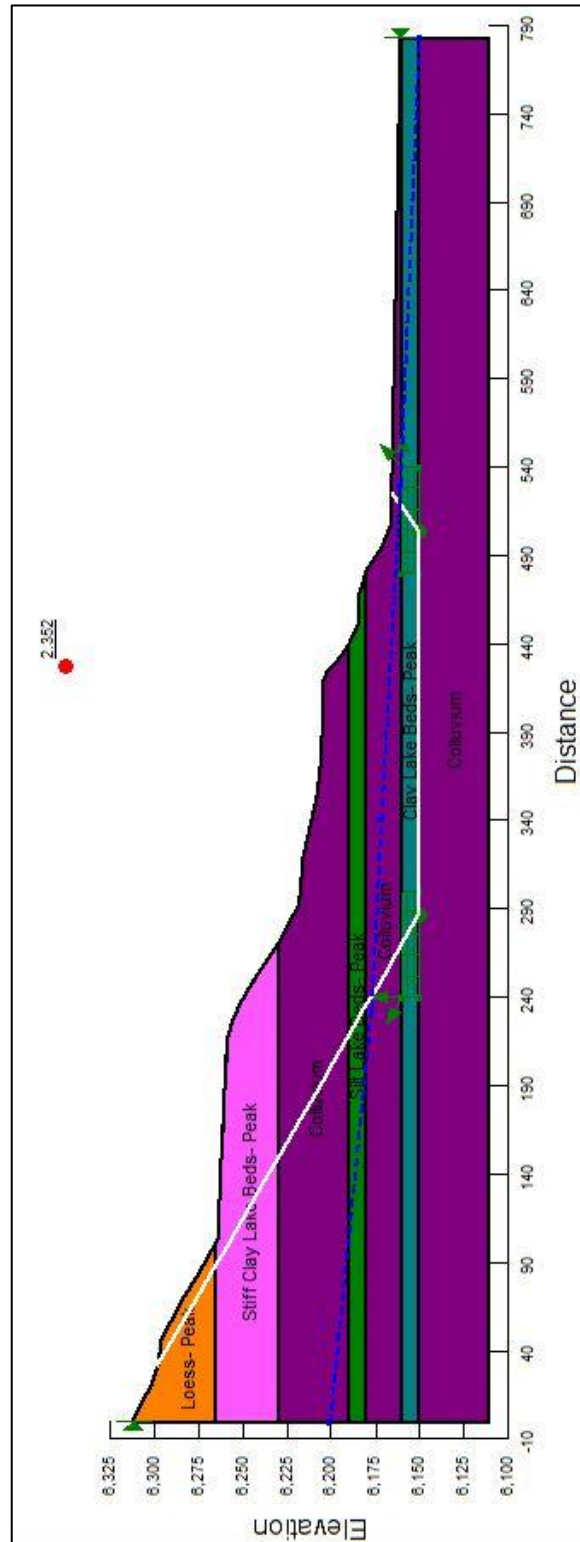


Figure 4: Cross-Section B-B'

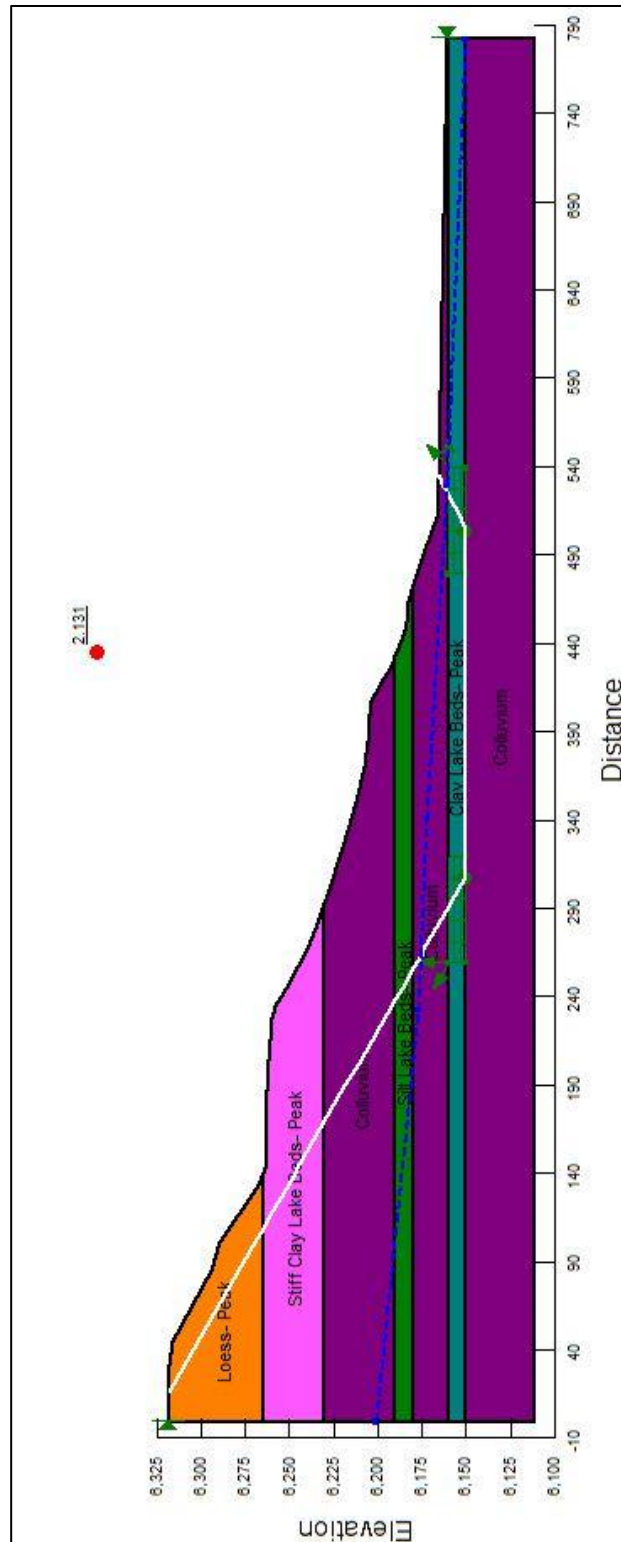


Figure 5: Cross-Section C-C'

March 10, 2017

Limitations

This report has been prepared based on a very limited amount of data. At this point, geotechnical uncertainties exist and actual site conditions may vary considerably from the assumptions made in these analyses. Nearby slope instability warrants approaching construction on this site with great care.

Site specific investigation, laboratory testing, and modeling shall be performed before final development and design. Stability analyses are dependent upon a number of conditions including, but not limited to: slope geometry, construction methods, building loads, runoff and other water features, etc. Changes in design and construction of the proposed development could dramatically change the inputs to the model. As such, recommendations in this letter and future stability analysis are contingent upon our involvement for the duration of the project.

These services have been performed in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in this area under similar conditions. No other warranty is made or implied.

If you have any questions about this report, or if we may provide other services to you, please contact us. As the project progresses, we will be available to answer questions.

Respectfully submitted,

JORGENSEN GEOTECHNICAL, LLC

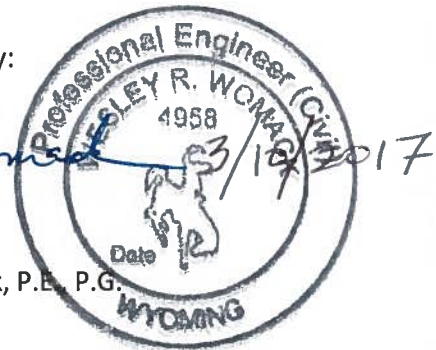


Colter H. Lane, P.E., M.S.

Reviewed by:



Ray Womack, P.E., P.G.



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April 23, 2018

Mr. Dennis Callaghan
Callaghan Partners
45 River Avenue
Monmouth Beach, NJ 07750

**RE: GEOTECHNICAL ENGINEERING REPORT, 984 BUDGE DRIVE, JACKSON, WYOMING
PROJECT NO: 16092**

Dear Dennis,

We are pleased to present this Geotechnical Engineering Report for 984 Budge Drive located in Jackson, Wyoming. The report describes site conditions and presents conclusions and recommendations to support the design and construction of foundation and drainage elements typically associated with residential construction.

In summary, there are two primary geotechnical hazards at the site. First, the southern portion of the site is covered by a combination of loose fill, and a loess and colluvium mixture, both of which are susceptible to settlement or collapse when inundated with water under load. Secondly, the northern portion of the site is underlain by potentially expansive lean clay lake beds. In order to reduce the potential for both settlement and swell, we recommend utilizing deep foundation elements such as helical piers. A structural floor slab is also recommended to further reduce the risk of distress due to differential settlement and/or swell. Moisture-sensitive soils require foundation drainage and careful management of surface water (i.e., adequate grading).

If you have any questions about this report, or if we may provide other services to you, please contact us. As the project progresses, we will be available to answer questions.

Respectfully submitted,

JORGENSEN GEOTECHNICAL, LLC



Harrison W. Carter, E.I.



Colter H. Lane, P.E.

**GEOTECHNICAL ENGINEERING REPORT
984 BUDGE DRIVE
JACKSON, WYOMING**



Prepared for:

**Mr. Dennis Callaghan
Callaghan Partners
45 River Avenue
Monmouth Beach, NJ 07750**

Prepared by:



JORGENSEN
GEOTECHNICAL, LLC

**PO Box 9550
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April 23, 2019

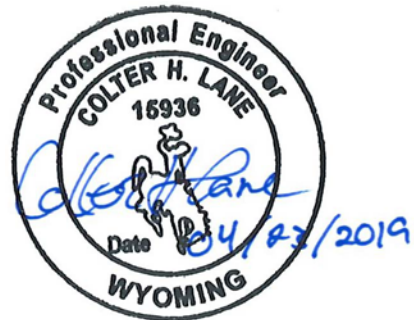


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1.0 INTRODUCTION

The project site is situated on a 1.47 acre parcel located at 984 Budge in Jackson, Wyoming, on the lower southwestern flank of East Gros Ventre Butte, approximately 500 feet north of West Broadway Avenue/Highway 89 and approximately 1,200 feet west of the West Broadway Landslide (WBL), as shown in Figure 1. Due to the project's close proximity and concerns of similar geology as the WBL, a slope stability analysis commissioned by Mr. Dennis Callaghan was conducted by Jorgensen Geotechnical during Summer 2017. The analyses indicated the site was stable under static and seismic conditions. The results of the slope stability analysis are summarized in Section 3.1.

A brief review of historic mapping and aerial imagery indicated the “benched” topography of the project site is not a result of natural soil and rock deposition, but a result of the development of the building pad using a cut and fill method. The cut and fill method appears to have created the slopes above and below the building site that are steeper than the original ground surface. The aerial imagery shows excavation of the building pad began sometime between 1955 and 1967 and was expanded to its current state by 1977. Specific construction means and methods used to construct the building pad are unknown.

Figure 1 is a generalized geologic map showing the approximate location of the project site adapted from the Geologic Map of the Grand Teton Nation Park (Love, et al. 1992), which shows the location and type of surface deposits, bedrock units, and geologic structures (i.e., faults and rock orientations). The map shows the project site is partially covered by Quaternary loess deposits (Ql) and lacustrine deposits of the Shooting Iron formation (Tsi) outcropping in the immediate vicinity. The map also shows the site is surrounded by gravity deposits, colluvium (Qc) and talus (Qt).

No free water was observed during the 2017 field work in any of the five boreholes. One vibrating wire piezometer was installed in the bottom of boring JG-3 at a depth of 120-ft-4-inches below the existing ground surface, corresponding to an approximate elevation of 6,143-ft above mean sea level (AMSL). Measurements of the piezometer during the spring runoff season indicated dry conditions. A perched groundwater table was discovered in boring JG-1 at an approximate elevation of 6,183-ft AMSL. The water was observed within a fine-grained lacustrine deposit, while the sand and gravel alluvial deposits below were observed to become drier with depth, further indicating the water was confined to the fine-grained lacustrine deposit and did not represent the groundwater table associated with the valley floor.

Additional detailed descriptions of site conditions including history, geology, soil conditions, and groundwater are included in the 2017 Subsurface Exploration and Slope Stability Analysis Report. Generalized geologic cross-sections and borehole logs are also presented in the 2017 Report. We recommend these reports be stored and transmitted together in future project documents.

2.0 PROPOSED CONSTRUCTION

At the time of this report, preliminary site plans for the project were not available, though it is assumed future plans include subdividing the property into five separate lots, as shown in Figure 2. Details regarding the type and size of the structures to be built on the lots are unknown at this time, though it is assumed they will be single family residential structures. Helical pier test probe locations were concentrated to the eastern portion of the lot to accommodate a former construction schedule (further discussed in Section 6.4.1). Although the recommendations presented in the Report apply to the entire building pad, it is highly recommended test probes be installed prior to the design and construction of structures west of the test piers installed in April 2019.

3.0 REPORT METHODOLOGY

3.1 Summary of Previous Subsurface Exploration

The subsurface data collected during the 2017 investigation were used in conjunction with the helical pier test probe (test pier) results to draw conclusions and present recommendations for foundation and drainage elements presented in this Report. During the 2017 field work, a total of five boreholes ranging from 31 to 121-feet in depth were drilled and sampled. Borehole locations are shown in Figure 2. Standard penetration tests (SPT) were recorded and samples were obtained from all borings at 5-foot intervals. Relatively undisturbed samples of fine-grained soils were obtained using thin-walled Shelby tubes. An extensive laboratory testing program was conducted on select samples. Laboratory tests included natural moisture contents, percent fines (i.e., soils passing the #200 sieve), mechanical hydrometer to determine percent silt and percent clay, undisturbed unit weights, direct shear tests, as well as consolidation and swell tests. The results of the slope stability analysis, with applied surcharge loads at the southern edge of the building pad to represent potential structures, indicated the site is stable with factors of safety exceeding those generally accepted in engineering practice.

Soils observed during the slope stability analysis field work consisted mainly of lacustrine deposits (i.e., lake beds), loess, colluvium, stony alluvial deposits at depth, and a loess/colluvium mixture. Surface soils along the southern edge of the building pad encountered in borehole JG-4 are assumed to be loose fill derived from the steep cut slope to the north and consist mainly of loess. Soils underlying the loess fill are a colluvium and loess mixture as well as alluvial fan soils at depth. Lake beds were discovered at the surface in boreholes JG-3 and JG-5 and extended to at least 121-feet below the surface of the existing driveway and parking lot along the northern portion of the project site.

Loess is known to be highly susceptible to hydro-consolidation (sudden collapse upon wetting) when saturated under loads commonly associated with typical residential construction. Laboratory tests conducted on samples collected during summer 2017 show the lake bed deposits have the potential to swell when saturated. The primary geotechnical concerns are the collapse potential of the loess and the swell/heave potential of the lacustrine deposits. We

recommend utilizing a structural slab and grade beam foundation walls supported by deep foundation elements to reduce the risk of differential settlement. A recommended foundation system is discussed further in Section 7.1.

3.2 Helical Pier Test Probe Methodology

The purposes of helical pier test probes are to determine an anticipated design capacity, as well as the helix configuration and the depth necessary to achieve it most economically. Helical pier test probes consist of a single eight-inch, or an eight-inch and ten-inch helix combination attached to a lead section. During the installation of the test probes, the applied torque is displayed on a digital gauge and documented by the engineer on site. The theoretical torque of different helix configurations (i.e., 10-inch, an 8 and 10-inch, and 8, 10, and 12-inch, etc.) can be calculated using the measured torques using a proportional surface area formula, as suggested by Pack (2009).

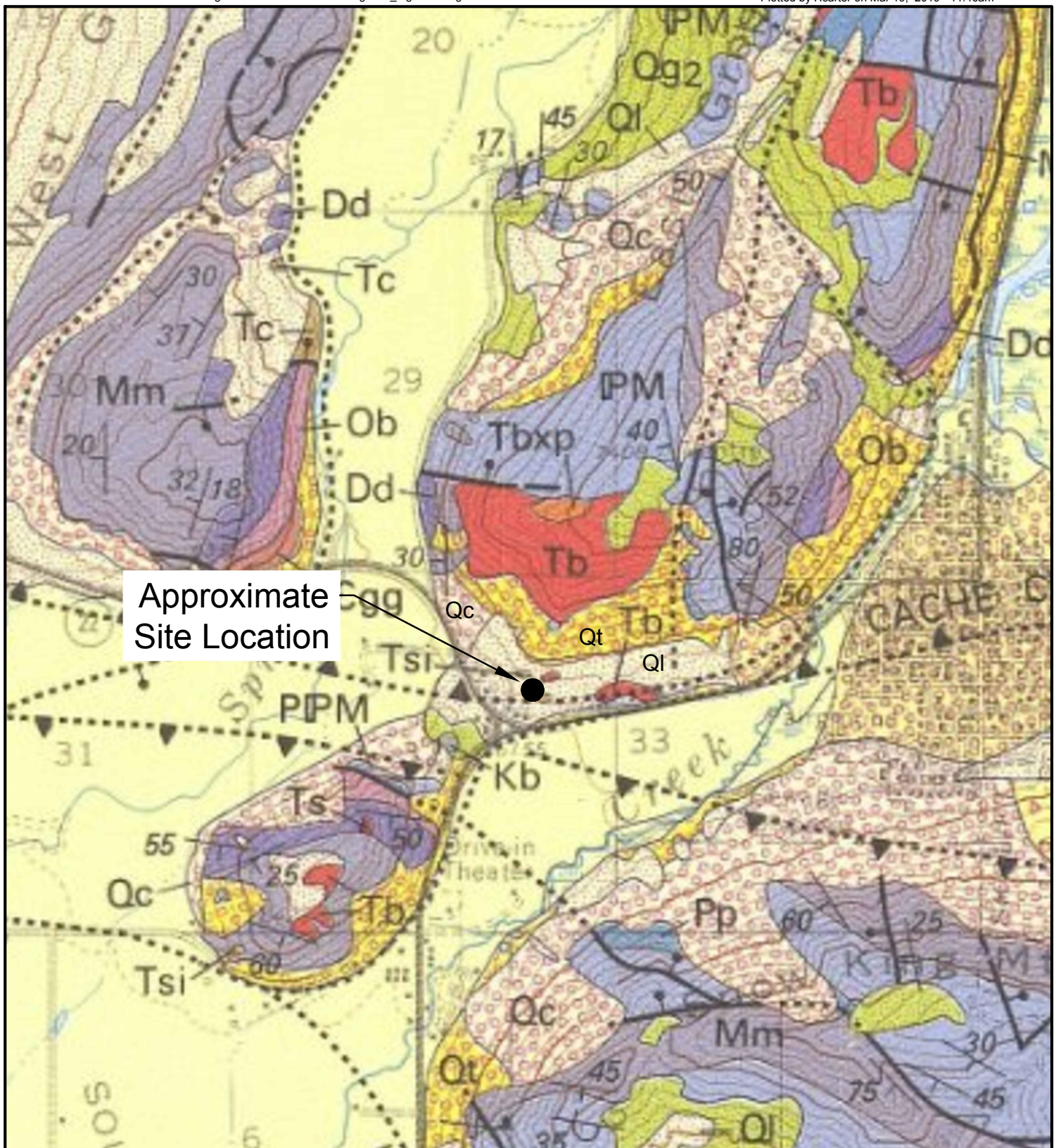
Ultimate capacity of the piers is related to the torque by an “empirical installation torque coefficient”, or k_t . The measured torque is multiplied by k_t in order to determine the *ultimate* capacity of the pier. A factor of safety (FS) is then applied to the ultimate capacity of the pier to determine the *design* capacity. If a site specific k_t value is not determined, the product manufacturer should be consulted when choosing a specific installation torque coefficient as torque coefficients range from 7 to 18 ft⁻¹, depending on shape and size (Pack, 2009). In the case of a 1-3/4” solid square shaft, available literature suggests using a k_t value of 10. Equations showing the relationship between torque, ultimate capacity, and allowable load are shown below:

$$Q_u = Q_{\text{Design}}(\text{FS}) \qquad Q_u = k_t(T)$$

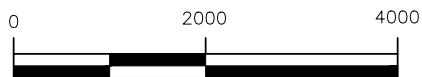
Our experience with helical piers installed in similar soils in the Jackson Hole area indicate the theoretical k_t value of 10 suggested in the available literature may be slightly overestimated. Ultimate capacities have been determined by JG using the Davisson Method in the past by conducting verification tests in both compression and tension. The ultimate capacities ascertained from the field tests were then compared to the recorded installation torques of the piers in order to back-calculate a k_t value. The average k_t value for both compression and tension was calculated to be approximately 7.5. Experience has shown the k_t values can vary from site to site, as well as within a particular site depending on the variability of soil conditions. Due to the variability between the theoretical and the calculated k_t values, two tensile verification tests were conducted during the helical pier test probe installation at the project site.

3.3 Report Preparation

This report includes the geological site conditions, a site location and geologic map (Figure 1), helical pier test probe results, and the verification test results. This report provides engineering analyses and recommendations for the design and construction of foundation and drainage elements for the entire building pad that occupies 984 Budge Drive (Parcel Identification Number 22-41-16-32-1-07-001) as of April, 2019.



Approximate
Site Location



SCALE: 1 INCH = 2000 FEET

THIS SCALE VALID ONLY FOR 8.5x11 PRINTS

From Love et al, 1992, Geologic Map of the Grand Teton National Park, Teton County, Wyoming Map I-2031

Map symbols: Qc - Colluvium Qi - Loess Qt - Talus

Tsi - Shooting Iron Tb - Basalt

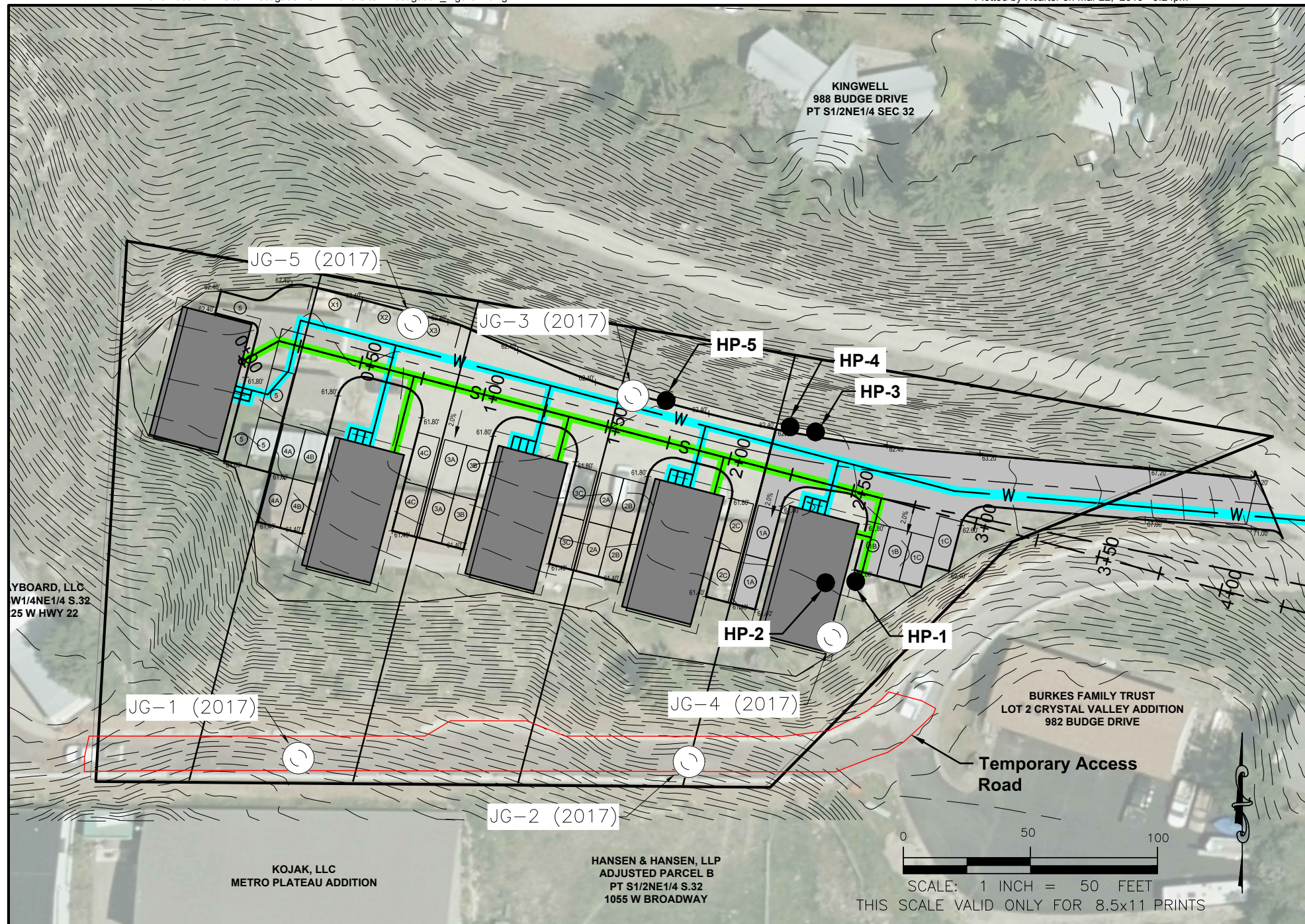
DRAFTED BY: HC
REVIEWED BY: CHL
PROJECT NUMBER
16092

SHEET TITLE:
Figure 1
Site Location and
Geologic Map

PROJECT TITLE:
Geotechnical Site Investigation
984 Budge Drive
Jackson, Wyoming



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DRAFTED BY: HC
REVIEWED BY: CHL
PROJECT NUMBER
16092

SHEET TITLE:
Figure 2
Helical Pier Test Probe and
Borehole Location Map

PROJECT TITLE:
Geotechnical Site Investigation
984 Budge Drive
Jackson, Wyoming



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4.0 EARTHQUAKES AND SEISMICITY

Jackson Hole is located within the Intermountain Seismic Belt, a zone of seismicity that extends from southern Utah through eastern Idaho, western Montana, and western Wyoming (Smith and Arabasz, 1991). The Teton Fault, located along the eastern margin of the Teton Range about 10 miles northwest of the project site, is considered an important structural element of the Intermountain Seismic Belt. Predicted recurrence intervals for maximum credible earthquakes have passed for most of the fault systems capable of generating magnitude 7.5 events in western Wyoming (Case, 1997), implying the risk of major earthquakes is relatively high.

Ground motion accelerations should be derived for the project site in accordance with the general procedure defined in the International Building Code (IBC). The IBC references ASCE 7-10 to determine the ground motion accelerations. The site class is determined by the soil characteristics in the top 100 feet of the soil profile. Based on subsurface exploration, geologic mapping, and our experience in the area, the site may be classified as Site Class D (Stiff Soils). For your convenience, a Seismic Design Map Summary Report was produced assuming a risk category of II and is attached in Appendix A. This report presents design ground motion for structural design. Results of the ASCE 7-10 design values indicate the site is classified as Seismic Design Category D.

The site is in an area of moderate seismic activity. The current horizontal peak ground acceleration (PGA) with 10% probability of exceedance in 50-years is approximately 0.23g, according to the USGS Unified Hazard Tool (USGS, 2014). This has been applied in this report for analysis of seismic lateral loading on retaining walls, see Section 6.3.

The provisions of the IBC are intended to provide uniform levels of performance for structures, depending on their occupancy and use and the risk inherent to their failure. The approach adopted in the IBC is intended to provide a uniform margin of safety against collapse at the design ground motion. The design earthquake ground motion is selected at a ground shaking level that is 2/3 of the maximum considered earthquake (MCE) ground motion, which has a likelihood of exceedance of 2 percent in 50 years (a return period of about 2,500 years). The owner should be aware that the IBC is not intended to prevent damage or loss of function during a major earthquake; it is intended to reduce the risk of loss of life. Structural design should follow the level of risk tolerable to the owner.

5.0 GEOLOGICAL AND GEOTECHNICAL HAZARDS

In our opinion, the greatest geo-hazard at this site is the possibility of differential settlement. Differential settlement at the project site is likely to occur without the proper foundation system and subgrade preparation due to the presence of both potentially collapsible *and* expansive soils. Deep foundation elements are recommended as the preferred foundation system (Section 7.1). Due to the seismic activity in the Jackson Hole area, though small, several risks associated with seismic activity are present and are further discussed below.

5.1 Collapsible Soils

Loess deposits, which, as summarized in Section 3.0, are potentially subject to collapse when inundated with water. Collapse settlement tends to occur locally, as a result of unusual moisture events, such as broken sprinkler lines, broken water service lines, or concentration of surface water adjacent to foundations due to poor surface runoff control. Development and maintenance of this property requires careful construction and management of water. Loose, loess-derived fill along the southern portion of the project site has collapse potential, as well.

5.2 Expansive Soils

A consolidation test conducted on a sample from JG-3, indicated the lacustrine deposits encountered on the northern portion of the building pad have expansion potential when saturated. The lacustrine clays exhibited a volumetric expansion potential of 1.6% under a confining pressure of 500 psf and a swell pressure of approximately 2,400 psf. The risk of soil swelling can be mitigated using careful surface runoff control and drainage. As with the collapsible soils, development and maintenance of this property will require careful construction and management of water.

5.3 Seismic Hazards

Due to the location and geologic setting of the proposed project site, several hazards associated with seismic activity exist, though, in our opinion, represent a slim margin of occurrence. Although the project site is located on a steep slope located approximately 1,200 feet from an existing landslide, our extensive subsurface investigation and subsequent analyses in 2017 indicates the site is stable under design seismic conditions. The risk of liquefaction is low due to the observed density (i.e., high SPT blow counts) of subsurface soils, gravel content, and lack of an observed water table within the sand layers. The distance from any Quaternary faults indicates surface rupture at the project site is unlikely to occur. The owner should be aware that in the event of a large magnitude earthquake, strong ground shaking and ground cracking could potentially cause damage to structures (Smith et al., 1993). The owners may wish to consider the option of carrying earthquake insurance in addition to homeowner's insurance.

6.0 ENGINEERING ANALYSIS

6.1 Settlement

Test results conducted on loess samples collected from the Jackson Hole area show a possible volumetric collapse of up to 20%, though the average collapse potential is understood to be around 6-8%. If a 5-ft layer of loess were to become saturated, settlement on the order of 3-5 inches might be expected, which is likely to damage any structures bearing on the loess. In our opinion, it should be assumed all loess encountered at the site is collapsible and should be dealt with accordingly. Foundation system recommendations to reduce the risk of damage due to soil collapse are presented in Section 7.1. Subgrade preparation under interior and exterior slabs to improve slab performance is described in Sections 7.5 and 7.6, respectively.

Based on our experience with similar deposits in the Jackson Hole area, the stony alluvial fan deposits underlying the loess encountered by two of the helical pier test probes will serve as an adequate bearing layer for deep foundation elements and is not expected to experience significant settlement (i.e., greater than 1-inch total settlement or 0.5-inches of differential settlement). Stiff lakebed clays are also predicted to support deep foundation elements without significant settlement, provided the deep foundation system is installed to sufficient depth below the soil's active zone.

6.2 Swell

As mentioned in Section 5.2, one consolidation test conducted on an undisturbed sample of lacustrine soils collected from borehole JG-3 in May 2017 indicated the soils may swell when saturated. The consolidation test indicated the soils have a volumetric expansion potential of 1.6% exhibiting a maximum swell pressure of 2,436 pounds per square feet (psf). If a 5-ft layer of the lacustrine were to become saturated, expansion of approximately 1-inch could be expected, which is likely to damage any structures bearing on the lacustrine clay. This is of particular concern where only portions of the structures may be underlain by swelling soils as the heave would be entirely differential across the structure.

6.3 Lateral Pressures

Lateral pressures were calculated using methods suggested by Bowles (1996). Lateral pressures were calculated for at-rest, active, and passive conditions and presented in Table 6-1. Values in the table assume a level ground surface adjacent to basement walls and retaining structures. We have assumed a mixture of native loess and colluvium will be used as exterior backfill, which has an estimated internal friction angle of 30° and a unit weight of 130 pounds per cubic foot (pcf).

Table 6-1: Lateral Pressure Parameters for Loess and Colluvium Mixture

Condition	Coefficient of Earth Pressures	γK (equivalent fluid pressure)
Static Conditions Level Backfill	$K_o = 0.50$ $K_a = 0.33$ $K_p = 3.00$	65 pcf 43 pcf 390 pcf
Earthquake Conditions Level Backfill	$K_{ae} = 0.41$ $K_{pe} = 2.79$	53 pcf 363 pcf

6.3.1 Active Pressures

For lateral pressure design of retaining walls, which are allowed to deflect and develop an active soil wedge, the calculated equivalent fluid pressure (γK_a) is 43 pcf. This pressure distribution would be equivalent to a force of approximately $21.5H^2$ pounds per horizontal foot of wall acting at one-third the wall height (H) above the base.

Lateral pressures on retaining walls from earthquakes were estimated using the Mononobe-Okabe equations (Bowles, 1996; Duncan et al, 1990). Because the maximum acceleration occurs only briefly during an earthquake, it is common practice when designing dams and other earth structures to reduce the design acceleration to $\frac{1}{2}$ of the maximum design acceleration (Hynes and Franklin, 1984). We have calculated equivalent fluid pressures using a horizontal acceleration k_h of 0.115g ($\frac{1}{2}$ of k_h max) per the USGS (2014).

Research has indicated that lateral pressures due to earthquakes are non-hydrostatic in distribution, and the resultant acts above the lower third-point of the wall (Bakeer, et al, 1990). Accordingly, active soil pressures have been divided into two components that act at different wall heights. The static force acts at the lower third-point, as discussed above. The Mononobe-Okabe equations were used to estimate dynamic forces against retaining walls. The resultant force from seismic lateral pressures is applied at 60% of the wall height above the base with a magnitude equal to the difference between seismic and static active pressures; i.e., $\frac{1}{2} (\gamma K_{ae} - \gamma K_a)H^2$ or $5.0H^2$ pounds per horizontal foot of wall applied.

6.3.2 At-Rest Pressures

For lateral pressure design of basement walls, which are restrained and not allowed to deflect, the calculated at-rest equivalent fluid pressure (γK_o) is about 65 pcf. Design control of such walls should utilize whichever generates the higher resultant force: at-rest pressures (γK_o) or active seismic pressures (γK_{ae}).

6.3.3 Passive Pressures

For passive pressure design, the calculated equivalent fluid pressure (γK_p) is 390 pcf reduced to 363 pcf for seismic conditions. Passive pressure design should neglect loose fill and soil located within the frost zone.

6.4 Helical Pier Evaluation

6.4.1 Test Probe Piers Results

A total of five helical pier test probes (test piers) were installed in March 2019. Approximate test pier locations are shown in Figure 2 denoted by HP-1, HP-2, HP-3, HP-4, and HP-5. Test probe locations are concentrated on the east portion of the site because the planned build-out of the lot at the time of the investigation was to be staggered, with construction of the eastern most unit beginning first. Underground utilities serving the existing residences also limited test probe locations. The test piers were installed to depths ranging from 7.0 to 38.0 feet below the existing ground surface, final depths of each test pier can be found in the Helical Pier Test Probe Observation Sheet attached in Appendix B. Test piers HP-1, HP-2, HP-3, and HP-4 all encountered a refusal condition, while HP-5 was terminated prior to reaching a refusal condition. Test piers HP-3 and HP-4 reached the refusal condition at shallow final depths of 7.0 and 8.0 feet below the ground surface, respectively. Due to the shallow installation depths of HP-3 and HP-4, elevation vs. recorded torque plots were not produced, though elevation vs. torque plots for HP-1, HP-2, and HP-5 can be found in Appendix B. The three plots show the recorded torque depicted as the gray line and calculated torques for different helix configurations (using surface area proportional calculations as discussed in Section 3.2) shown in either orange or blue.

In general, HP-1 and HP-2 were observed to encounter similar drilling conditions with intermittent sections of smooth drilling and heavy grinding and slow drilling. HP-1 and HP-2 experienced relatively consistent torque increases with depth to a maximum achieved at an elevation of 6,236-ft (approximately 25 to 26 feet below the existing ground surface). Below 6,236-ft the torque values decreased until HP-1 and HP-2 reached a refusal condition at approximately 6,228.5-ft and 6,225-ft, respectively. Both HP-1 and HP-2 were terminated in a layer of stony colluvium identified during the 2017 drilling effort. Stony colluvium or the mixture of dense loess and colluvium are assumed to serve as suitable load bearing soils for deep foundation elements.

Test pier HP-5 was installed in a layer of lacustrine lakebeds identified during the 2017 drilling effort. The lakebeds were classified as lean clay through an extensive laboratory testing regime. Young lakebeds were identified to approximately 28 feet below the existing ground surface, with stiffer, older lakebeds identified between 28 and 121.5 feet bgs. The elevation vs. torque plots for HP-5 show a generally steady torque increase with depth to a maximum achieved at an elevation of 6,225-ft where the torque begins to decrease. Test Pier HP-5 installation was stopped at an approximate elevation of 6,224-ft.

6.4.2 Verification Tests Results

Two tensile verification tests were conducted during the helical pier test probe installation. One tensile verification test was conducted on HP-1 within the layer of stony colluvium, with the second tensile verification test completed on HP-5 within the older lacustrine lakebed deposits. The verification tests were conducted in order to determine a site specific K_t value, which relates the measured torque to the geotechnical capacity of the pier, as described previously in Section 3.2.

Data from the tests were analyzed as recommended by the ICC-ES Acceptance Criteria AC358 for Helical Systems and Devices Section 4.4.1.2 where the ultimate geotechnical capacity of the pier is taken as the test load causing a net displacement (i.e., elastic compression/tension subtracted from total measured displacement) of 0.10 times the average diameter of the helices or, in this case, 0.8-inches. The Davisson Method (Davisson, 1973) is commonly used to determine failure criteria of piers based on the theoretical elastic elongation of the pier.

Based on this method the measured ultimate tensile capacity for HP-1, which reached a refusal condition within a stony layer of colluvium, is zero (0) kips; i.e., when an uplift load was applied to the pier, it moved more than the allowable 0.8 inches before any uplift resistance was measured. The measured ultimate capacity for HP-2 which was terminated at a torque of 3,900 ft-lbs was calculated to be 14.8 kips. Test results are summarized in Table 6-2 below and verification test plots can be found in Appendix C.

Table 6-2: Helical Pier Verification Test Results Summary

Helical Pier	Helical Pier Test Date	Test Type	Installation Torque (ft-lbs)	Installation Depth (ft)	Soil Type	Measured Ultimate Tensile Capacity (kips)
HP-1	March 11, 2019	Tension	Refusal	33.5	Stony Colluvium	0.0
HP-5	March 12, 2019	Tension	3,900	38.0	Lacustrine Lean Clay	14.8

In summary, any helical pier that reaches a refusal condition within the layer of stony colluvium is assumed to have no tensile capacity, unless additional testing indicates otherwise. We predict when a pier reaches a refusal condition the pier continues to spin and disturbs the soil in contact with the helices, reducing the in-situ strength the soil had prior to disturbance. The measured tensile capacity and torque for HP-5 indicates a site specific K_t value of 3.8, which is lower than anticipated. One explanation for the low value is although the helical pier was installed to a recorded torque of 3,900 ft-lb, the installation began to slow and the soil was likely disturbed prior to the verification test. Additional verification testing of helical piers during construction is strongly recommended, especially to establish a K_t value for compression (see Section 7.1.3).

7.0 RECOMMENDATIONS

7.1 General Foundation Recommendations

All footings and grade beams should be placed below the frost line, including exterior footings for awnings and porches. The building code for Teton County requires that footings be placed at a minimum depth of 34 inches from finished grade, with a minimum foundation exposure of 6 inches above finished grade. Minor cracks in the foundation walls, floor slabs, and sheetrock are normal and should not be a cause for concern.

Due to the depth of the loose fill and collapsible soils along the southern edge of the building pad and expansive soils on the northern half of the building pad, final building locations may be such that they span both the potentially collapsible *and* expansive soils. Deep foundation elements such as helical piers are recommended to reduce the risk of both settlement and swell. The foundation system should consist of grade beams spanning the piers. A structural slab supported by piers is also recommended to reduce the risk of damage to the floor slab due to differential settlement. In the event any portion of the building footprint is underlain by expansive soils, grade beams and structural slabs should be isolated from the soil subgrade using 4 to 6-inch void forms. Recommendations for helical piers are provided below.

7.1.1 Helical Pier Design Recommendations

We make the following design recommendations for helical piers:

- We recommend designing helical piers assuming an ultimate compressive capacity of 30 kips per pier. Assuming a K_t value of 7.5 as discussed in Section 3.2, the required installation torque will be approximately 4,000 ft-lb. Helical pier test probes show this is achievable using a double helix configuration of 8-inch and 10-inch helices on a solid 1-3/4-inch square shaft. Production helical piers are estimated to achieve the target torque at elevations between 6,235 and 6,240-ft.
- Based on the HP-1 and HP-5 verification test results, piers reaching refusal in the stony soils may not be assumed to have tension capacity unless test results during construction determine otherwise. Using a site-specific K_t value for tension of approximately 3.5 for piers installed in the lake beds, as determined by the HP-5 verification test, an ultimate per pier tension capacity of 14 kips may be achieved with an installation torque of 4,000 ft-lb. We recommend relying as little on tension capacity of the helical piers as possible during design.
- Should several closely-spaced piers be required, such as for a heavily loaded interior column, the piers shall be battered such that the helices at the end of the pier are spaced greater than three diameters of the largest helix.

7.1.2 Helical Pier Construction Recommendations

We make the following construction recommendations for helical piers:

- Using a lead section with larger helices (i.e., two 10-inch, or 10 and 12-inch helices) is anticipated to achieve the desired torque at shallower depths than the double helix, resulting in a lower cost per pier. However, the lead sections with larger or more helices will cost more and may increase the chance of reaching refusal in the underlying gravelly soil.
- We recommend specifying an angled leading helix edge for either configuration, preferably manufactured rather than shop-cut, in order to promote adequate penetration and to reduce the likelihood for piers reaching a refusal condition.
- Helical piers should be installed a minimum of five diameters of the largest helix below the ground surface (i.e., the surface of the prepared foundation subgrade) for the torque vs capacity relationship to be valid. Compression capacity may remain valid at depths less than five helix diameters from the ground surface, but tension may not (Pack, 2009). This should not pose an issue with construction due to the thickness of the loess.
- Any helical pier that is installed in the potentially expansive lacustrine lakebeds along the north portion of the property shall have a minimum installation depth of 12-feet below the bottom of footing in order to go below the depth of wetting, as suggested by Perko (2009).

7.1.3 Helical Pier Construction Testing

We recommend performing a minimum of two (2) compression verification tests prior to the start of production piers to verify the torque to capacity relationship for vertical compression loads. Load should be applied in equal increments up to pier failure or to the structural capacity of the pier, which comes first. A minimum of 5% of the production piers should be proof tested in compression to verify pier installation is consistent with the design assumptions. Testing shall be performed in accordance with ASTM D 1143 and D 3689.

7.2 Foundation Drains

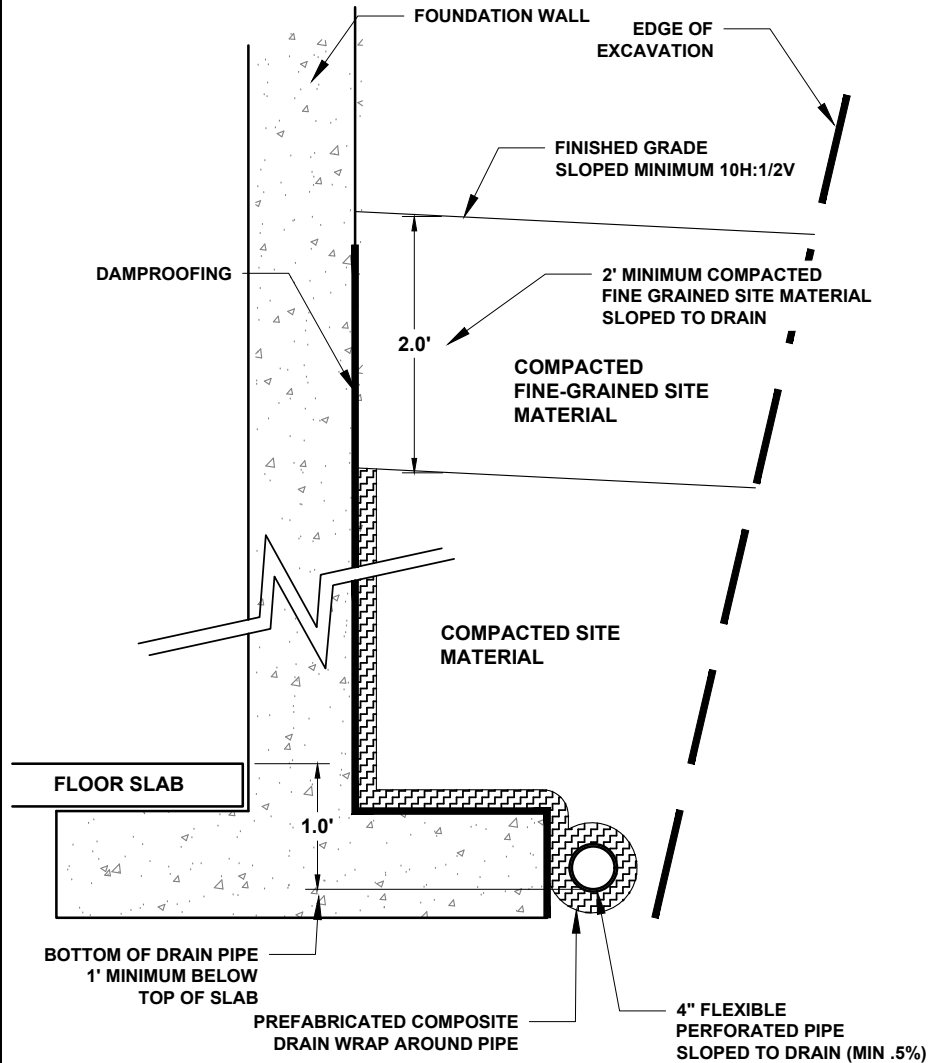
Due to the moisture sensitivity and poor drainage properties of site soils, proper drainage is important throughout the entirety of the project site. We recommend constructing foundation drains at the base of foundation elements. Damp proofing, rather than water proofing, will be adequate for foundation walls at this site.

Two drainage alternatives are illustrated in Figure 3 and are described as follows:

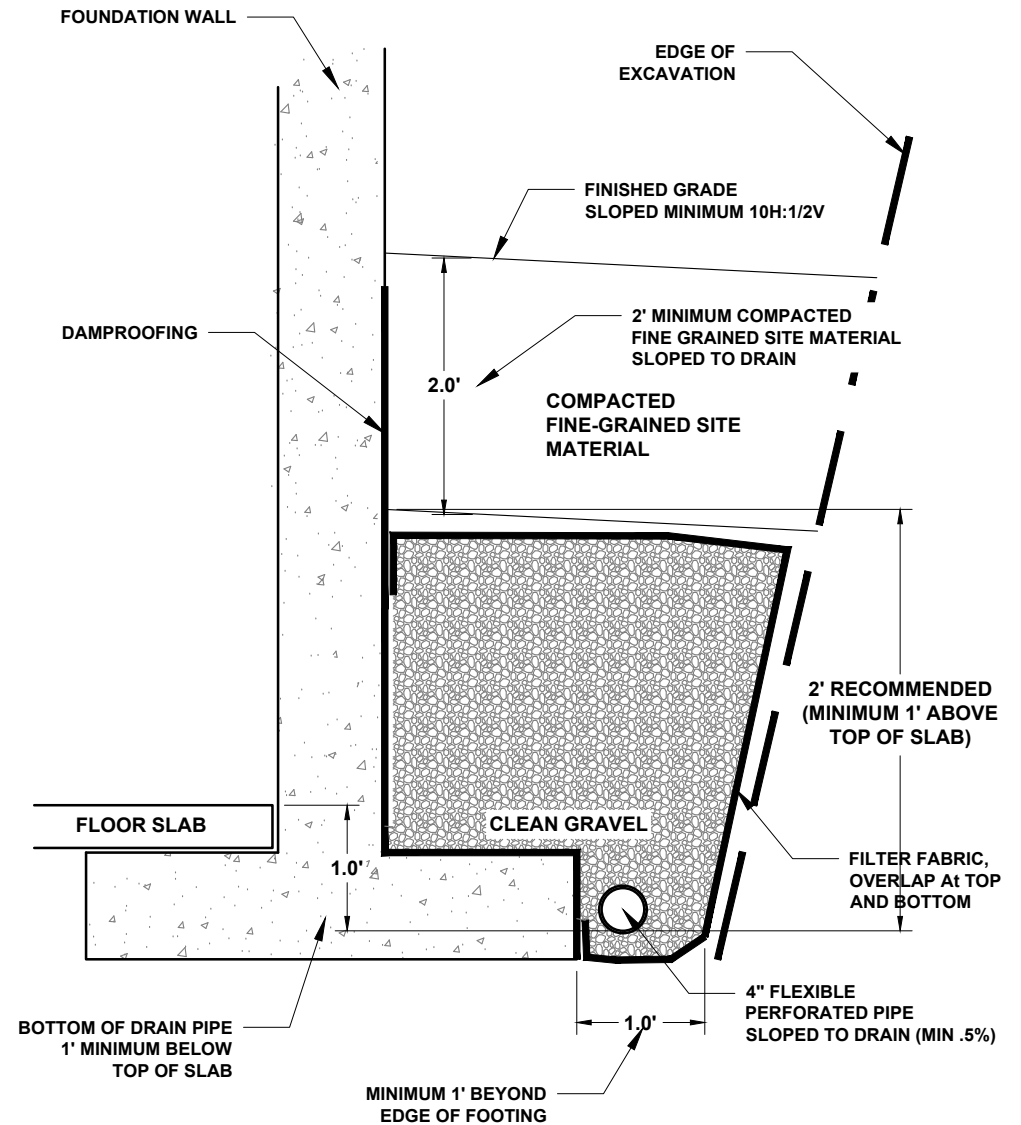
1. One alternative is a prefabricated composite drain, which consists of an open wick layer laminated to filter fabric to reduce infiltration of soil. The exterior of the wall is damp-proofed and the drain is laid against the damp-proofing layer. The excavation is backfilled

ALTERNATIVE #1: USING PREFABRICATED COMPOSITE DRAIN

(REQUIRED FOR FOUNDATIONS PLACED
GREATER THAN 6-FT BELOW FINAL GRADE)



ALTERNATIVE #2: USING DRAIN GRAVEL AND FILTER FABRIC



DRAFTED BY:	HC
REVIEWED BY:	CHI
PROJECT NUMBER	16092

SHEET TITLE:
Figure 3
Foundation Drain Alternatives

PROJECT TITLE:
Geotechnical Site Investigation
984 Budge Drive
Jackson, Wyoming



JORGENSEN
Geotechnical, LLC
307-733-5150 www.jorgeng.com

with compacted site material and the drain is covered by at least 2 feet of compacted site soil that is sloped to drain (minimum 5% for 10 feet). The composite drain is wrapped around a perforated drain pipe located a minimum of 1 foot below the top of the slab. The drain pipe may slope at a minimum of 0.5% and drain to daylight on the slope. This drain alternative (prefabricated composite drain) is required for foundations placed greater than 6-ft below final grade.

2. A second alternative involves placement of clean angular drain gravel or crushed stone between the foundation wall and the edge of the excavation. Drainage tiles, perforated pipe, or other approved systems should be installed at or below the area to be protected and should discharge by gravity or mechanical means into an approved drainage system. The drain pipe may slope at a minimum of 0.5% and drain to daylight or a sump. Gravel drains should extend at least 1 foot beyond the outside edge of the footing and 6 inches above the top of the footing. The gravel backfill is wrapped in an approved filter fabric. At least 2 feet of compacted fine-grained backfill (sloped to drain) is placed above the gravel envelope. The advantage of this technique is that the gravel backfill can usually be placed without compaction, reducing backfill cost and difficulty.

It is important to place the foundation drains low enough to adequately collect and discharge any water that may accumulate in utility trenches below the footings or in the gravel capillary break beneath concrete floor slabs. Drains that are placed too shallow or with insufficient gradient may fail to perform. Jorgensen is available to review the foundation drain design to ensure consistency with our recommendations.

7.3 Excavation and Cut Slope Stability

OSHA regulations (29CFR1926) appear to classify the loess site soils as Type A. For planning and design purposes, simple cut slopes should be no steeper than 0.75H:1V. If the loess is observed during construction to be fissured, which is often the case, cut slopes shall be no steeper than 1H:1V. According to OSHA, any cut slope greater than 20 feet in height requires additional analysis. These are recommendations based on observations made at the time of the investigation. The contractor shall be responsible for adherence to OSHA and other safety regulations by observing soil conditions at the time of construction.

7.4 Final Backfilling and Grading

Properly compacted backfill and site drainage are extremely important. Final grading should provide positive drainage of at least 0.5 foot in the first 10 feet away from the structure. Adequate gutters are strongly recommended. Roof runoff should be discharged at least 3 feet away from the building or exterior slabs. Swales or other moisture collection points should be avoided if possible within 20 feet of the footings. Drainage swales should slope a minimum of 2%. There should be no irrigation within 5 feet of foundation walls. Irrigation pipes should be pressure-tested when installed and checked annually for leaks.

Exterior backfill around buildings should consist of moisture-conditioned site materials placed in lifts and compacted to a standard of at least 92% of the maximum dry density as determined

by Standard Proctor testing (ASTM D698). Soil should be moisture conditioned to between -2% and +2% of the optimum moisture content. Fine-grained soils are most efficiently compacted using a sheepsfoot or padfoot roller. Exterior fills should be placed as early as possible to reduce moisture infiltration along foundation walls. However, do not over-compact exterior backfills against “green” foundation walls. Utility trenches should also be backfilled in lifts and compacted with the same care as exterior backfills, lest the fill settles causing damage to overlying landscaping, hardscapes, etc.

7.5 Interior Slabs-on-Grade

Interior slabs should be at least 4 inches thick, and any slabs bearing vehicles should be at least 6 inches thick, or as approved by a Structural Engineer. Minor floor cracking of slab-on-grade construction is difficult, if not impossible, to prevent. Such cracking is normal and should be expected to occur with time. Buildings are almost never free of cracks, and cracking is caused by many factors other than soil movement, such as concrete shrinkage or curling, or daily and seasonal variability in temperature and humidity.

To reduce the risk of damage from differential settlement, interior slabs should be designed with adequate reinforcement and span between deep foundation elements. As stated in Section 7.1, if any portion of the structure is overlying the potentially expansive soils, the slab should be isolated from the subgrade soil using a 4 to 6-inch void form.

An impermeable layer (usually plastic) is suggested beneath interior slabs, underlain by 4 inches of clean drain gravel that will act as a capillary break to reduce dampness. Two options are available to reduce the tendency for the concrete to crack or curl as it dries:

1. A blotter layer may be placed under the slab. In the past, loose sand has been used for this purpose, but is no longer recommended. A cover of 4 inches of trimmable, compactible, granular material may be placed over the impermeable layer to receive the concrete slab. This material usually consists of “crusher run material”, which varies in size from about 1.5-inch down to rock dust. Alternatively, 3 inches of compacted, fine-graded material such as crusher fines or manufactured sand may be used.
2. The blotter layer may be eliminated if the concrete is reinforced properly. The attached article entitled “Controlling Curling and Cracking in Floors to Receive Coverings” (Appendix D) provides a discussion of proper floor slab reinforcement. If the contractor needs additional guidance on reinforcement, a Structural Engineer should provide it.

References for three articles from the American Concrete Institute (ACI) that discuss these options can be found in the Reference section at the end of this report. We are able to offer additional guidance if requested.

7.6 Exterior Slabs-on-Grade

Exterior slabs (e.g., sidewalks, patios, driveways, etc.) typically sustain the greatest damage. Cracking is almost impossible to avoid, and freeze-thaw adds to the difficulty caused by soil movement. The silty loess soils may cause particularly severe frost damage.

Exterior slabs should be at least 4 inches thick, 6 inches if supporting vehicles, or as directed by the Structural Engineer. Exterior slabs should not be tied to foundation walls. Any movement of exterior slabs may be transmitted to the foundation walls, resulting in damage. Posts for patios or other exterior columns should not bear on exterior slabs. If the slabs settle or rise, the movement can be transmitted to the post, resulting in damage to the structure.

Fine-grained material should be removed below exterior slabs to a depth of 2 feet and replaced with native soil compacted to a dry density of 92% ASTM D698 and at least 6 inches of road mix gravel (e.g., WYDOT Grading H). The gravel and the compacted subgrade should be separated by a lightweight, non-woven geotextile (e.g., Mirafi 140N). Expansion joints are recommended in all concrete flatwork.

7.7 Ventilation and Radon

Evaluation of radon was beyond the scope of work; local codes should be followed and specialty contractors employed, if necessary. The building contractor is ultimately responsible for following local building codes. Ventilation to reduce moisture and potential accumulation of radon gas is required by code for habited and inhabited spaces below grade. A capillary break layer (Section 7.5) may be necessary to accommodate a radon vent pipe under interior slabs.

7.8 Reinforcing, Utilities, Testing, and Concrete Considerations

Footings, slabs, and foundation walls should be reinforced to resist differential movement. Consultation with a Structural Engineer to specify adequate reinforcement is suggested. Water and sewer lines should be pressure tested before backfilling. Exterior concrete should contain 5% to 7% entrained air.

7.9 Observations during Construction

A representative of this office should observe construction of any foundation or drainage elements recommended in this report. Site grading, soil compaction, and foundation installation should be observed by a representative of Jorgensen. Recommendations in this report are contingent upon our involvement. If any unexpected soils or conditions are revealed during construction, this office should be notified immediately to survey the conditions and make necessary modifications.

We are able to provide the most value observing site conditions at the following times:

1. Upon completion of site preparation to verify all organics and unsuitable material have been removed, as well as identify the presence or absence of the potentially expansive soils.
2. During placement and compaction of all fills.
3. During all helical pier testing and installation (continuous observation required by Teton County code).

Notice shall be provided at a minimum of 24 hours before the requested observation.

8.0 LIMITATIONS

This report has been prepared based on a limited amount of data. Actual site conditions may vary. The report is for single use and under no circumstances are the figures and text to be used separately. These services have been performed in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions. No other warranty is made or implied.

9.0 REFERENCES

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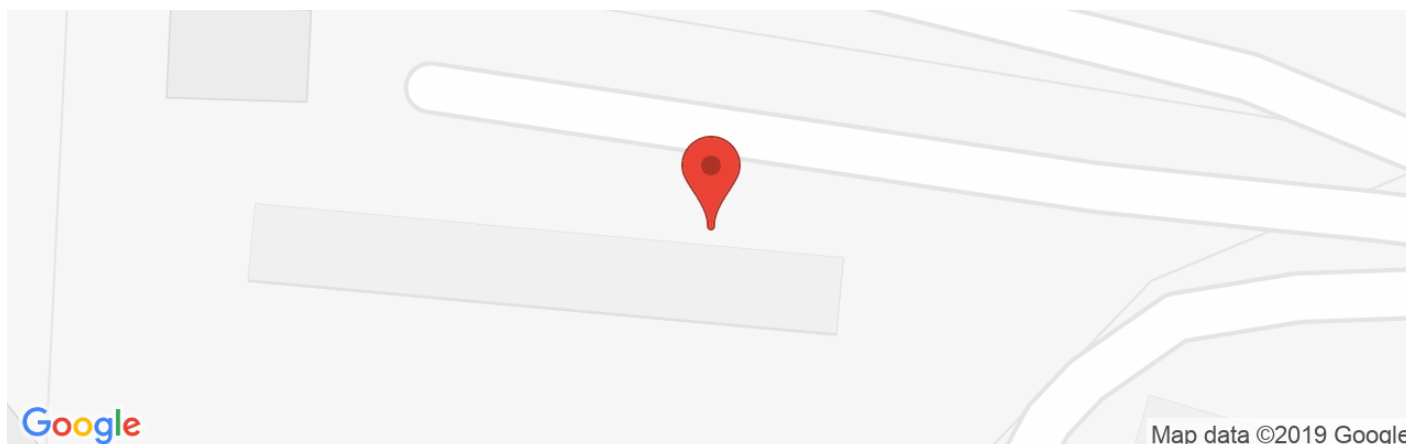
APPENDIX A:

U.S. Seismic Design Maps and Summary Reports



984 Budge Drive

Latitude, Longitude: 43.47517634, -110.78684913

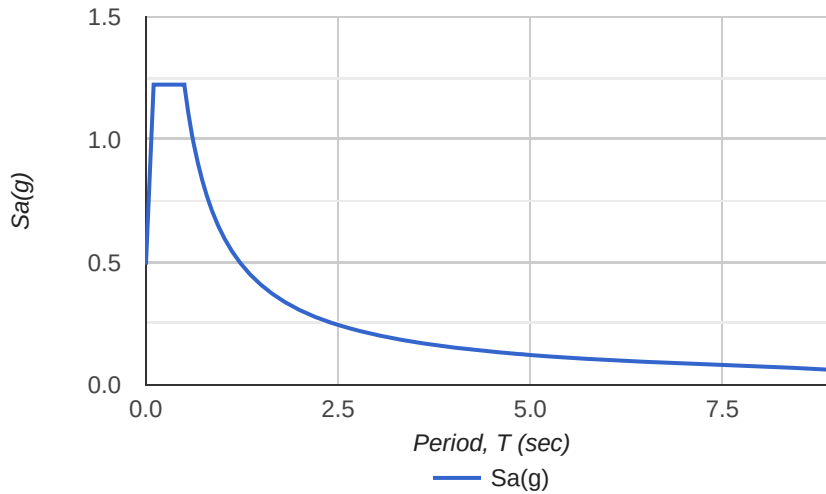
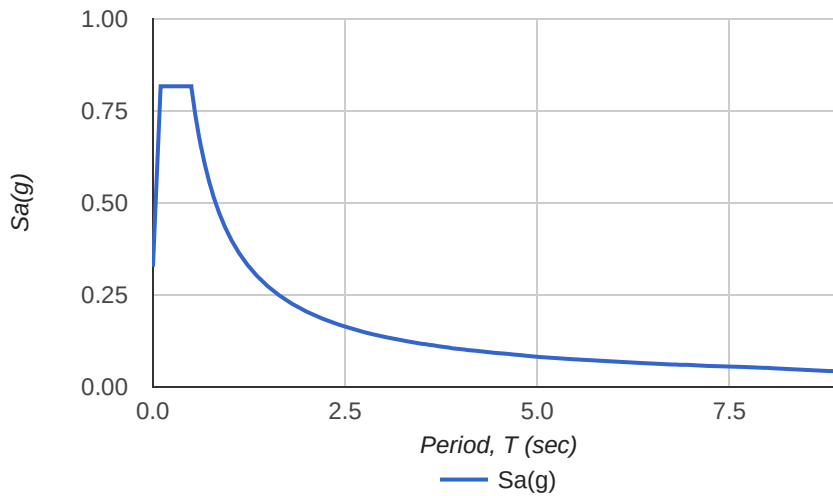


Date	3/21/2019, 2:16:13 PM
Design Code Reference Document	ASCE7-10
Risk Category	II
Site Class	D - Stiff Soil

Type	Value	Description
S_S	1.2	MCE_R ground motion. (for 0.2 second period)
S_1	0.366	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.224	Site-modified spectral acceleration value
S_{M1}	0.611	Site-modified spectral acceleration value
S_{DS}	0.816	Numeric seismic design value at 0.2 second SA
S_{D1}	0.407	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	D	Seismic design category
F_a	1.02	Site amplification factor at 0.2 second
F_v	1.667	Site amplification factor at 1.0 second
PGA	0.461	MCE_G peak ground acceleration
F_{PGA}	1.039	Site amplification factor at PGA
PGA_M	0.479	Site modified peak ground acceleration
T_L	8	Long-period transition period in seconds
S_{SRT}	1.2	Probabilistic risk-targeted ground motion. (0.2 second)
S_{SUH}	1.364	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
S_{SD}	1.753	Factored deterministic acceleration value. (0.2 second)
S_{1RT}	0.366	Probabilistic risk-targeted ground motion. (1.0 second)
S_{1UH}	0.42	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S_{1D}	0.627	Factored deterministic acceleration value. (1.0 second)
$PGAd$	0.639	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.88	Mapped value of the risk coefficient at short periods

Type	Value	Description
C_{R1}	0.873	Mapped value of the risk coefficient at a period of 1 s

MCER Response Spectrum**Design Response Spectrum****DISCLAIMER**

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APPENDIX B:

Helical Pier Test Probe Observation Forms and Plots



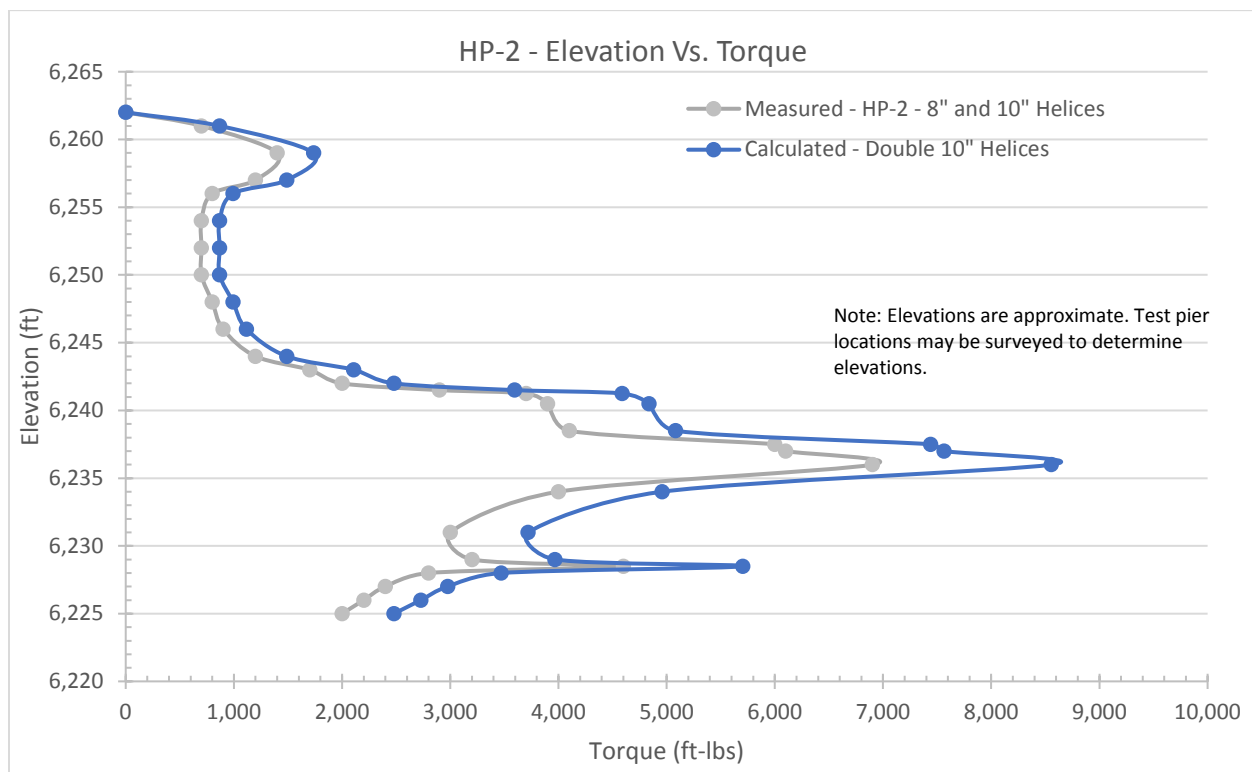
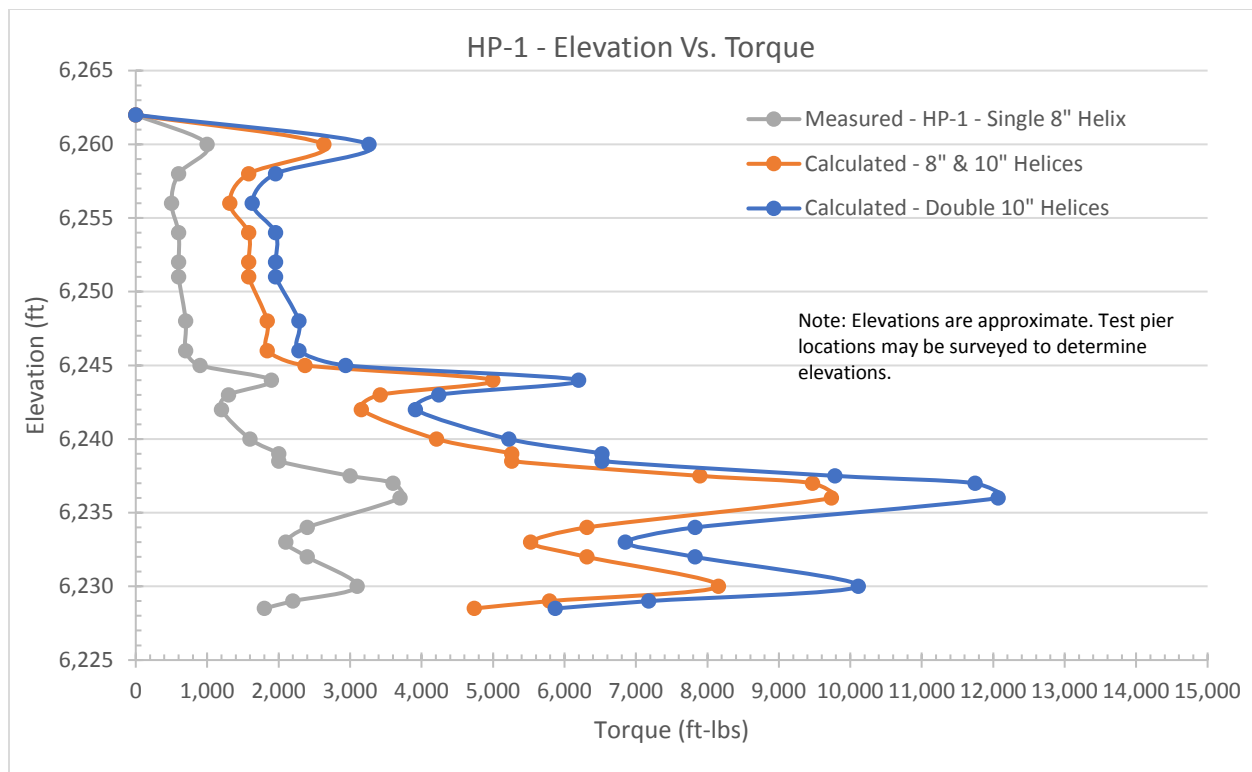
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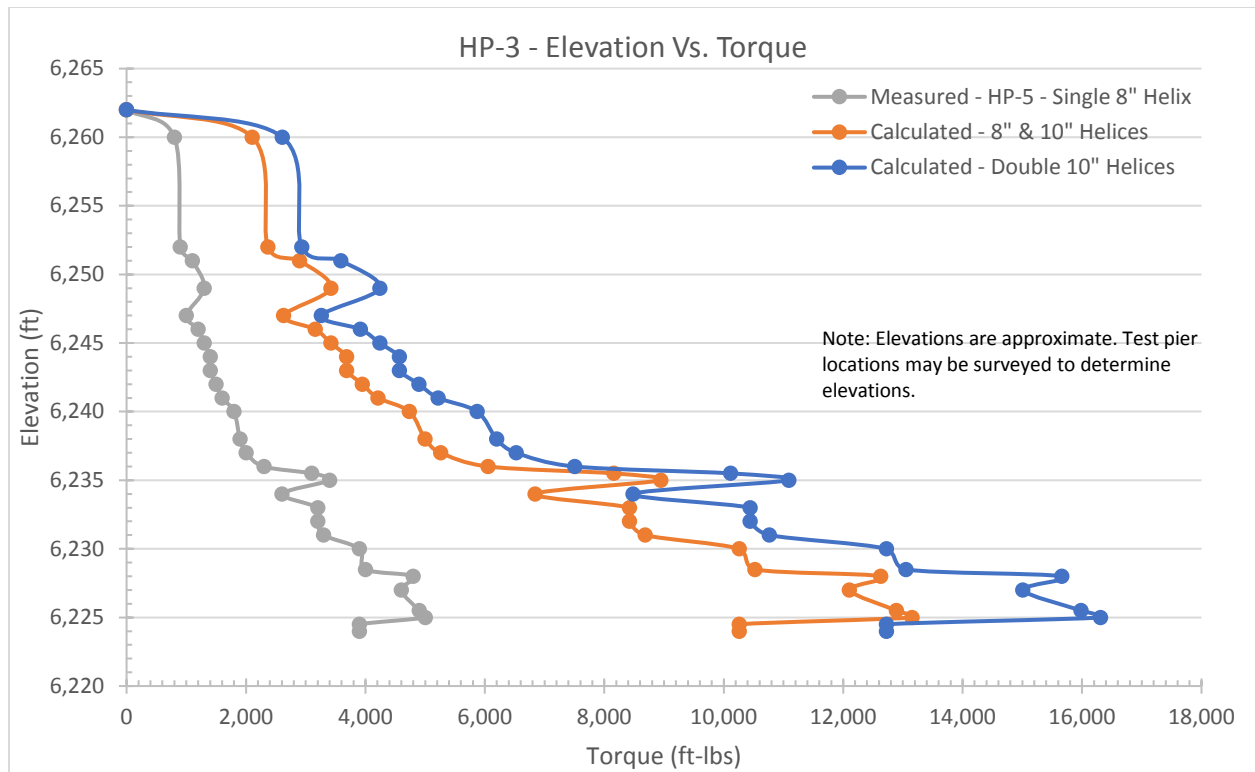
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PH: 307.733.5150
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1/1

Test Helical Pier Observation Form										
Project Name: 984 Budge Drive						Project Number: 16092				
Date: 3/11-3/12/2019						Address: 984 Budge Drive				
Inspector: Harrison Carter						Contractor: FC Excavation				
Installation equipment: Digga 16 Powerhead						Product Manufacturer: Chance Helical Piers				
Lead Descriptions: 5-foot, 1 3/4-inch solid square shaft, with 8-inch and 10-inch helices										
Extension Descriptions: 5-foot 1 3/4-inch solid square shaft										
Couplings:										
Plates:										
Bolts and nuts:										
HP #	Lead Description	Extension Description			Uplift Test Performed	Installation Torque (ft/lbs)	Depth Torque Achieved (ft)	Depth of Refusal (ft)	"Stick Up" (ft)	Notes
		4	7	5						
1	5', Single 8" Helix			6	Yes	See attached plots	--	33.5	1.5	Intermittent grinding and smooth drilling
2	5', 8" and 10" helices			7	No	See attached plots	--	37.0	3.0	Intermittent grinding and smooth drilling
3	5', Single 8" Helix			1	No	N/A	--	7.0	3.0	Heavy Grinding
4	5', Single 8" Helix			1	No	N/A	--	8.0	2.0	Heavy Grinding
5	5', Single 8" Helix			7	Yes	See attached plots	38.0	--	2.0	Intermittent grinding and smooth drilling



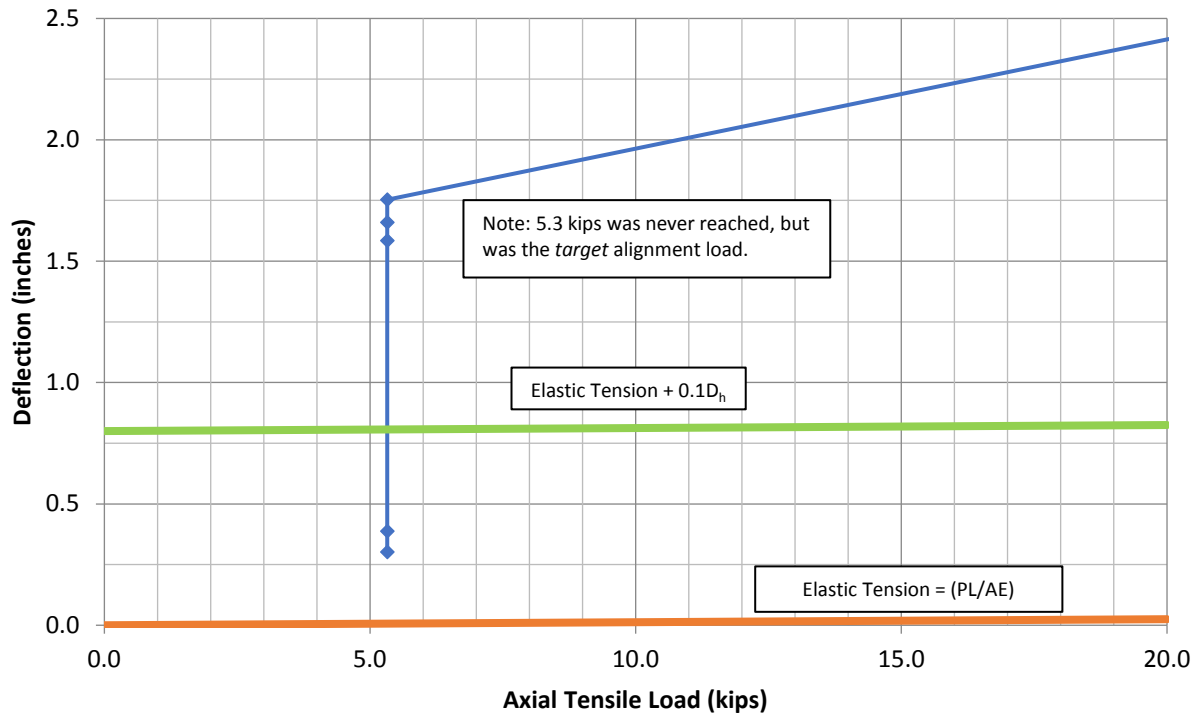


APPENDIX C:

Helical Pier Verification Test Results

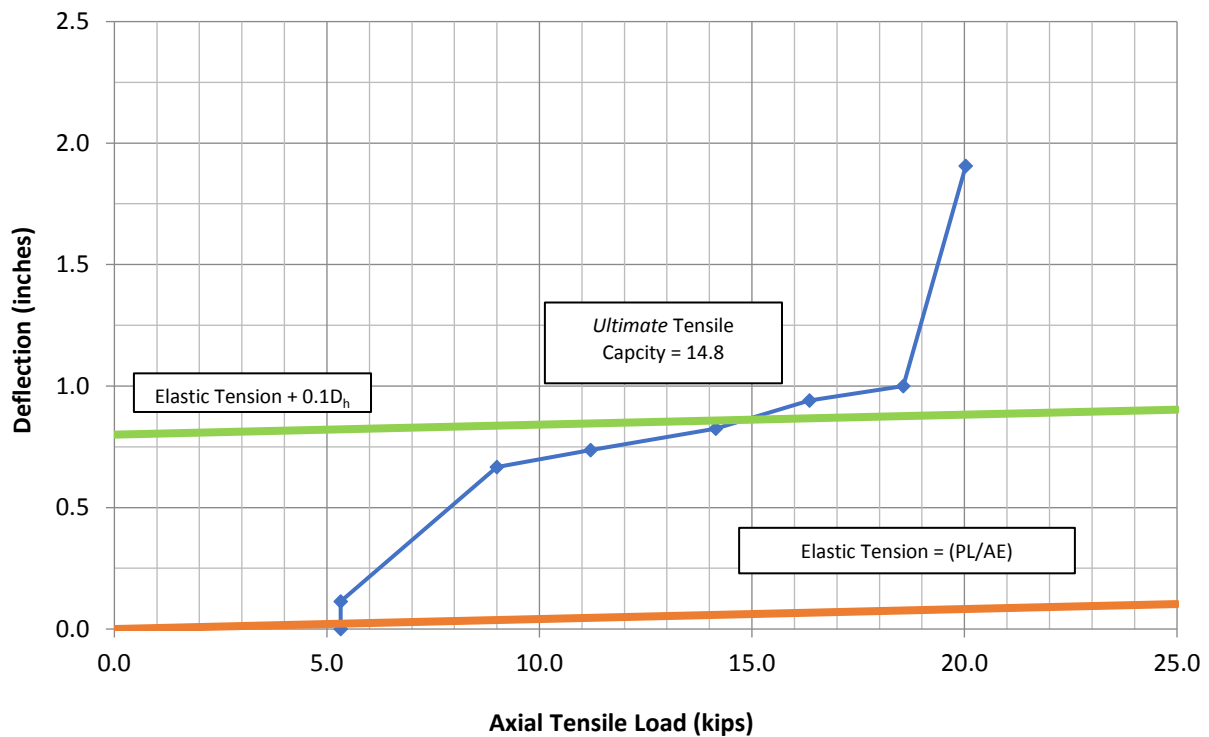
Tension Load Test: HP-1 - 984 Budge Drive

Date: 3/11/2019



Tension Load Test: HP-5 - 984 Budge Drive

Date: 3/12/2019



**SUBSURFACE EXPLORATION AND
SLOPE STABILITY ANALYSIS
984 BUDGE DRIVE
JACKSON, WYOMING**



Prepared for:

**Mr. Dennis Callaghan
Callaghan Partners
45 River Avenue
Monmouth Beach, NJ 07750**

Prepared by:



JORGENSEN
GEOTECHNICAL, LLC

**P.O. Box 9550
Jackson, Wyoming 83002**

July 2017

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1.0 INTRODUCTION

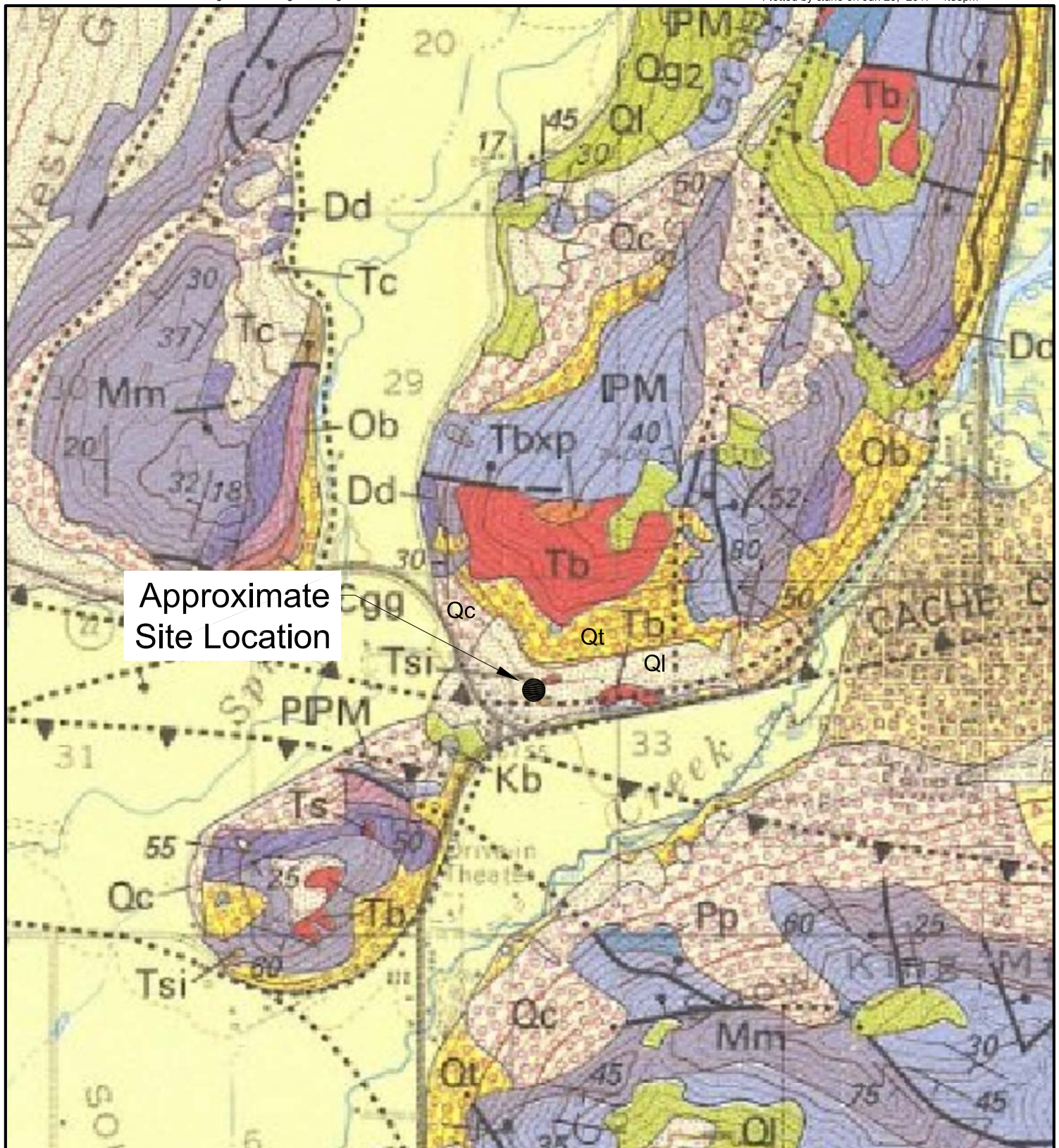
The proposed new residential development at 984 Budge Drive in Jackson, Wyoming, is located on the lower southwestern flank of East Gros Ventre Butte (Figure 1). Proximity to the West Broadway Landslide (WBL), approximately 1,000 feet to the east, raised concern about possible slope stability issues on the property in question. Geologic conditions along the flanks of the butte are complex and if shown to be similar to those found at the WBL, could require significant mitigation efforts to increase stability. Thus, geotechnical investigation and analytical work at this site has exceeded that which would be typically employed for a residential development.

At the request of Mr. Dennis Callaghan, Jorgensen Geotechnical performed preliminary slope stability analyses for the project site. The slope stability model was constructed using data gathered from previous projects that surround 984 Budge Drive. Results of the stability analysis were presented in a report dated March 10, 2017. Results indicated the slope at the site was likely stable under existing conditions in both static and seismic analyses. A site specific geotechnical investigation was required to verify assumptions regarding the underlying subsurface conditions.

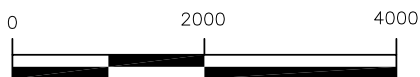
Additional site investigation work was performed on May 10th – 12th, 2017. The purposes of the fieldwork were to observe soil and groundwater conditions, specifically to explore for layers of weak fine-grained soils associated with instability at the WBL. The scope of services performed under this scope of work included drilling and logging five exploratory borings, evaluating soil parameters from laboratory testing, preparing geologic cross-sections, performing slope stability analysis, and producing this report.

In summary, the recent subsurface exploration observed the site stratigraphy is made up of wind-blown loess, colluvium, lakebed deposits, and gravelly or sandy alluvium (Section 4.4). Fine-grained soils (i.e., lakebeds) similar to those associated with instability at the West Broadway Landslide (WBL) are believed to underlie the site. However, other geologic and external conditions are remarkably different than the WBL at this location. Slope stability analysis appears to indicate stable conditions under existing conditions and during the design seismic event (Section 5.1).

Please note: this report is limited to a due diligence-level study and evaluation, limited to concerns of slope instability. Soils have not been evaluated for construction of the proposed project. Additional evaluation, which may include further subsurface exploration, and a Geotechnical Engineering Report are necessary for design and construction of the proposed project.



Approximate
Site Location



SCALE: 1 INCH = 2000 FEET

THIS SCALE VALID ONLY FOR 8.5x11 PRINTS

From Love et al, 1992, Geologic Map of the Grand Teton National Park, Teton County, Wyoming Map I-2031

Map symbols: Qc - Colluvium Ql - Loess Qt - Talus

Tsi - Shooting Iron Tb - Basalt

DRAFTED BY:	HC
REVIEWED BY:	CHL
PROJECT NUMBER	16092

SHEET TITLE:
FIGURE 1
SITE LOCATION AND
GEOLOGIC MAP

PROJECT TITLE:
SLOPE STABILITY ANALYSIS
984 BUDGE DRIVE
JACKSON, WYOMING



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2.0 PROPOSED CONSTRUCTION

At the time of this report, the proposed new development will consist of 15 residential units in eight separate buildings. Six of the buildings, comprising 11 residential units with three bedrooms per unit, will be located along the southern edge of the existing building pad. The remaining two buildings will be comprised of two three bedroom units, one two bedroom, and one single bedroom unit located along the western edge of the existing building pad. Access to the site will be provided from the east via Budge Drive.

It is our understanding each unit will be prefabricated off site and transported to the project site. Buildings made up of more than one unit will be attached on site during construction. Final foundation designs were not available prior to report submittal, but assume each unit will be placed on a reinforced concrete foundation.

3.0 INVESTIGATION PROCEDURE

3.1 Field Investigation

A field investigation was conducted on May 10th through May 12th, 2017. A geotechnical engineer from Jorgensen directed the drilling and sampling of five hollow-stem auger borings, designated JG-1 through JG-5 (Figure 2). Soil type, thickness, consistency, and relative moisture content of each soil stratum were observed and documented by the engineer. Approximate borehole locations are shown on Figure 2 and borehole logs are presented graphically in Appendix A.

Location and depth of each boring were chosen to facilitate site characterization and gather samples necessary for lab testing, specifically from lacustrine (i.e. lake-deposited) fine-grained soils around elevations 6,150-6,160 feet and 6,180-6,190 feet above mean sea level (AMSL) thought to contribute to the instability of the WBL. Depth of the borings ranged from 31.5 to 121.5 feet below the ground surface (bgs), exceeding that which is typical of residential construction.

A single vibrating wire piezometer (VWP) from Durham Geo Slope Indicator was installed in JG-3 to monitor changes in groundwater levels prior to construction. The VWP was installed by attaching the instrument to the outside of a 1-inch PVC pipe and grouted in place using a manufacturer recommended mix of bentonite-cement grout at a depth of 120-ft 4-inches bgs, or an approximate elevation of 6,143-ft AMSL. The VWP serial number and installation depth is shown on the JG-3 boring log and the calibration sheet is attached as Appendix B.

Standard penetration tests (SPT) were recorded and samples were obtained from all five borings at 5-foot intervals. Blow counts of the SPT (i.e., field N-values) were adjusted for hammer efficiency and overburden stress as suggested by Youd and Idriss (1997 and 2001) and Fang (1991). The blow counts were adjusted to a standard hammer efficiency of 60% and

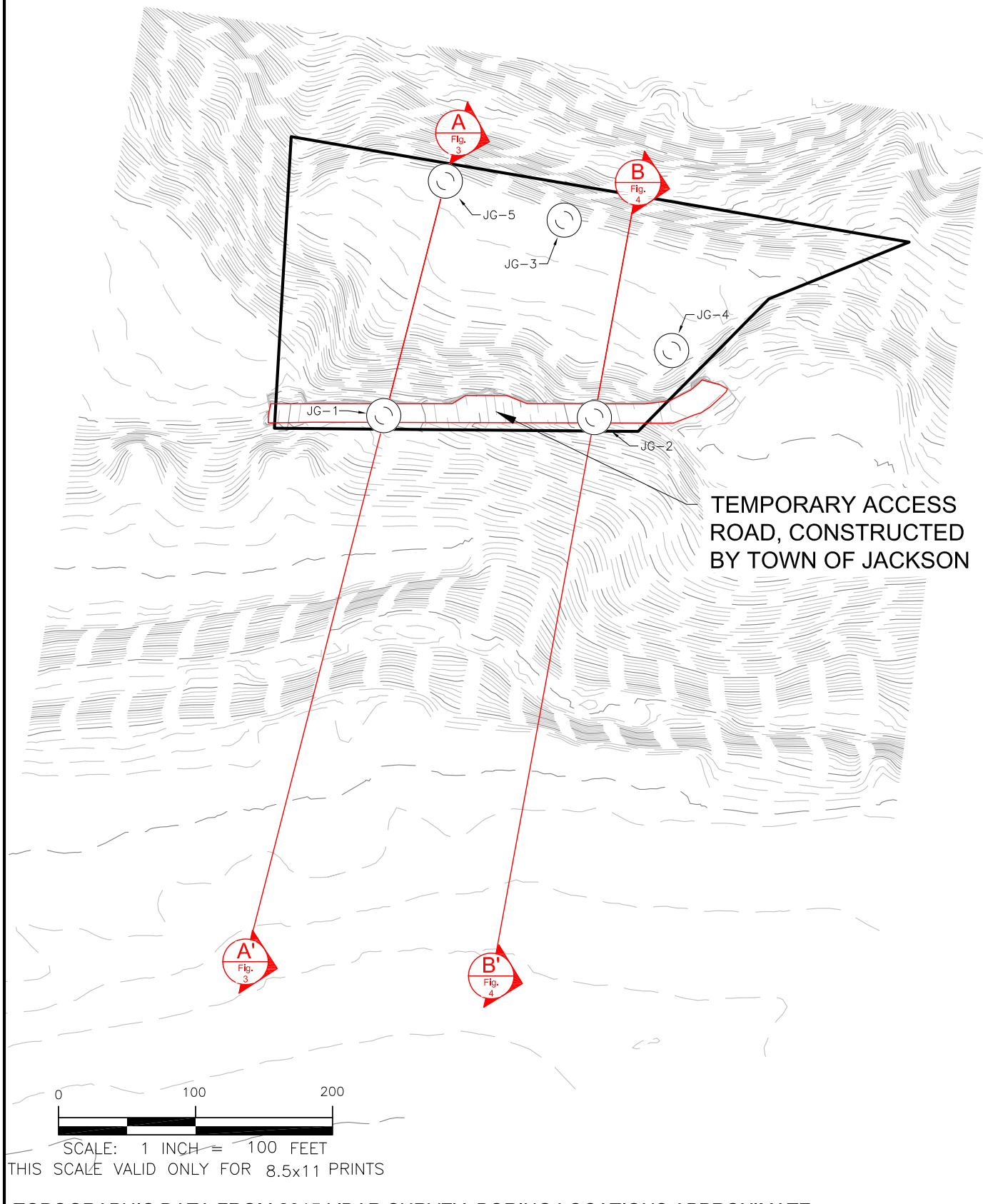
overburden pressure of one atmosphere, to obtain the standard adjusted $(N_1)_{60}$ value in blows per foot (bpf).

3.2 Laboratory Analyses

Selected samples of fine-grained soils were sent to the soils laboratory of SK Geotechnical in Billings, MT, and were tested to classify the soil and to estimate engineering parameters. Classification tests included natural moisture content, Atterberg limits, and gradation. Relatively undisturbed specimens obtained with thin-walled Shelby tubes were tested for dry density, consolidation, swell, and shear strength. Laboratory results are in Appendix C.

3.3 Report Preparation

The report describes the geological site conditions and includes a site location and geologic map (Figure 1), borehole logs, laboratory test results, and generalized geologic cross-sections. Engineering analyses have been limited to evaluating the site in terms of slope stability for the proposed project. Additional evaluation, which may include further subsurface exploration, and a Geotechnical Engineering Report are necessary for design and construction of the proposed project.



TOPOGRAPHIC DATA FROM 2015 LIDAR SURVEY. BORING LOCATIONS APPROXIMATE

DRAFTED BY:	HC
REVIEWED BY:	CHL
PROJECT NUMBER 16092	

SHEET TITLE:
FIGURE 2
BORE HOLE AND CROSS-
SECTION LOCATION MAP

PROJECT TITLE:
SLOPE STABILITY ANALYSIS
984 BUDGE DRIVE
JACKSON, WYOMING



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4.0 SITE CONDITIONS

4.1 Site Description

The project site of the proposed residential development is located on a 1.47 acre property within in the town of Jackson along West Broadway Avenue/Wyoming Highway 89 (HWY 89). The parcel is approximately 675 feet northeast of the intersection of Wyoming Highway 22 (WY 22) and HWY 89, on the lower southwestern flank of East Gros Ventre Butte (Figure 1).

Proposed structures will be built on a relatively flat building pad of approximately 0.72-acres at an elevation of 6,264 AMSL, approximately 100 feet above the valley floor. Several buildings currently occupy the building pad and will be removed as part of the proposed development. In general, according to data on the Teton County GIS Map Server, the remaining area of the property (0.75-acres) is comprised of slopes in excess of 30%.

4.2 Historical Information

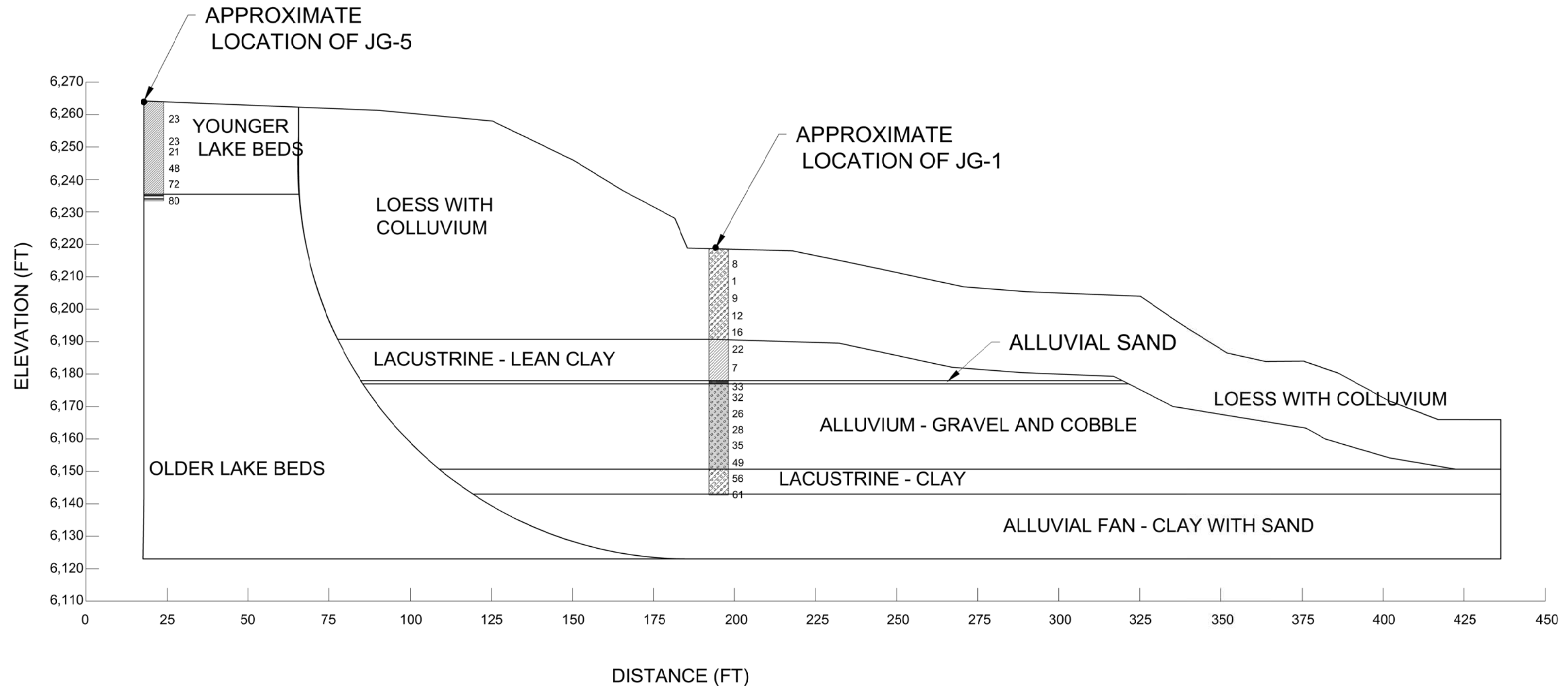
According to historic mapping and aerial photography, it appears the “benched” topography observed at the site is not a result of soil or rock deposition. Instead, it was likely created during the development of the building pad using a cut and fill method where material cut from the uphill portion is placed on the downhill side. Thus, slopes above and below the building pad are steeper than the original, native ground surface.

According to aerial photography on the Teton County GIS Map Server, excavation began on the pad sometime between 1955 and 1967 and was expanded to its current configuration by 1977. It appears the initial improvements included three separate residential units along the southern portion of the building pad, and one unit in the northwestern corner of the building pad. The buildings that currently occupy the site were built at different times between 1983 and 1999.

4.3 Geology

Figure 1 is a generalized geologic map of the project site adapted from the Geologic Map of the Grand Teton National Park (Love, et al., 1992), which shows the location and type of surface deposits, bedrock units, and geologic structures (i.e., faults and rock orientations). According to the map, the project site is at least partially covered by Quaternary loess deposits (Ql) which are windblown (aeolian) deposits of sandy silts and clays, typically derived from glacial outwash sources. The map also shows fine grained gray basalt (Tb) and dark grey and brown lacustrine deposits (Shooting Iron Tsi) outcropping in the immediate vicinity of the project site. Gravity deposits, colluvium (Qc) and talus (Qt), consisting of poorly sorted silt to boulder sized clasts, are also mapped directly north and northwest of the project site.

Geologic maps typically depict outcrops and surface soil deposits; subsurface conditions are usually more complex. Generalized geologic cross-sections, which show Jorgensen’s opinion of the soil contacts as they exist between the borings, are presented in Figure 3 and Figure 4.



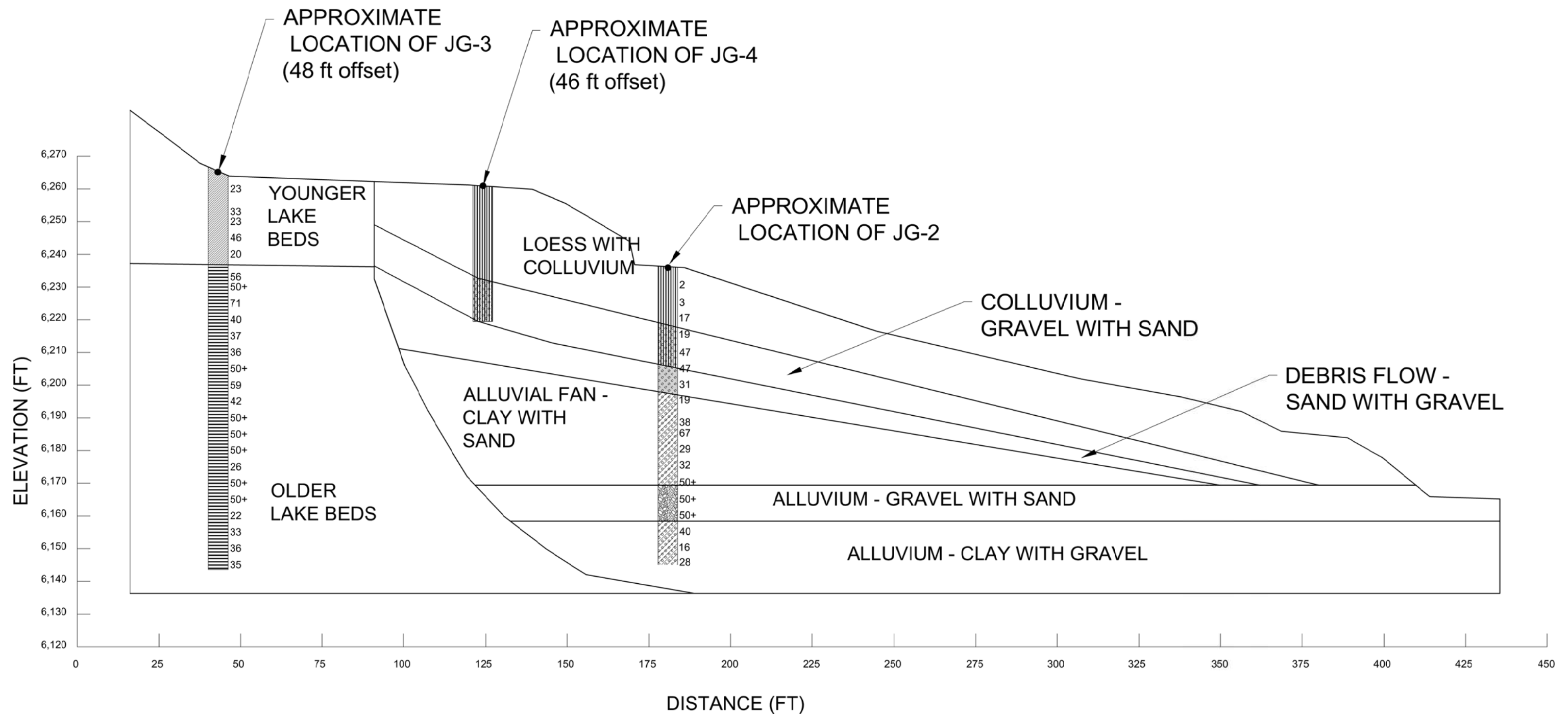
DRAFTED BY:	HC
REVIEWED BY:	CHL
PROJECT NUMBER 16092	

SHEET TITLE:
FIGURE 3
GENERALIZED GEOLOGIC
CROSS-SECTION A-A'

PROJECT TITLE:
SLOPE STABILITY ANALYSIS
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REVIEWED BY:	CHL
PROJECT NUMBER	16092

SHEET TITLE:
FIGURE 4
GENERALIZED GEOLOGIC
CROSS-SECTION B-B'

PROJECT TITLE:
SLOPE STABILITY ANALYSIS
984 BUDGE DRIVE
JACKSON, WYOMING



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More detailed discussion of each soil type encountered during the site investigation may be found in Section 4.4.

The valley between East Gros Ventre Butte and Snow King Mountain is believed to have been filled periodically with lakes and rivers. As such, subsurface soils comprise layers sequentially deposited in high-energy environments (e.g., stony, river-deposited alluvium) and low-energy environments (e.g., fine-grained lakebeds). It is believed the thinly-laminated, gray/black lakebeds observed in borings JG-3 and JG-5 are the oldest of the units encountered during the site investigation. As shown in the cross-sections, the lakebeds were eroded by a precursor to modern-day Flat Creek, cutting a relatively steep escarpment against which younger units were deposited. The surface of water-laid (i.e., alluvium and lacustrine) deposits are assumed to be more or less flat, the evidence of which has been subsequently obscured by deposition of colluvium (gravity deposits from the face of East Gros Ventre Butte) and windblown loess.

It is significant to note the site investigation did not encounter andesite or conglomerate bedrock resting on fine-grained lakebeds, which together form the ancient slide block reactivated in the WBL.

4.4 Soil Descriptions

As discussed above, the site stratigraphy is made up of wind-blown loess, colluvium, lakebed deposits, and gravelly or sandy alluvium. Generalized geologic cross-sections A-A' and B-B' (Figure 3 and Figure 4) illustrate our interpretation of the contacts between soil layers. The cross-sections are a graphical representation of approximate stratigraphic relationships, and do not necessarily allow prediction of subsurface conditions at any location other than the borings and test pits themselves. When not explicitly defined by the borings, the locations of soil contacts were estimated based on the effect they would have on the stability model (i.e., to build conservatism into the modeling effort).

Below is a detailed summary of soil descriptions, standard penetration tests, and laboratory test results organized by material origin in order of relative geologic age. Because the main geotechnical concern is relatively weak lakebed deposits, characterizing these deposits required the most effort, and therefore the largest section of text. The information described herein is also presented on the graphical borehole logs in Appendix A. Complete laboratory test results are in Appendix C.

4.4.1 Lacustrine (Lakebed) Deposits

The oldest deposit observed in the site investigation underlies the building pad below a depth of approximately 28-ft bgs and was observed in borings This unit likely represents fine-grained soil deposited in a lake formed when the outlet of the valley between East Gros Ventre Butte and Snow King Mountain was dammed from fault block rotation or landslide debris sometime after the Bull Lake Glacial episode, which ended approximately 130,000 years ago, or within the prior inter-glacial period (Ward et al, 2014). In general, these old lakebed deposits were logged in the field as slightly moist, dark gray banded light gray and white, stiff to hard, varved, lean

clay with sand. Some samples were observed to have tilted and contorted layering and a thin-walled tube sample obtained from 30-31 feet bgs was observed to have slickensides. Direct shear testing of a relatively undisturbed sample (JG-3 U2) indicate a peak effective friction angle (ϕ') of 33.5° and an effective cohesion of 1,459 psf.

Adjusted SPT blow counts, or $(N_1)_{60}$ values (i.e., adjusted to an equivalent pressure of one atmosphere and standard hammer energy efficiency of 60%), of the older lakebeds range from 22 to 80 blows per foot (bpf) with an average of 44 (stiff to hard). Moisture contents of select samples tested in the lab range from 6.8 to 11%. Tested samples had Liquid Limits (LL) of 27 and 34 with Plasticity Indices (PI) of 12 and 18 and fines content (silt and clay finer than the #200 sieve) of 72.5 and 78.2. Hydrometer testing indicates the material has a clay fraction (percent of particles smaller than 0.002 mm) on the order of 30-35%. The measured dry unit weight of sample JG-3 U2 is 123.4 pounds per ft³ (pcf). Samples classify according to the Unified Soil Classification System (USCS) as lean clay with sand (CL).

A younger lacustrine deposit, similar in age and depositional environment as the dark gray deposit described above, was observed in borings JG-3 and JG-5 immediately below the building pad to a depth of approximately 28-ft bgs. Soil samples obtained from this soil stratum were described in the field as slightly moist, banded light and dark brown, medium stiff to hard (very stiff to hard?), and varved. $(N_1)_{60}$ values range from 20 to 72 bpf with an average of 33 bpf indicating this deposit, on average, has a stiff consistency. Tested samples have consistent LL and PL with average values of 37 and 18.5, respectively. The fines content of tested samples ranged from 90.8 to 93.7% indicating a depositional environment of even lower-energy than the older unit below. Clay sized fractions, as measured by hydrometer tests, ranged from 48 to 54.5%. Measured dry unit weights were about 109-110 pcf. Soil samples classified as lean clay (CL) according to the USCS.

Direct shear testing of the unit indicates peak effective friction angles (ϕ') of 38.3° and 37.5° and effective cohesion values of 460 psf and 932 psf, in relatively undisturbed samples JG-3 U1 and JG-5 U1 respectively. A single consolidation-swell test was performed on sample JG-5 U1 obtained from 10-12 feet bgs. The sample swelled 1.6% by volume when saturated under a 500 psf confining load. Coefficient of consolidation (C_c) of the virgin compression curve was 0.08. Swelling and/or settlement of clay lakebeds underlying the building pad needs to be better understood. Additional sampling and testing may be necessary to produce the Geotechnical Engineering Report for the proposed development.

More recent (geologically speaking) lacustrine deposits were observed in borings JG-1 between depths of 28 and 41-ft bgs. Samples of these lakebed deposits were described as moist to wet, medium stiff (or soft when wet), and massive. A thin-walled tube sample obtained from 40-42 feet bgs was observed to have slickensides within the clay. Direct shear testing of a relatively undisturbed sample (JG-1 U1) indicate peak effective friction angle (ϕ') of 28.8° and an effective cohesion of 408 psf. A groundwater surface was observed within the lakebed deposit at a depth of 36-ft bgs during the site investigation. Groundwater is discussed in Section 4.6. Two SPT test

was performed within this observed unit resulting in $(N_1)_{60}$ values of 22 (moist) and 7 (wet) bpf. A single sample was subjected to classification tests and yielded a LL of 44, PI of 24, moisture content of 20.1%, fines content of 91.5%, and clay fraction of 51%. The sample classifies in the USCS as lean clay (CL).

Deeper (i.e., older) lakebed deposits were observed to underlie the stony alluvial soils below a depth of approximately 68-ft bgs, but are generally described as very stiff (hard?) and do not significantly impact the stability model. $(N_1)_{60}$ values range from 56 to 61 bpf. Lab testing indicate LL=31, PI=13, natural moisture of 10.5%, percent fines of 66.9%, and clay fraction of 31.3%. The tested sample classifies in the USCS as lean clay with sand (CL).

The lakebeds in JG-1 appear to be relatively discontinuous and do not correlate definitively at similar elevations to the east in JG-2. It is possible the precursor to modern-day Flat Creek meandered along the edge of the valley, removing the lakebed clay from some locations and depositing them elsewhere. The creek may have also undercut the toe of the slope causing slumping of the alluvial fan-colluvium built up at the toe of the butte.

Fine-grained deposits observed in JG-2 between approximate elevations of 33 and 66-ft bgs appear to be lakebeds intermixed with colluvium and debris blow deposition, the distinction being much higher sand and gravel contents in samples thought to be deposited by gravity from the slopes above. Samples were generally described in the field as slightly moist to moist, grayish or yellowish brown, stiff to very stiff, and lacking apparent structure. $(N_1)_{60}$ values range from 29 bpf to refusal (i.e., > 100 bpf) with higher blow counts resulting from gravels within the fine-grained soil. Atterberg limits of sample JG-2 D10 from 55-ft bgs are LL=34 and PI=20. Natural moisture content at the time of sampling was 14.6%. The sample contained 91.2% split between silt-size (54.2%) and clay-size (37%) particles. A relatively undisturbed sample (JG-2 U1) was subjected to a triaxial extension test yielding a measured a peak effective friction angle (ϕ') of 26.7° and an effective cohesion of 42 psf. Samples classify in the USCS as lean clay (CL).

For the purposes of stability modeling, material properties for lakebeds have been applied for this entire mixed unit observed in JG-2 (see Section 5.1.2), which is certainly a conservative assumption, and labeled “Alluvial Fan-Clay with Sand”.

4.4.2 Alluvium

Sandy and gravelly alluvial deposits were observed in JG-1 and JG-2 below depths of 41-ft and 66.5-ft, respectively. These soils are thought to have been deposited in a high-energy environment by the pre-cursor to today’s Flat Creek. $(N_1)_{60}$ values range from 28 to refusal (i.e., > 100 blows per foot) indicating medium dense to very dense conditions. Samples were generally logged as moist to wet, brown, and stratified. No laboratory testing was performed on alluvial deposits. These soil strata are generally thought to be strong and do not significantly impact the stability modeling.

4.4.3 Colluvium and Debris Flows

Soil observed between depths of about 23 and 38-ft bgs in JG-2 have been described as colluvium and debris flow deposition. However, very little soil was recovered from SPT samples at these depths. Stony colluvium is assumed to be gravel with sand based on observing sandstone and limestone fragments in the sampler shoe and material parameters have been applied based on knowledge of similar deposits around the region.

The SPT sample from 35-ft bgs was described in the field as moist, reddish brown, mottled red sand with gray and tan angular gravels. The adjusted $(N_1)_{60}$ value is 27 bpf indicating dense conditions. No structure was observed within the material.

4.4.4 Loess (with Colluvium)

Wind-blown loess was observed near the surface in JG-1, JG-2, and JG-4. Wind deposited clayey silt loess typically “blankets” the existing surface topography wherever it is deposited. However, loess was not observed in JG-3 and JG-5 and is believed to have been removed during the grading of the building pad. The slope south of the building pad was likely created by placing native loess as fill. $(N_1)_{60}$ values in the reworked material are slightly elevated above the native loess in JG-4, suggesting reworking the material may have somewhat increased the stiffness of the soil. Development of the stability model assumed this blanket of loess and colluvium extends to the valley floor.

In general, the loess was described in the field as slightly moist to moist, light brown streaked white, very soft, and massive with pinhole voids. Occasional stones derived from rock types known to be located uphill were observed in samples. These are presumed to have been transported by gravity down slope and were incorporated into the loess as it was being deposited. Loess with gravels is referred to in the logs as Loess-with-Colluvium. For the purposes of stability modeling, modeled units of Loess and Loess-with-Colluvium have been treated as a single unit with the same material parameters.

$(N_1)_{60}$ values range from 1 to 9 bpf. Higher blow counts were recorded in soils described as Loess-with-Colluvium, ranging from 12 to 16 bpf most likely due to the sampler impacting gravels. Laboratory results indicated loess soils are classified as either lean clay (CL) or silt (ML) according to the USCS. LL values ranged from 24 to 37 and PI values from 1 to 9. Percent fines in tested loess samples were between 52 and 94% with clay fractions between 11.5 and 17.4%.

Loess soils typically have a low density and are known to be collapsible; i.e., they may suddenly and dramatically settle when wetted under load. Tests on samples of loess around the valley indicate loess has collapse potential of 6-8% by volume when saturated under a typical foundation load (i.e., 2,000 psf). Collapse settlement of loess soils may occur from many sources including poor surface drainage and ponding of water, over-irrigation against foundation walls. Loess soils likely pose the greatest risk to the project, and the extent to which they underlie the proposed project and their anticipated settlement potential should be further

evaluated. Additional sampling and testing may be necessary to produce the Geotechnical Engineering Report for the proposed development.

4.5 Surface Observations

At a neighboring property to the northwest, an over-steepened cut slope has exhibited slope movement particularly in response to the very wet winter of 2016-17. However, signs of actual or potential slope instability were not observed at 984 Budge Drive during the field investigation, including, but not limited to, cracks, subsidence, seepage, excessive moisture, ponding, and/or slumping.

Silty loess surface soils are highly erodible and are easily transported by water. Evidence of erosion may be observed in the cut slope uphill of the building pad. In addition, a deep channel has been formed near the western edge of the building pad where surface water is funneled from the cut slope (north) to a depression leading down slope (south).

Loss of vegetation, erosion, and/or steepening of slopes at the site as a result of loss of surface soils may lead to slope instability. As such, any disturbed slopes in loess shall be adequately protected against future erosion and site drainage shall be designed to minimize surface flow over unprotected, fine-grained site soils.

4.6 Groundwater

Although no free-water was observed at the time of drilling, a single vibrating wire piezometer (VWP) was installed in boring JG-3. The instrument is located 120-ft-4-inches bgs at an approximate elevation of 6,143.7-ft AMSL. Measurements performed during the spring runoff season indicate dry conditions.

At the time of the investigation, groundwater was observed in a single boring (JG-1). A free-water surface was encountered 36-ft bgs, or an elevation of 6,183-ft AMSL. Water observed within a fine-grained lacustrine deposit between 28.3 and 41.0-ft bgs is apparently in a perched condition, evident by the fact that alluvial sandy gravels below about 41-ft bgs, which would typically be free-draining, appeared drier with depth. Sand pockets or lenses observed within the lacustrine soils may be transporting groundwater within the unit. This lakebed layer, and the groundwater observed in it, is discontinuous and was not observed in the boring to the east (JG-2).

A discussion of how groundwater is incorporated into the stability model is in Section 6.1.3.

4.7 Earthquakes and Seismicity

Jackson Hole is located within the Intermountain Seismic Belt, a zone of seismicity that extends from southern Utah through eastern Idaho and western Montana and encompasses western Wyoming including the Teton Range (Smith and Arabasz, 1991). The Teton Fault is considered an important structural element of the Intermountain Seismic Belt. The fault trace is believed to

end at Teton Pass. Machette suggested that the “active” portion of the Teton fault terminates north of Wilson near Phillips Canyon and estimates that slip rates along the active fault north of Phillips Canyon are less than 0.2 mm/yr (i.e., very low). Ancient faults such as the Jackson Thrust and the Cache Creek Thrust have been mapped near the project site but are very old and not considered active.

The site is in an area of moderate seismic activity and ground shaking is expected to increase the risk of slope instability. The current peak horizontal acceleration (PGA) with 10% probability of exceedance in 50-years, equivalent to a return period of 500 years, is approximately 0.20g, according to the USGS National Seismic Hazard Maps (2008). This has been applied in this report for pseudo-static seismic slope stability analysis (see Section 5.1.4).

5.0 SLOPE STABILITY ANALYSIS

5.1 Stability Analysis Methodology

Slope stability analyses were performed using GEO-SLOPE International's SLOPE/W limited equilibrium program (GeoStudio 2012, V8.15). The following methodology was performed in order to develop the stability model:

5.1.1 Geometry

Two cross-sections were selected to be representative of the site. Cross-section locations may be seen on Figure 2. External geometry (i.e., ground surface) of the cross-sections were developed using topographic data from a LiDAR data collected in 2015 and historical aerial photography from the Teton County GIS website. Topographic data for the temporary access road located on the south boarder of the property was supplied by Nelson Engineering. Internal geometry (i.e., subsurface conditions) was developed using the borehole data collected from the site investigation conducted in May 2017. Contacts between material types were interpreted so as to create a reasonably conservative model based on our predictions of soil origin and understanding of local geology. Figures 3 and 4 show the modeled cross-sections and predicted external and internal geometry.

Soil strata that are interpreted as lacustrine (i.e., lake beds) or alluvial deposits are assumed to be nearly horizontal with little to no slope. Soils that are classified as loess, alluvial fans, colluvium, or debris flows are assumed to have been shed off the steep uphill slope to the north and lie approximately at the same slope as the original topography of the hillside prior to the development of the lot in the early 1960s.

Slip surfaces were developed using a "Block Defined" method where the slip surface can be forced to fail in the weakest soil layer within the model. The program creates hundreds of slip surfaces by connecting points of the blocks and selects the critical slip surface as the one with the lowest Factor of Safety (FS). FS is the ratio of forces resisting slope failure divided by forces tending to cause failure. A FS of 1.0 indicates imminent slope failure. $FS < 1.0$ implies failure and $FS > 1.0$ implies stability.

5.1.2 Materials

Effective stress shear strength parameters pertaining to a Mohr-Coulomb strength model were determined for the site soils from direct and triaxial shear tests, as well as utilizing correlations between the soil index properties and shear strength. Shear strength consists of two parameters: cohesion (c'), which expresses the shear strength at zero overburden pressure, and friction angle (ϕ'), which expresses the relationship between overburden pressure and shear strength (i.e., that shear strength increases with loading, from a minimum of c'). Unit weight is a measure of the soil's density or weight per unit volume.

A summary of the soil parameters applied to each material is shown in Table 5-1. Soil parameters were applied using a combination of field estimates, direct lab testing, and correlations with index tests. Notes accompany Table 5-1 as to how the material parameters were derived.

Table 5-1: Modeled Soil Parameters

Layer Name	Unit Weight (pcf)	Cohesion (c',psf) ⁴	Friction Angle (φ', degrees)	Seismic Friction Angle (φ', degrees) ⁵
YOUNGER LAKE BEDS	130 ²	0	37.5 ²	30
OLDER LAKE BEDS	132 ²	0	25 ¹	20
LACUSTRINE-LEAN CLAY	125 ²	0	19.5 ¹	15.6
LACUSTRINE-CLAY	120 ³	0	28 ³	22.4
ALLUVIAL SAND	125 ³	0	30 ³	24
ALLUVIAL FAN-CLAY WITH SAND	125 ³	0	25 ¹	20
ALLUVIUM-GRAVEL AND COBBLE	130 ³	0	34 ³	27.2
ALLUVIUM-GRAVEL WITH SAND	125 ³	0	32 ³	25.6
ALLUVIUM-CLAY WITH GRAVEL	120 ³	0	30 ³	24
DEBRIS FLOW-SAND WITH GRAVEL	120 ³	0	28 ³	22.4
COLLUVIUM-GRAVEL WITH SAND	130 ³	0	30 ³	24
LOESS WITH COLLUVIUM	120 ³	0	30 ³	24

NOTES:

1. Residual soil strength parameters derived using methods described by Stark and Eid (1994)
2. Determined by evaluating results of direct lab testing
3. Estimated using field observations, SPT blow counts, and experience with local soil conditions
4. Theoretically, most soils in a drained condition do not have cohesion. The stability model for this site assumes drained conditions and $c' = 0$
5. Soil strength reduced by 20% (Hynes-Griffin and Franklin, 1984; see Section 5.1.4 below)

Direct testing in the lab (e.g., direct shear and triaxial shear) was used to obtain shear strength parameters for lakebed clays. However, slickensides were observed in samples of fine-grained materials in samples JG-1 U1 and JG-3 U2. Slickensides indicate past shearing within the soil layer, most often occurring as a result of slope movement. Deformation due to shearing alters a soil's strength from a peak value to a residual state.

To account for potential reduction in strength due to historic shearing, materials within which shearing was observed (i.e., "Older Lake Beds" and "Lacustrine – Lean Clay") are modeled using

residual strength parameters. A correlation between the percent clay, liquid limit, and overburden pressure, suggested by Stark and Eid (1994), was used in order to determine residual shear strength values.

5.1.3 Phreatic Surface

Groundwater at this site was observed at an approximate elevation of 6,183-ft on May 12, 2017, in JG-1. It is possible the subsurface exploration took place after peak groundwater levels at the site. As such, the modeled phreatic surface is elevated by 5-ft to account for possible increases in groundwater levels over those observed during the investigation. Even though groundwater was only observed in JG-1, the phreatic surface has been applied to both cross sections to account for spatial uncertainty between borings. The phreatic surface used in the model is shown the output of the stability models in Figure 5 and Figure 6.

5.1.4 Seismicity

The site is in an area of moderate seismic activity. The current peak horizontal acceleration (%) with 10% probability of exceedance in 50-years is approximately 0.20g, according to the USGS National Seismic Hazard Maps (2008). Seismicity is assessed in the slope stability models using a pseudo-static method with half the horizontal seismic load, or approximately $k_h = 0.1g$.

Seismic factors of safety have been evaluated using a pseudo-static approach where inertial forces from seismic accelerations are applied statically to the model. These forces are assumed to be proportional to the weight of the sliding mass times a horizontal seismic coefficient k_h . A seismic coefficient of $k_h = \frac{1}{2}PGA$ has been used in this assessment with a 20% reduction in the shear strength of soil materials (Hynes-Griffin and Franklin, 1984). Seismic loads have been applied to the critical slip surface determined by static analysis for each cross-section as is it assumed to be the most stressed region within the slope (Abramson et al., 2002).

5.1.5 Building Loads

It is assumed the geometry of the site will not be considerably altered from its current condition, therefore the current 2015 LiDAR survey was considered adequate, and geometry has not been adjusted in the stability models for a post-construction condition.

Foundation loads of the existing and future structures were modeled by averaging an assumed footing load over the length and width of the building and applying it as a surcharge of 250 psf.

5.1.6 Analyses

The slope stability analyses were performed using the SLOPE/W stability module of GeoStudio 2012 version 8.15.1.11236, produced by GEO-SLOPE International, Ltd. The Morgenstern-Price limit equilibrium method, which takes into consideration moment and force equilibrium, was used to analyze slope stability. Critical slip surfaces (i.e., those with the lowest modeled factor of safety) are shown on Figure 5 and Figure 6.

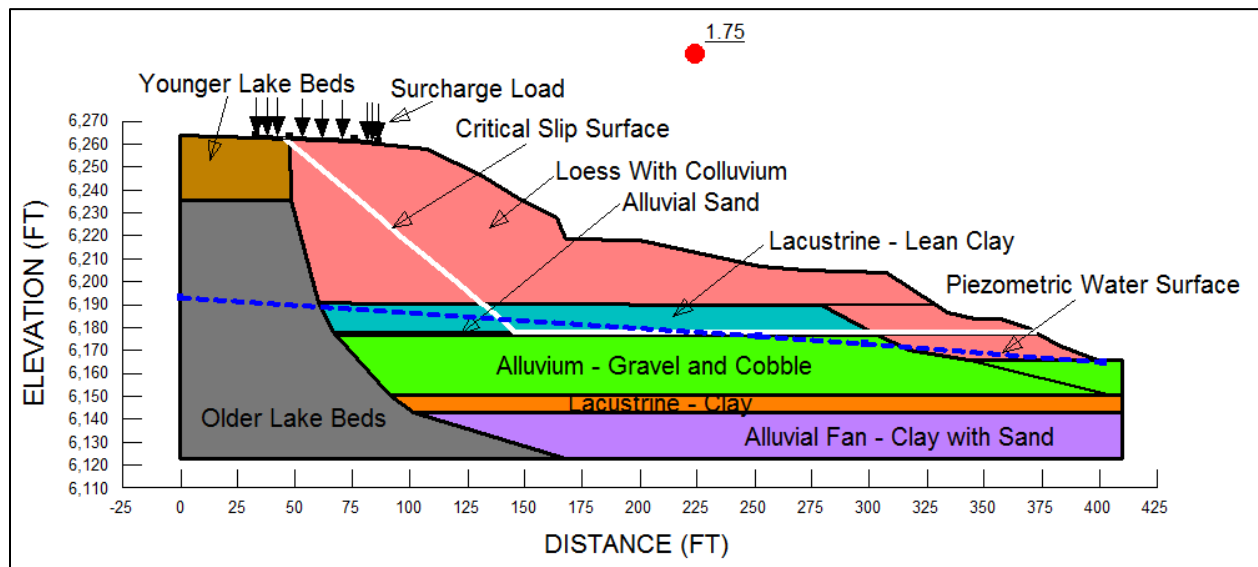


Figure 5: Stability Model Output Cross-Section A-A' – Static Analysis

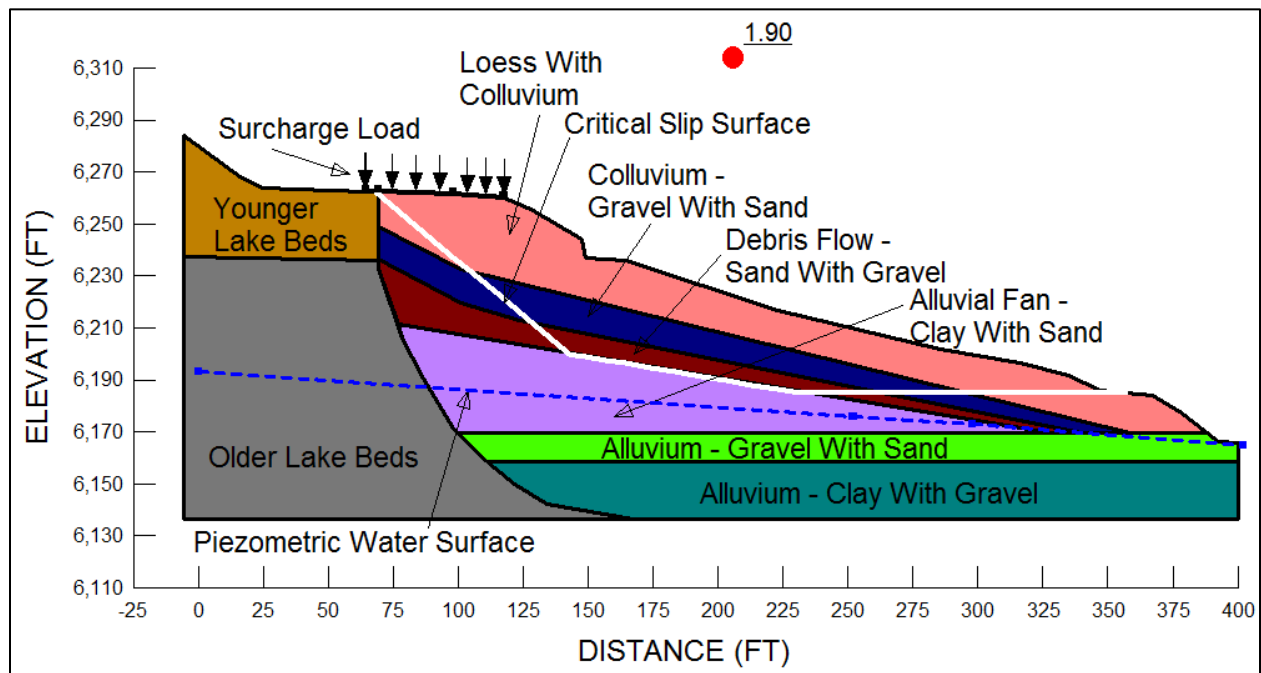


Figure 6: Stability Model Output Cross-Section B-B' – Static Analysis

5.2 Stability Analysis Results

Table 5-2 below presents factors of safety for each condition analyzed.

Table 5-2: Summary of Stability Analyses Results

Cross-Section	Analysis Condition	Modeled Factor of Safety
A-A'	Static	1.75
	Seismic	1.01
B-B'	Static	1.90
	Seismic	1.10

In summary, factors of safety (FS) with regard to slope stability exceed those generally accepted as indicating stable conditions. For instance, static FS are greater than 1.5 and seismic FS are greater than 1.0 (Hynes-Griffin and Franklin, 1984). This suggests the analyzed cross-sections are stable under static and seismic conditions for existing slope geometries and current understanding of subsurface conditions and local geology.

5.3 Stability Modeling Limitations

This analysis has been performed to assess the global stability of the site and the impacts of the proposed project after completion only. Depending on construction plans and details, further stability analysis may need to be performed. This office is prepared to perform follow-up modeling, slope stability analysis, and shoring design to support construction, if requested.

If you have any questions about this report, or if we may provide other services to you, please contact us. As the project progresses, we will be available to answer questions.

Respectfully submitted,

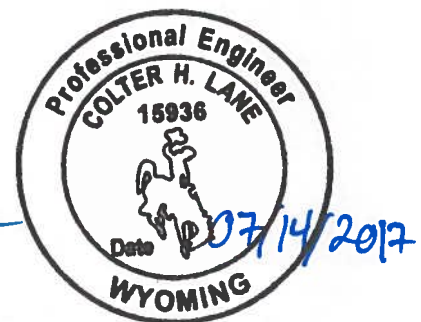
JORGENSEN GEOTECHNICAL, LLC



Harrison W. Carter, E.I.
Geotechnical Engineer



Colter H. Lane, P.E.
Geotechnical Project Engineer



6.0 LIMITATIONS

This report has been prepared based on a limited amount of data. Actual site conditions may vary. The conclusions and recommendations presented in this letter assume that site conditions are not substantially different than expected. If subsurface conditions are different, Jorgensen Geotechnical, LLC, should be advised so that we can review those conditions and reconsider our recommendations where necessary.

This report was prepared for use by the owner and their representatives. It should be made available to prospective contractors for information on factual data only and not as a warranty of subsurface conditions. Any conclusions by a contractor or bidder relating to construction means, methods, techniques, sequences or costs based upon the information provided in this report are not the responsibility of the Owner or Jorgensen Geotechnical, LLC.

These services have been performed in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in this area under similar conditions. Construction on potentially collapsible soils is not without risk. No warranty of performance is made or implied.

7.0 REFERENCES

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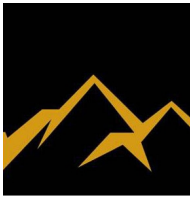
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APPENDIX A:

Borehole Logs



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TEST HOLE LOG

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PROJECT NAME: 16092 - 984 Budge Drive							DATE: 5/12/2017						
PROJECT LOCATION: 984 Budge Drive, Jackson, WY							HOLE NO.: JG-1						
TEST HOLE LOCATION: See site map													
ELEVATION G.S. (ft.): 6219			TOTAL DEPTH (ft.): 76.5			GROUNDWATER LEVEL (ft.): 36			MEASURED FROM: Ground surface				
DRILL TYPE: BK-81			HAMMER: 140# Auto			DRILL CO: HazTech Drilling, Inc.			DRILLER: Chris		LOGGED BY: hc		
DEPTH (ft.)	GRAPHICAL LOG	SAMPLE	S.P.T. (N) BLOWS/6 IN.	(N1)60 BLOWS/FT.	RECOVERY (%)	UNCONFINED STRENGTH (TSF)	CLASSIFICATION	DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMITS (%)	PLASTICITY INDEX (%)	WELL COMPLETION
1								0.0-28.3ft [LOESS / LOESS WITH COLLUVIUM]					
2													
3													
4													
5													
6		D1	3-3-2	6	47%			5.0ft Easy drilling.					
7								LEAN CLAY with sand: Moist, brown, soft, massive, roots and pinhole voids, HCl+ [LOESS]					
8								Easy drilling.					
9													
10													
11		D2	1-0-1	1	80%			10.0ft LEAN CLAY with sand: Moist, brown streaked white, very soft, massive, pinhole voids, HCl+ [LOESS]					
12													
13													
14													
15													
16		D3	2-3-4	9	80%		CL	15.0ft LEAN CLAY with gravel: Very moist, brown, soft, massive, sand with black angular gravel, 24.3% gravel, 16.5% sand, silt fraction 41.8%, clay fraction 17.4% [LOESS WITH COLLUVIUM]	16.1		28	9	
17													
18													
19													
20													
21		D4	2-4-5	12	100%			20.0ft LEAN CLAY with sand and gravel: Very moist, tan blotched brown, medium stiff, massive, clay with sand and fine gravel, end of sample had dominant color of brown streaked white and tan [LOESS]					
22													
23													
24													
25													
26		D5	4-4-9	16	73%			25.0ft LEAN CLAY with sand and gravel: Very moist, dark brown, medium stiff, massive, clay with sand and fine gravel, end of sampler had tan stone [LOESS WITH COLLUVIUM]					
27													
28													
29									28.3-41.0ft [LACUSTRINE]				

TEST HOLE LOG JORGENSEN GEO 984 BUDGE TP LOGS.GPJ JORGENSEN GEO 08-2015.GDT 7/14/17

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TEST HOLE LOG

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PROJECT NAME: 16092 - 984 Budge Drive							DATE: 5/11/2017							
PROJECT LOCATION: 984 Budge Drive, Jackson, WY							HOLE NO.: JG-2							
TEST HOLE LOCATION: See site map														
ELEVATION G.S. (ft.): 6236			TOTAL DEPTH (ft.): 91.5			GROUNDWATER LEVEL (ft.): NA			MEASURED FROM: Ground surface					
DRILL TYPE: BK-81			HAMMER: 140# Auto			DRILL CO: HazTech Drilling, Inc.			DRILLER: Chris		LOGGED BY: hc			
DEPTH (ft.)	GRAPHICAL LOG	SAMPLE	S.P.T. (N) BLOWS/6 IN.	(N1)60 BLOWS/FT.	RECOVERY (%)	UNCONFINED STRENGTH (TSF)	CLASSIFICATION	DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMITS (%)	PLASTICITY INDEX (%)	WELL COMPLETION	
1								0.0-14.0ft [LOESS]						
2														
3														
4														
5														
6		D1	1-0-1	2	67%			5.0ft SILT: Slightly moist, light brown mottled white, very soft, massive with pinhole voids, roots, HCl+ [LOESS]						
7								Easy drilling						
8														
9														
10														
11		D2	1-1-1	3	80%		ML	10.0ft SILT: Slightly moist, light brown mottled and streaked white, very soft, massive with pinhole voids, roots, HCl+, 8% sand, 80.5% silt fraction, 11.5% clay fraction [LOESS]	16.6		24	1		
12														
13														
14									14.0-18.3ft Driller noted change at 14'					
15														
16		D3	2-6-7	17	80%		GM	Silty GRAVEL with sand: Moist to very moist, light brown to tan, medium stiff, massive, clay with sand and angular grey to black clasts, clasts are HCl+, 41.7% gravel, 31.1% sand, 17.5% silt fraction, 9.7% clay fraction [LOESS WITH COLLUVIUM]	27.2		36	4		
17														
18									18.3-21.2ft LEAN CLAY with sand and gravel: Slightly moist, grey streaked tan, white and orange, medium stiff, no structure, clay with sand and gravel, HCl+ [COLLUVIUM]					
19														
20														
21		D4	6-7-7	19	60%									
22									21.2-23.3ft Silty GRAVEL with sand: 0.0 to 0.3, Slightly moist, orangish tan with angular black to white gravel, massive, black HCl-, basalt stone in shoe [LOESS WITH COLLUVIUM].					
23														
24														
25									Driller noted stony at 23'					
26			18-20-18	45	0%				23.3-33.3ft [STONY COLLUVIUM]					
27									25.0ft NO RECOVERY					
28														
29														

TEST HOLE LOG JORGENSEN GEO 984 BUDGE TP LOGS.GPJ JORGENSEN GEO 08-2015.GDT 7/14/17

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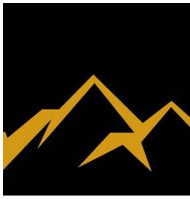
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TEST HOLE LOG

PAGE 1 OF 4

PROJECT NAME: 16092 - 984 Budge Drive							DATE: 5/10/2017							
PROJECT LOCATION: 984 Budge Drive, Jackson, WY							HOLE NO.: JG-3							
TEST HOLE LOCATION: See site map														
ELEVATION G.S. (ft.): 6264			TOTAL DEPTH (ft.): 121.5			GROUNDWATER LEVEL (ft.): NA			MEASURED FROM: Ground surface					
DRILL TYPE: BK-81			HAMMER: 140# Auto			DRILL CO: HazTech Drilling, Inc.			DRILLER: Chris		LOGGED BY: hc			
DEPTH (ft.)	GRAPHICAL LOG	SAMPLE	S.P.T. (N) BLOWS/6 IN.	(N1)60 BLOWS/FT.	RECOVERY (%)	UNCONFINED STRENGTH (TSF)	CLASSIFICATION	DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMITS (%)	PLASTICITY INDEX (%)	WELL COMPLETION	
1								0.0-28.3ft [YOUNGER LAKE BEDS, i.e. LACUSTRINE]						
2														
3														
4														
5														
6		D1	7-9-6	18	77%				5.0ft LEAN CLAY: Slightly moist, banded light and dark brown, medium stiff, varved, plastic clay [LACUSTRINE]					
7									Easy drilling.					
8														
9														
10														
11		U1					CL		10.0-12.0ft Shelby tube sample collected at 10-12 feet. LEAN CLAY: 0% gravel, 9.2% sand, 36.3% silt fraction, 54.5% clay fraction [LACUSTRINE]	16.6	110.9	38		20
12														
13		D2	5-9-15	33	100%				12.0ft LEAN CLAY: Moist, banded light and dark brown and black, stiff, varved [LACUSTRINE]					
14									Driller notes: Easy drilling between samples.					
15														
16		D3	10-8-10	23	40%				15.0ft As above [LACUSTRINE]					
17									Driller notes: Easy drilling between samples.					
18														
19														
20														
21		D4	3-7-10	46	93%				20.0ft LEAN CLAY: Moist, dark brown banded black and grey, occasional white, white is HCl+, stiff [LACUSTRINE]					
22									Driller notes: Easy drilling between samples.					
23														
24														
25														
26		D5	5-7-10	20	80%				25.0ft LEAN CLAY: Very moist, dark brown mottled black and occasional white and grey blotches, white is HCl+, medium stiff, massive [LACUSTRINE]					
27									Driller notes: Easy drilling between samples.					
28														
29									28.3-121.5ft [OLDER LAKE BEDS, i.e. LACUSTRINE]					

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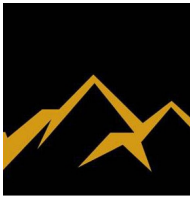
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TEST HOLE LOG

PAGE 2 OF 4

TEST HOLE LOG JORGENSEN GEO 984 BUDGE TP LOGS.GPJ JORGENSEN GEO 08-2015.GDT 7/14/17

PROJECT NAME: 16092 - 984 Budge Drive										DATE: 5/10/2017				
PROJECT LOCATION: 984 Budge Drive, Jackson, WY										HOLE NO.: JG-3				
DEPTH (ft.)	GRAPHICAL LOG	SAMPLE	S.P.T. (N) BLOWS/6 IN.	(N1)60 BLOWS/FT.	RECOVERY (%)	UNCONFINED STRENGTH (TSF)	CLASSIFICATION	DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMITS (%)	PLASTICITY INDEX (%)	WELL COMPLETION	
31		U2						30.0ft Shelby tube collected from 30-32 feet: Black and grey streaked white in shelly tube. Slickensides observed when sample extruded.		123.4				
32		D6	10-18-31	56	73%		CL	32.0ft LEAN CLAY with sand: Slightly moist, dark grey banded light grey and white, tilted at approximately 20 degrees, very stiff, varved, HCl+, 4.6% gravel, 17.2% sand, 42.4% silt fraction, 35.8% clay fraction [LACUSTRINE]	11.0		34	18		
33														
34														
35														
36		D7	50+	> 100	40%			Driller notes: Slow drilling between samples.						
37								35.0ft LEAN CLAY with sand: Dry, grey mottled and streaked white, very stiff, massive, clay with sand, occasional fine gravel [LACUSTRINE]						
38														
39														
40														
41		D8	27-34-35	71	73%			40.0ft As above, HCl+ [LACUSTRINE]						
42								Driller notes: Slow drilling between samples.						
43														
44														
45														
46		D9	7-16-25	40	100%			45.0ft LEAN CLAY with sand: Slightly moist, grey streaked white, stiff, massive, clay with sand (gritty on teeth), occasional fine gravel [LACUSTRINE]						
47														
48														
49														
50														
51		D10	8-16-25	37	67%			50.0ft As above [LACUSTRINE]						
52								Driller notes: Slower drilling between samples.						
53														
54														
55														
56		D11	10-42-50+	36	100%			55.0ft LEAN CLAY with sand: Slightly moist, grey mottled and streaked white, stiff, massive, clay with occasional fine gravel [LACUSTRINE]						
57														
58														
59														
60														
61		D12	27-50+	> 100	100%			60.0ft LEAN CLAY with sand: Dry, grey mottled and streaked white, very stiff, massive, clay with sand, occasional fine gravel [LACUSTRINE]						
62														
63														
64														



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TEST HOLE LOG

PAGE 4 OF 4

PROJECT NAME: 16092 - 984 Budge Drive										DATE: 5/10/2017			
PROJECT LOCATION: 984 Budge Drive, Jackson, WY										HOLE NO.: JG-3			
DEPTH (ft.)	GRAPHICAL LOG	SAMPLE	S.P.T. (N) BLOWS/6 IN.	(N1)60 BLOWS/FT.	RECOVERY (%)	UNCONFINED STRENGTH (TSF)	CLASSIFICATION	DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMITS (%)	PLASTICITY INDEX (%)	WELL COMPLETION
101		D15	23-50+	> 100	47%			100.0ft As above [LACUSTRINE]					
102													
103													
104													
105		D16	19-40-50+	22	87%			105.0ft As above [LACUSTRINE]					
106													
107													
108													
109													
110			15-26-38	33	67%			110.0ft As above [LACUSTRINE]					
111													
112													
113													
114													
115		D17	18-28-45	36	53%			115.0ft As above [LACUSTRINE]					
116													
117													
118													
119													
120		D18	22-27-46	35	93%			120.0ft As above [LACUSTRINE]					
121													
122								Notes: VWP installed in 1 inch PVC pipe 120 ft 4 in below the ground surface, grouted in place with flush mount vault installed at surface. VWP serial number 1701273. No groundwater encountered on May 10, 2017.					
123													
124													
125													
126													
127													
128													
129													
130													
131													
132													
133													
134													

TEST HOLE LOG JORGENSEN GEO 984 BUDGE TP LOGS.GPJ JORGENSEN GEO 08-2015.GDT 7/14/17



Jorgensen Geotechnical, LLC
 Jackson Wyoming 83001
 Telephone: 307-733-5150
 Fax: 307-733-5187

TEST HOLE LOG

PAGE 1 OF 2

PROJECT NAME: 16092 - 984 Budge Drive							DATE: 5/12/2017						
PROJECT LOCATION: 984 Budge Drive, Jackson, WY							HOLE NO.: JG-4						
TEST HOLE LOCATION: See site map													
ELEVATION G.S. (ft.): 6262			TOTAL DEPTH (ft.): 41.5			GROUNDWATER LEVEL (ft.): NA			MEASURED FROM: Ground surface				
DRILL TYPE: BK-81			HAMMER: 140# Auto			DRILL CO: HazTech Drilling, Inc.			DRILLER: Chris		LOGGED BY: hc		
DEPTH (ft.)	GRAPHICAL LOG	SAMPLE	S.P.T. (N) BLOWS/6 IN.	(N1)60 BLOWS/FT.	RECOVERY (%)	UNCONFINED STRENGTH (TSF)	CLASSIFICATION	DESCRIPTION COMMENTS:	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMITS (%)	PLASTICITY INDEX (%)	WELL COMPLETION
1								0.0-15.0ft [LOESS/FILL]					
2													
3													
4													
5													
6		D1	2-1-2	5	40%			5.0ft LEAN CLAY with sand: Slightly moist, dark brown mottled light brown, very soft, massive, light brown is HCl+ [LOESS/FILL]					
7													
8													
9													
10													
11		D2	2-2-2	5	60%			10.0ft LEAN CLAY with sand: Slightly moist, dark brown streaked light brown, very soft, massive, light brown is HCl+ [LOESS/FILL]					
12													
13													
14													
15													
16		D3	2-1-1	3	53%		ML	15.0-18.3ft SILT: Moist, dark brown streaked white, very soft, massive, fine sand and silt, 0.9% gravel, 5.3% sand, 80% silt fraction, 13.8% clay fraction [LOESS]	19.4		25	2	
17													
18													
19								18.3-28.3ft [LOESS WITH COLLUVIUM GRAVEL] 18.5ft Driller noted change to stiffer drilling at 18.5'					
20													
21		D4	3-5-7	16	80%		ML	20.0ft Sandy SILT: Very moist, tan, medium stiff, massive, sand and clay with black angular basalt gravel (gravel is not HCl+), tan is HCl+, 3.7% gravel, 43.9% sand, 39.6% silt fraction, 12.8% clay fraction [LOESS WITH COLLUVIUM GRAVEL]	34.3		37	4	
22													
23													
24													
25													
26		D5	7-9-10	24	87%			25.0ft Sandy SILT with gravel: Moist, tan (HCl+), fading to dark brown mottled tan, fading to all dark brown at bottle of sampler, medium stiff, massive, clay with sand and angular gravel (not HCl+) [LOESS WITH COLLUVIUM GRAVEL]					
27													
28													
29								28.3-33.3ft [COLLUVIUM WITH LOESS]					

TEST HOLE LOG JORGENSEN GEO 984 BUDGE TP LOGS.GPJ JORGENSEN GEO 08-2015.GDT 7/14/17



TEST HOLE LOG

PAGE 2 OF 2

PROJECT NAME: 16092 - 984 Budge Drive									DATE: 5/12/2017				
PROJECT LOCATION: 984 Budge Drive, Jackson, WY									HOLE NO.: JG-4				
DEPTH (ft.)	GRAPHICAL LOG	SAMPLE	S.P.T. (N) BLOWS/6 IN.	(N1)60 BLOWS/FT.	RECOVERY (%)	UNCONFINED STRENGTH (TSF)	CLASSIFICATION	DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMITS (%)	PLASTICITY INDEX (%)	WELL COMPLETION
31		D6	X	10-10-7	17	60%		30.0ft GRAVEL with sand and silt: Moist, dark brown, medium dense, massive, gravel with sand and clay, black gravel is not HCl+, occasional red fine gravel [COLLUVIUM WITH LOESS]					
32													
33													
34													
35		D7	X	8-9-13	25	67%		33.3-41.5ft [TENSLEEP AND MADISON COLLUVIUM] 35.0ft GRAVEL with sand: Moist, pinkish grey, medium dense, massive, white rock powder (HCl+), crushed grey gravel with sandy matrix, pink and grey are not HCl+ [TENSLEEP AND MADISON COLLUVIUM]					
36													
37													
38													
39		D8	X	9-13-14	29	67%		40.0ft GRAVEL with sand: Very moist, pinkish tan, medium dense, massive, greyish tan gravel (not HCl+), slight HCl reaction in sand matrix [TENSLEEP AND MADISON COLLUVIUM]					
40													
41													
42													
43								Note: Stopped at request. No groundwater observed at time of drilling. Backfilled with spoils, capped with approximately 5-ft of bentonite.					
44													
45													
46													
47													
48													
49													
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64													



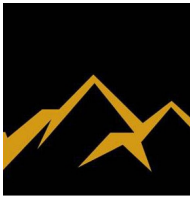
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TEST HOLE LOG

PAGE 1 OF 2

PROJECT NAME: 16092 - 984 Budge Drive							DATE: 5/12/2017						
PROJECT LOCATION: 984 Budge Drive, Jackson, WY							HOLE NO.: JG-5						
TEST HOLE LOCATION: See site map													
ELEVATION G.S. (ft.): 6264			TOTAL DEPTH (ft.): 31.5			GROUNDWATER LEVEL (ft.): NA			MEASURED FROM: Ground surface				
DRILL TYPE: BK-81			HAMMER: 140# Auto			DRILL CO: HazTech Drilling, Inc.			DRILLER: Chris		LOGGED BY: hc		
DEPTH (ft.)	GRAPHICAL LOG	SAMPLE	S.P.T. (N) BLOWS/6 IN.	(N1)60 BLOWS/FT.	RECOVERY (%)	UNCONFINED STRENGTH (TSF)	CLASSIFICATION	DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMITS (%)	PLASTICITY INDEX (%)	WELL COMPLETION
1								0.0-28.3ft [YOUNGER LAKE BEDS, i.e. LACUSTRINE]					
2													
3													
4													
5													
6		D1	4-6-9	23	67%			5.0ft LEAN CLAY: Slightly moist, brown banded grey, medium stiff, varved [LACUSTRINE]					
7													
8													
9													
10													
11		U1					CL	10.0ft Shelby tube collected from 10-12 feet.		109.3			
12													
13		D2	5-7-10	23	67%			12.0ft LEAN CLAY: Slightly moist, brown banded grey, medium stiff, varved [LACUSTRINE]					
14													
15													
16		D3	3-6-10	21	80%		CL	15.0ft LEAN CLAY: Moist to very moist, brown banded grey and light brown, bands are sloped/contorted at an angle, medium stiff, clay, 0% gravel, 6.3% sand, 45.7% silt fraction, 48% clay fraction [LACUSTRINE]	16.9		36	17	
17													
18													
19													
20													
21		D4	8-15-22	48	67%			20.0ft LEAN CLAY with gravel: Slightly moist, dark brownish grey banded brown, stiff, clay with white and grey broken gravel [LACUSTRINE]					
22								22.0ft Driller noted stiffer material at 22'					
23													
24													
25													
26		D5	10-23-37	72	93%			25.0ft CLAY: Slightly moist, dark grey banded white at angles with occasional brown band, very stiff [LACUSTRINE]					
27													
28													
29								28.3-31.5ft [OLDER LAKE BEDS, i.e. LACUSTRINE]					

TEST HOLE LOG JORGENSEN GEO 984 BUDGE TP LOGS.GPJ JORGENSEN GEO 08-2015.GDT 7/14/17



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TEST HOLE LOG

PAGE 2 OF 2

PROJECT NAME: 16092 - 984 Budge Drive								DATE: 5/12/2017					
PROJECT LOCATION: 984 Budge Drive, Jackson, WY								HOLE NO.: JG-5					
DEPTH (ft.)	GRAPHICAL LOG	SAMPLE	S.P.T. (N) BLOWS/6 IN.	(N1)60 BLOWS/FT.	RECOVERY (%)	UNCONFINED STRENGTH (TSF)	CLASSIFICATION	DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMITS (%)	PLASTICITY INDEX (%)	WELL COMPLETION
31		D6	17-26-42	80	93%			30.0ft LEAN CLAY with sand: Slightly moist, grey to dark grey streaked and blotched white, hard [LACUSTRINE] Notes: Backfilled with spoils, capped with approximately 5 feet of bentonite chips. No groundwater encountered on May 12, 2017.					
32													
33													
34													
35													
36													
37													
38													
39													
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63													
64													

TEST HOLE LOG JORGENSEN GEO 984 BUDGE TP LOGS.GPJ JORGENSEN GEO 08-2015.GDT 7/14/17

APPENDIX B:
Vibrating Wire Piezometer
Calibration Sheet

VW Piezometer Calibration Certificate

Serial #: 1701273

Range : 350 kPa

Cable Length: 45 m

Date of Calibration: 4/14/2017

Part #: 52611027

Cable Part #: 50613524

Calibrated by: AM

Note:

ABC Calibration Factors

	A	B	C
kPa	-9.895957E-5	2.358222E-3	8.267321E+2
psi	-1.435287E-5	3.420312E-4	1.199074E+2

Pressure in kPa/psi = (A x Hz²) + (B x Hz) + C, where Hz is frequency in Hertz.

TI Calibration Factors

	C0	C1	C2	C3	C4	C5
kPa	8.284002E+2	-1.588566E-4	1.132191E-1	-9.845533E-5	-1.331748E-6	-6.740813E-4
psi	1.201451E+2	-2.303939E-5	1.642046E-2	-1.427924E-5	-1.931469E-7	-9.776379E-5

Pressure in kPa/psi = C0 + (C1 x Hz) + (C2 x T) + (C3 x Hz²) + (C4 x Hz x T) + (C5 x T²)

Where Hz is the frequency reading in Hertz and T is the Thermistor reading in degrees C.

TI factors are calculated from temperatures at 5.0, 15.0 and 25.0 degrees C.

Applied pressure and temperature are NIST traceable.

Summary of Test Results at 15°C

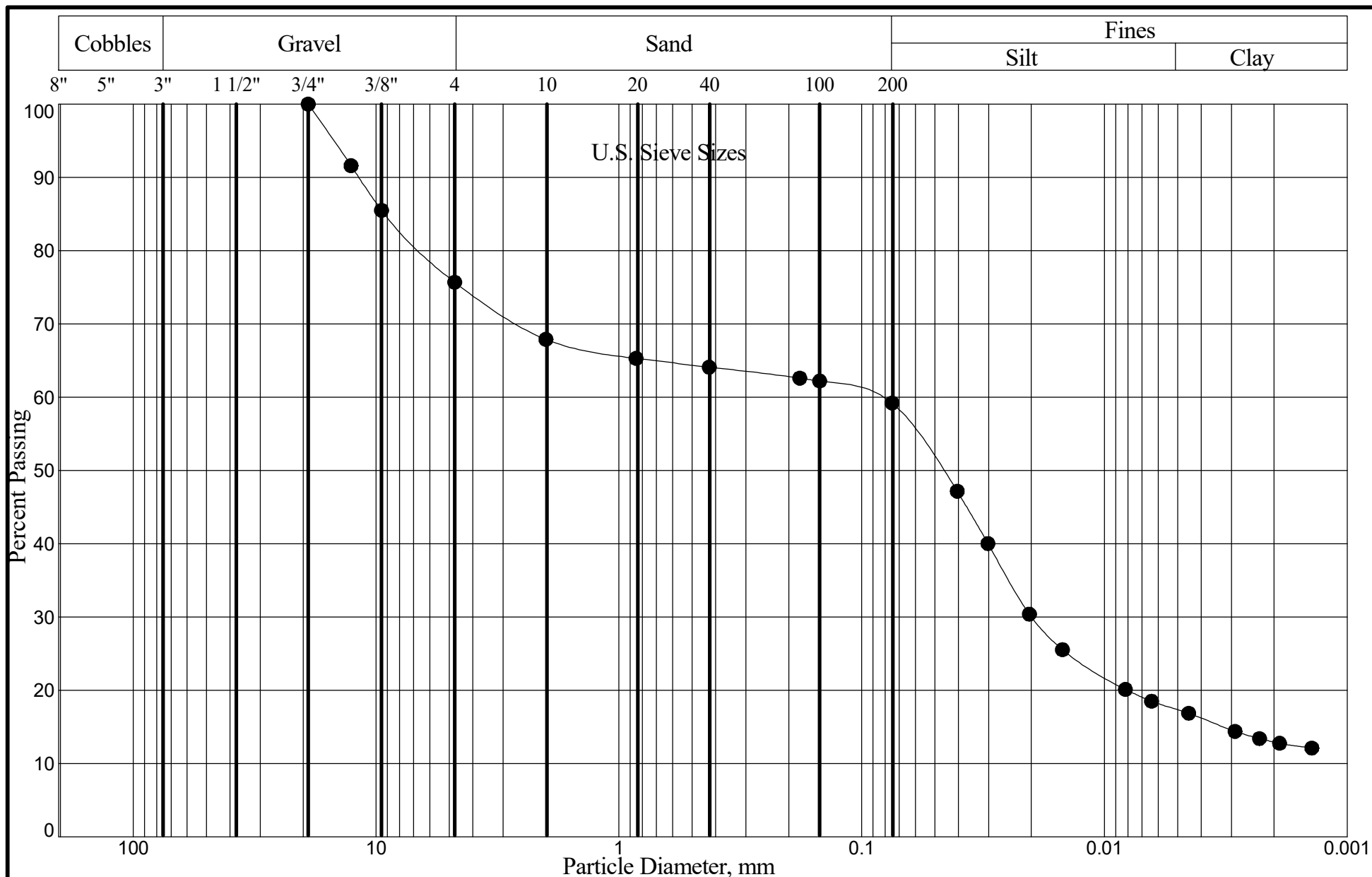
Thermistor reading is 14.5 °C.

Applied Pressure is referenced to 1 atm. Calculated Pressure uses ABC Calibration factors.

Applied (kPa)	Equivalent (psi)	Frequency (Hz)	Calculated (kPa)	Calculated (psi)	Error (%FS)
0.0	0.00	2902.6	-0.2	-0.02	0.05
35.0	5.08	2840.3	35.1	5.09	-0.03
70.0	10.15	2777.1	70.1	10.16	-0.02
105.0	15.23	2712.4	105.1	15.24	-0.02
140.0	20.31	2646.2	140.0	20.31	-0.01
175.0	25.38	2578.2	175.0	25.38	0.00
210.0	30.46	2508.4	210.0	30.46	0.00
245.0	35.53	2436.7	244.9	35.52	0.03
280.0	40.61	2362.6	279.9	40.60	0.02
315.0	45.69	2286.1	314.9	45.68	0.02
350.0	50.76	2206.5	350.1	50.78	-0.04

APPENDIX C:

Laboratory Test Results



1 Holman Avenue
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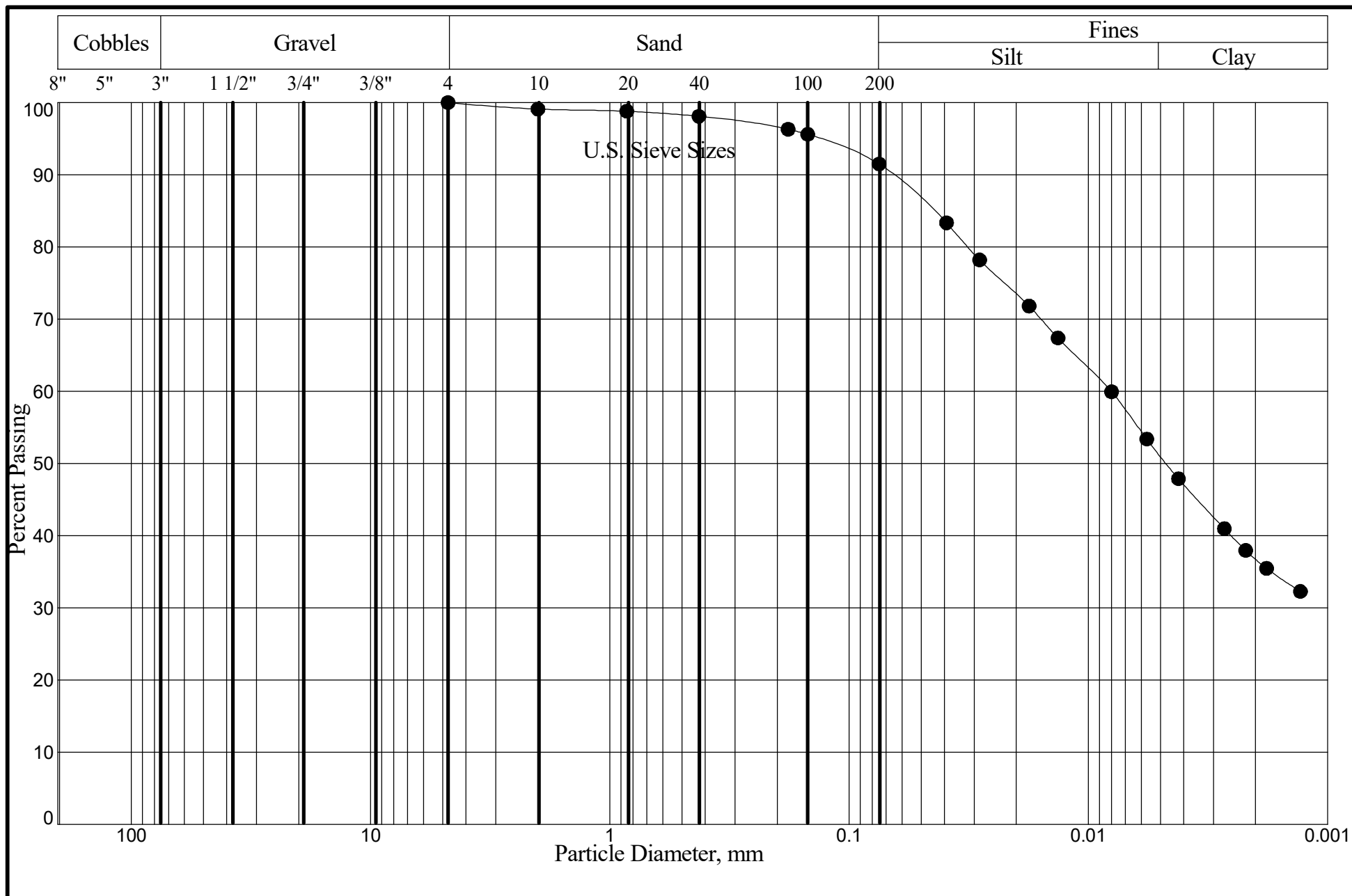
Grain Size Analysis Curve

Project Number: 05-3404L
984 Budge Drive

Boring No.: JG-1
Sample No: D3
Depth: 15' to 16.5'
Date Received: 05/19/2017

% Gravel:	24.3	LL:	28
% Sand:	16.5	PL:	19
% Silt:	41.8	PI:	9
% Clay:	17.4	MC:	16.1%
Class:	CL		
Gravelly Lean Clay With Sand			

5/26/17



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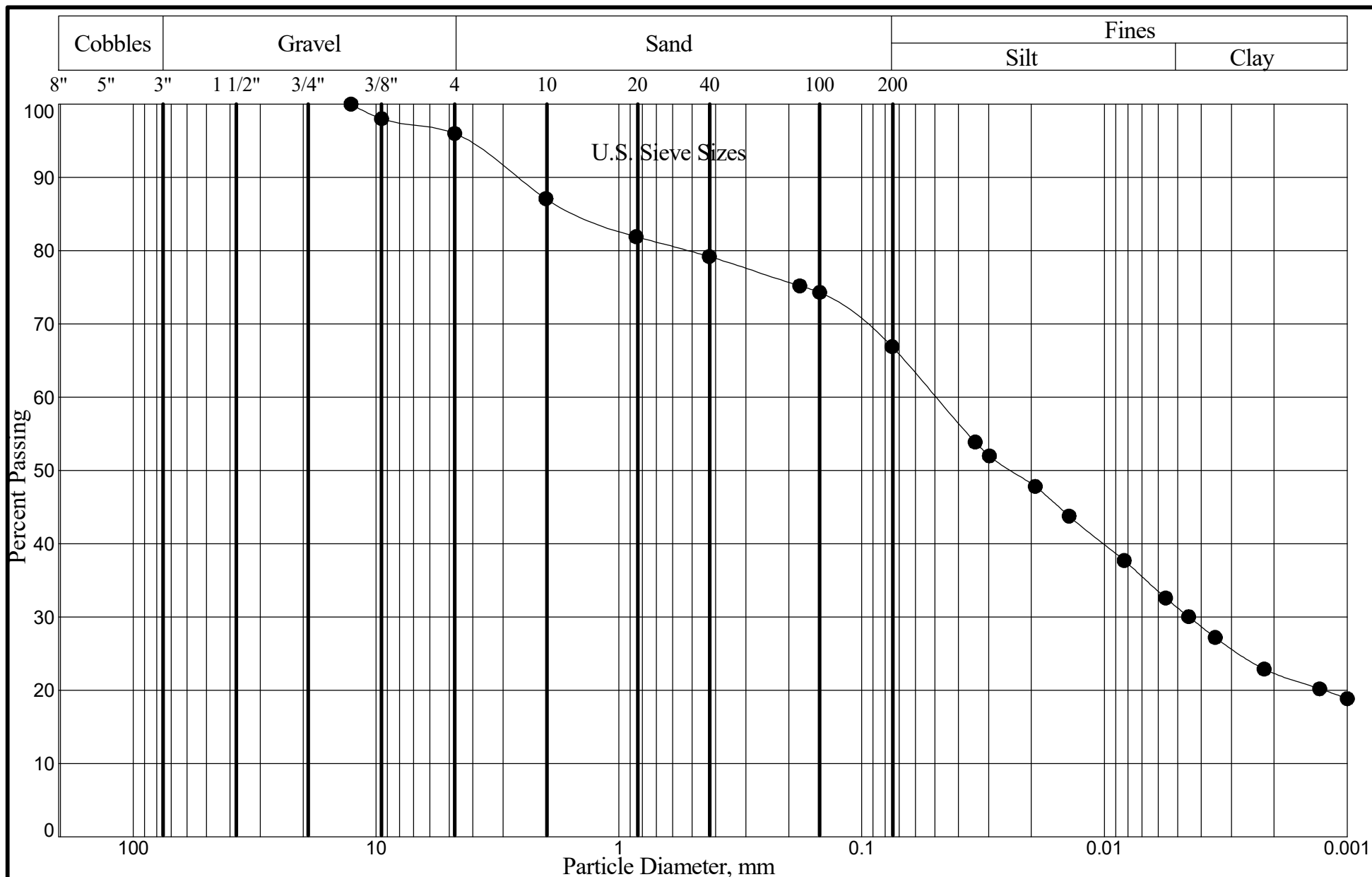
Grain Size Analysis Curve

Project Number: 05-3404L
984 Budge Drive

Boring No.: JG-1
Sample No: D6
Depth: 30' to 31.5'
Date Received: 05/19/2017

% Gravel:	0.0	LL:	44
% Sand:	8.5	PL:	20
% Silt:	40.5	PI:	24
% Clay:	51.0	MC:	20.1%
Class:	CL		
Lean Clay			

5/26/17



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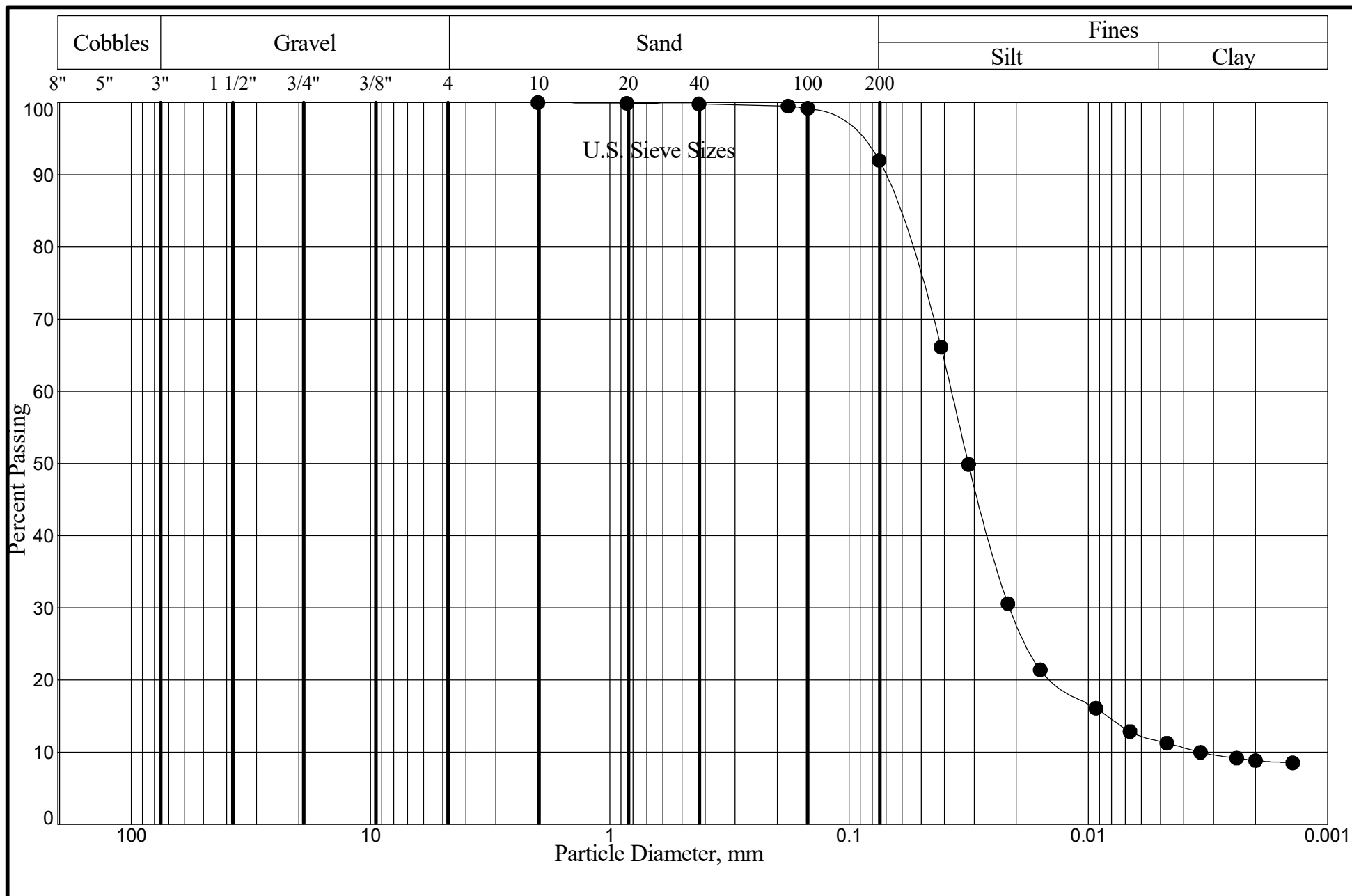
Grain Size Analysis Curve

Project Number: 05-3404L
984 Budge Drive

Boring No.: JG-1
Sample No: D15-2
Depth: 75' to 76.5'
Date Received: 05/19/2017

% Gravel:	4.0	LL:	31
% Sand:	29.1	PL:	18
% Silt:	35.6	PI:	13
% Clay:	31.3	MC:	10.5%
Class:	CL		
Sandy Lean Clay			

5/26/17



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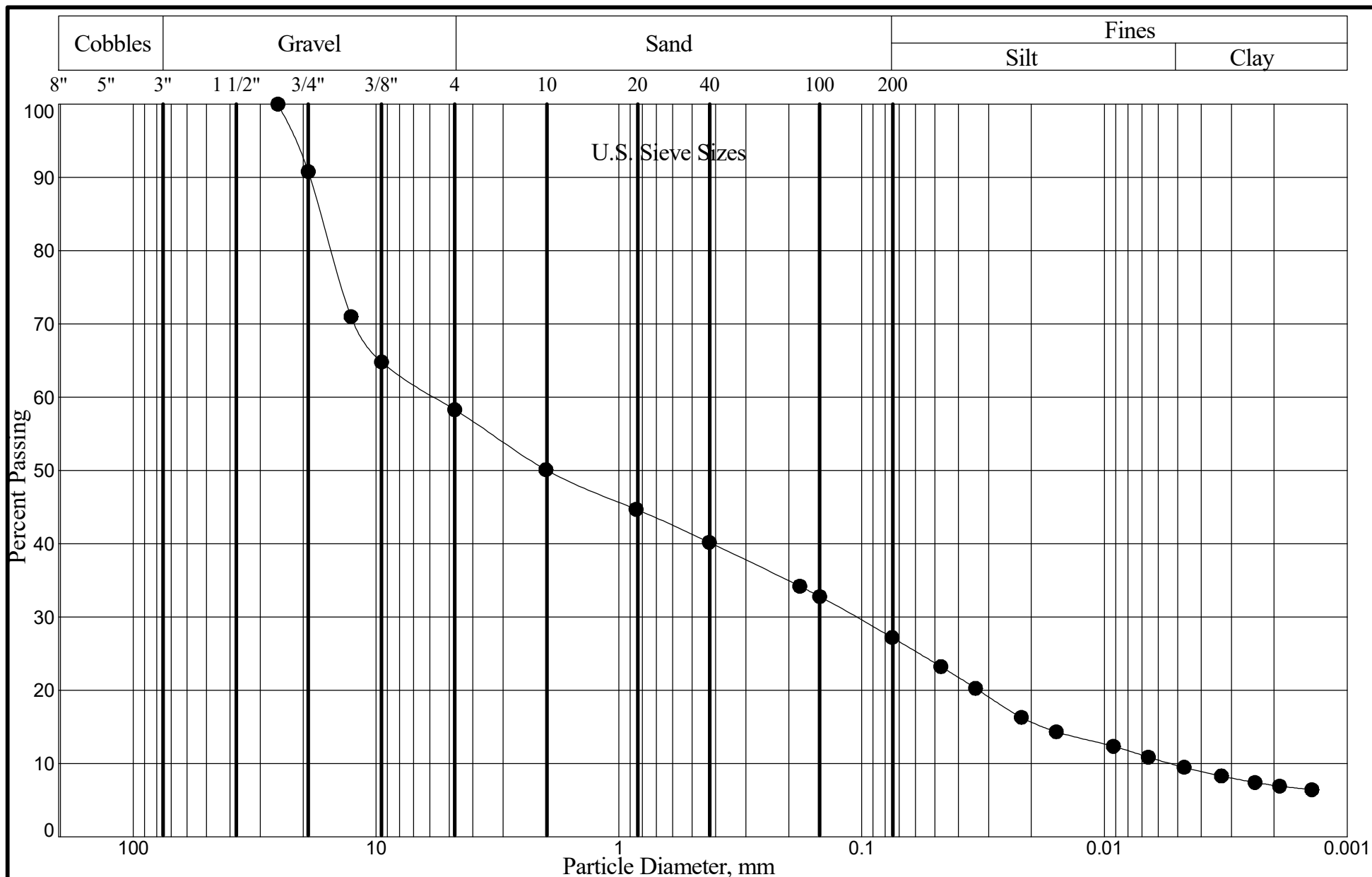
Grain Size Analysis Curve

Project Number: 05-3404L
984 Budge Drive

Boring No.: JG-2
Sample No: D2
Depth: 10' to 11.5'
Date Received: 05/19/2017

% Gravel:	0.0	LL:	24
% Sand:	8.0	PL:	23
% Silt:	80.5	PI:	1
% Clay:	11.5	MC:	16.6%
Class:	ML		
Silt			

5/26/17



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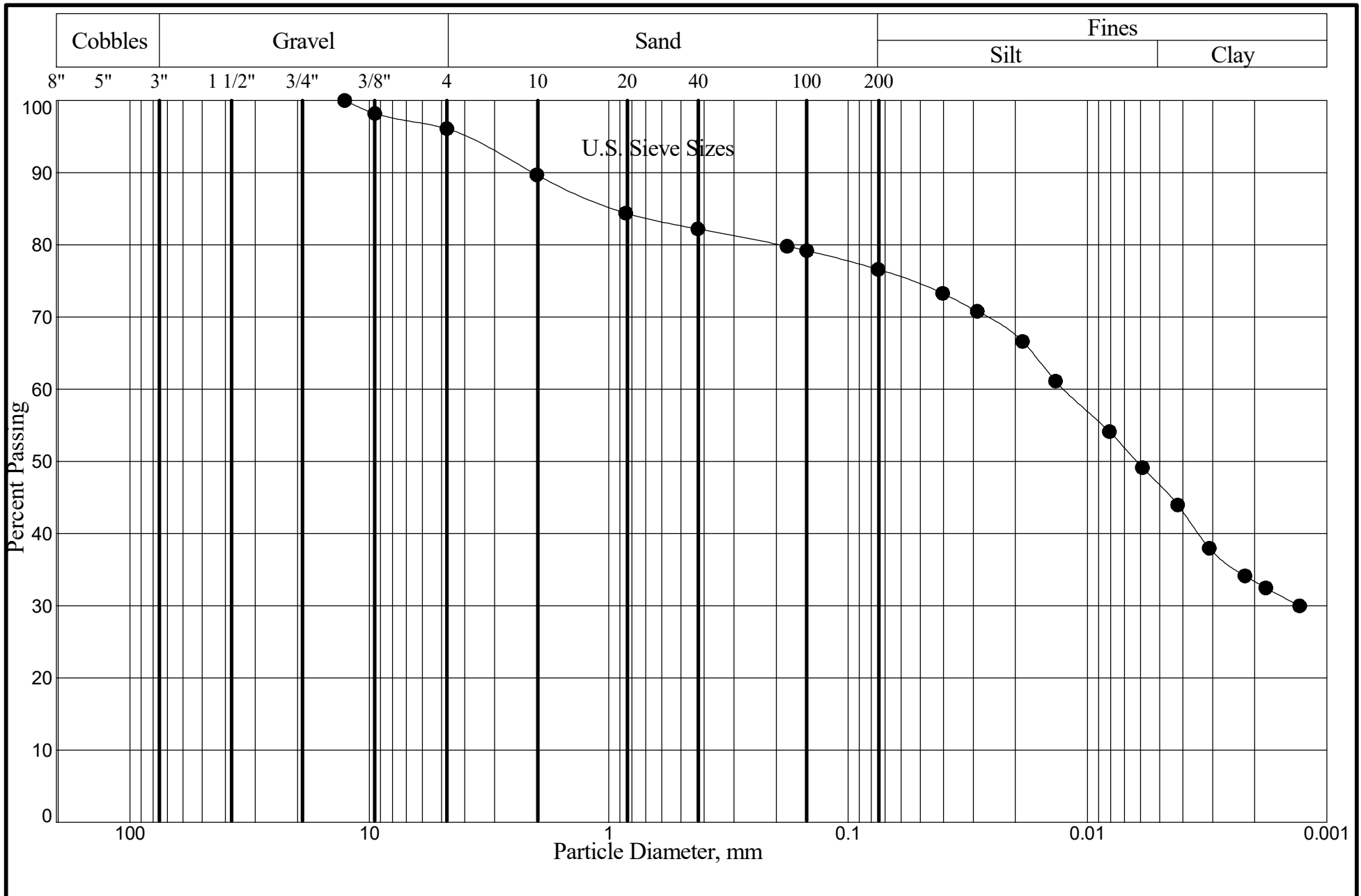
Grain Size Analysis Curve

Project Number: 05-3404L
984 Budge Drive

Boring No.: JG-2
Sample No: D3
Depth: 15' to 16.5'
Date Received: 05/19/2017

% Gravel:	41.7	LL:	36
% Sand:	31.1	PL:	32
% Silt:	17.5	PI:	4
% Clay:	9.7	MC:	27.2%
Class:	GM		
Silty Gravel With Sand			

5/26/17



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Grain Size Analysis Curve

Project Number: 05-3404L
984 Budge Drive

Boring No.: JG-2

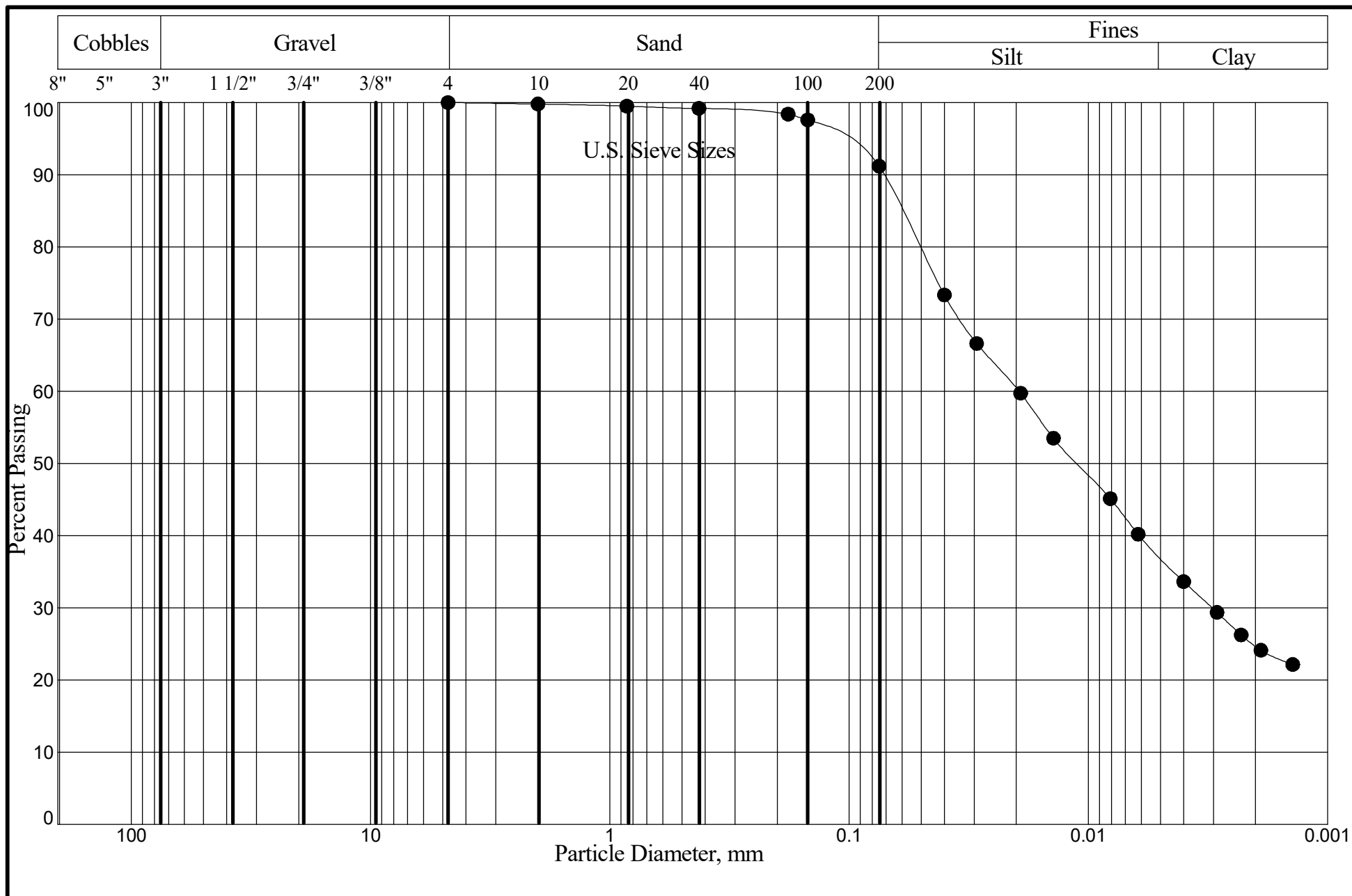
Sample No: U1

Depth: 45' to 47'

Date Received: 05/19/2017

% Gravel:	3.9	LL:	41
% Sand:	19.5	PL:	24
% Silt:	30.0	PI:	17
% Clay:	46.6	MC:	19.8%
Class:	CL		
Lean Clay With Sand			

5/26/17



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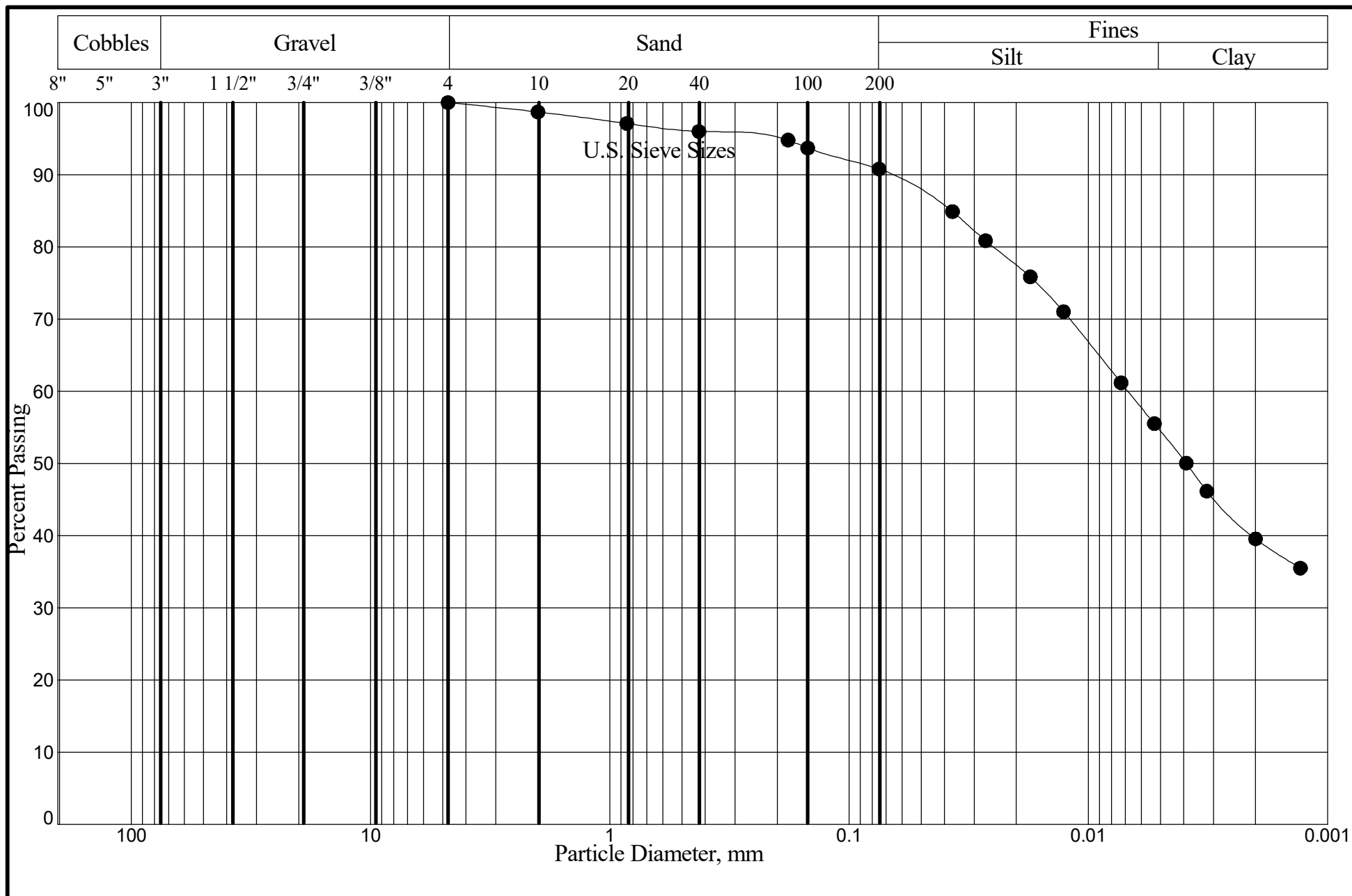
Grain Size Analysis Curve

Project Number: 05-3404L
984 Budge Drive

Boring No.: JG-2
Sample No: D10
Depth: 55' to 56.5'
Date Received: 05/19/2017

% Gravel:	0.0	LL:	34
% Sand:	8.8	PL:	16
% Silt:	54.2	PI:	18
% Clay:	37.0	MC:	14.6%
Class:	CL		
Lean Clay			

5/26/17



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Grain Size Analysis Curve

Project Number: 05-3404L
984 Budge Drive

Boring No.: JG-3

Sample No: U1

Depth: 10' to 12'

Date Received: 05/19/2017

% Gravel:

0.0

LL:

38

% Sand:

9.2

PL:

18

% Silt:

36.3

PI:

20

% Clay:

54.5

MC:

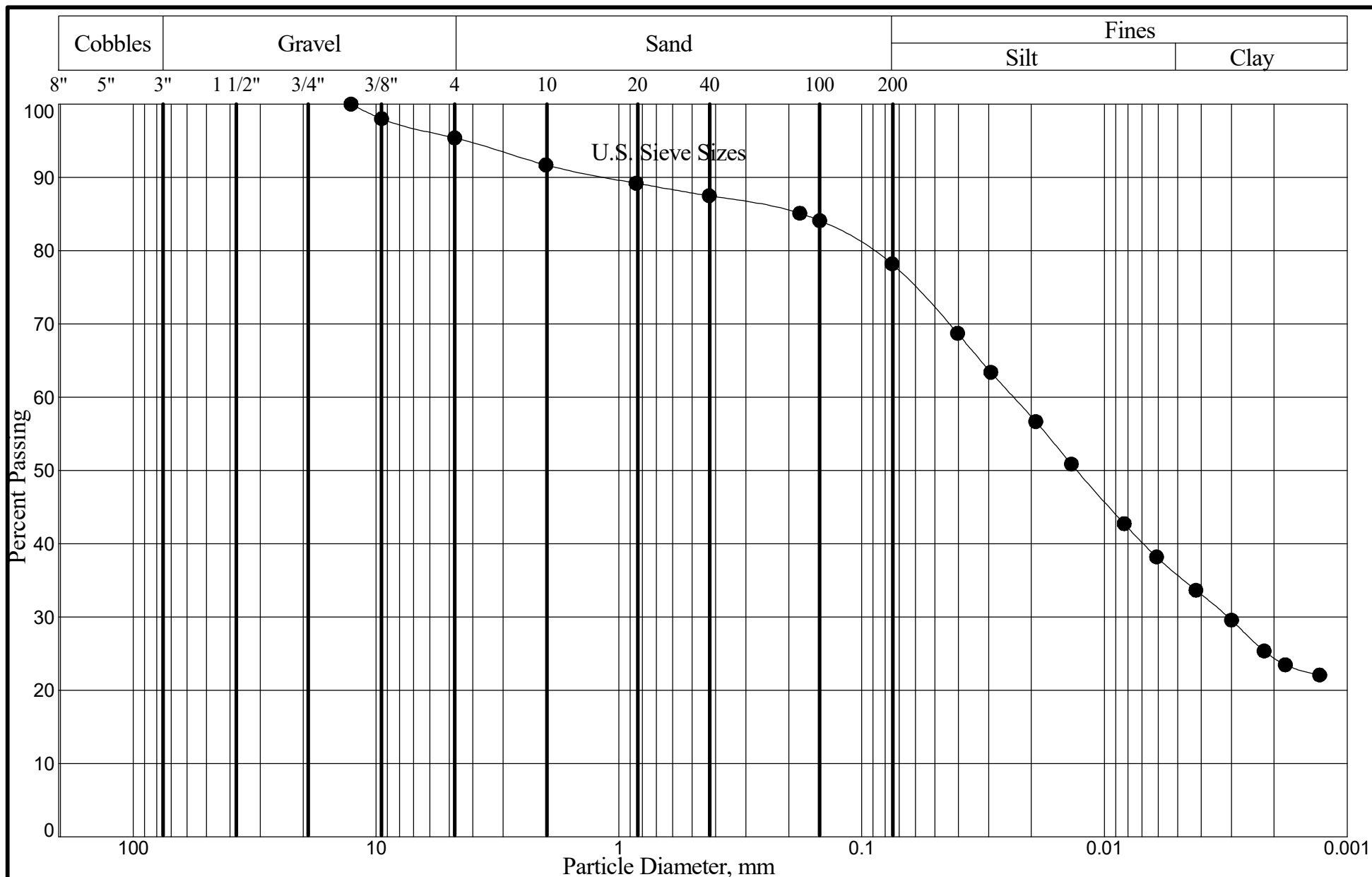
16.6%

Class:

CL

Lean Clay

5/26/17



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Grain Size Analysis Curve

Project Number: 05-3404L
984 Budge Drive

Boring No.: JG-3

Sample No: D6

Depth: 32' to 33.5'

Date Received: 05/19/2017

% Gravel: 4.6

% Sand: 17.2

% Silt: 42.4

% Clay: 35.8

Class: CL

Lean Clay With Sand

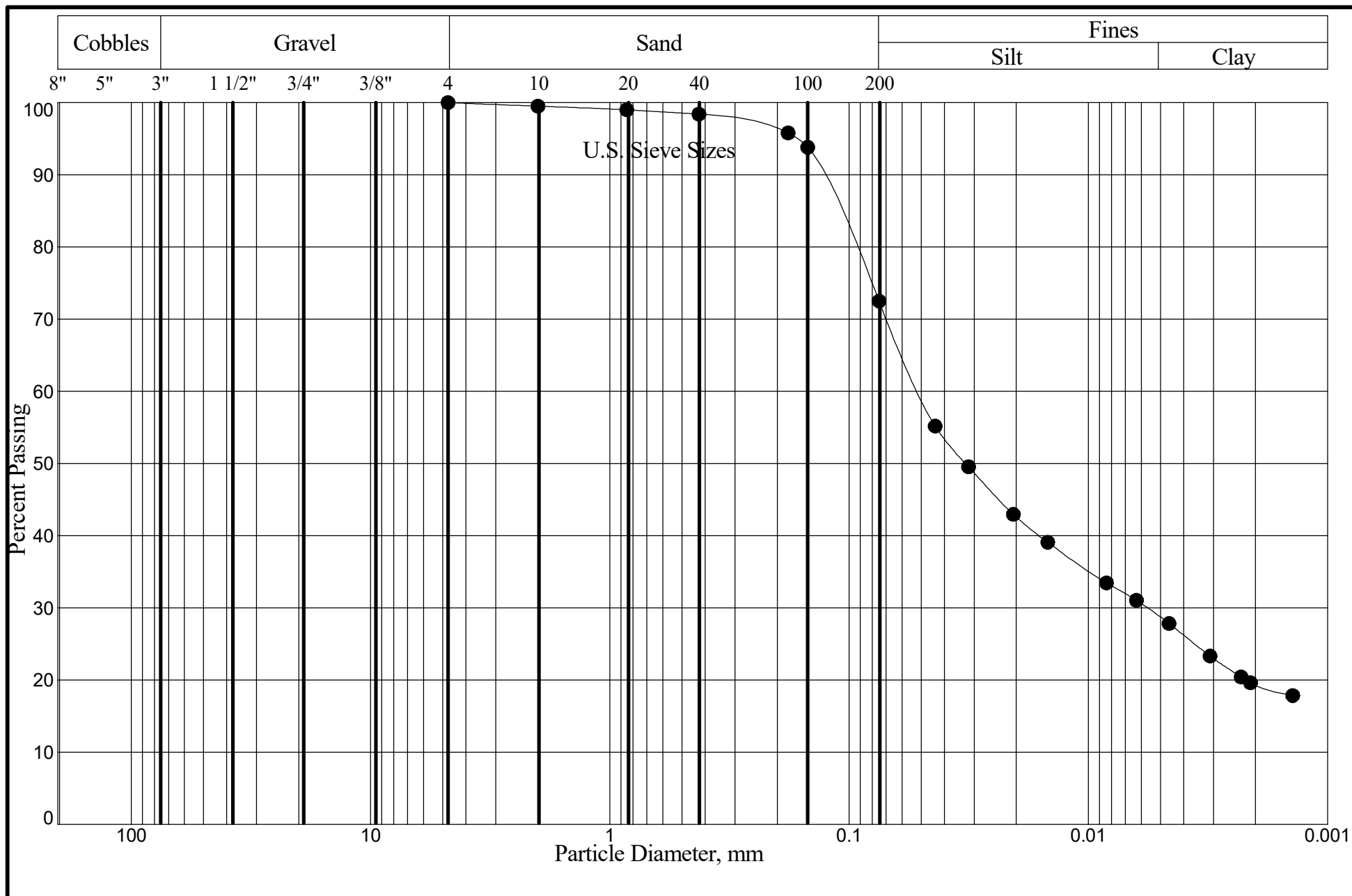
LL: 34

PL: 16

PI: 18

MC: 11.0%

5/26/17



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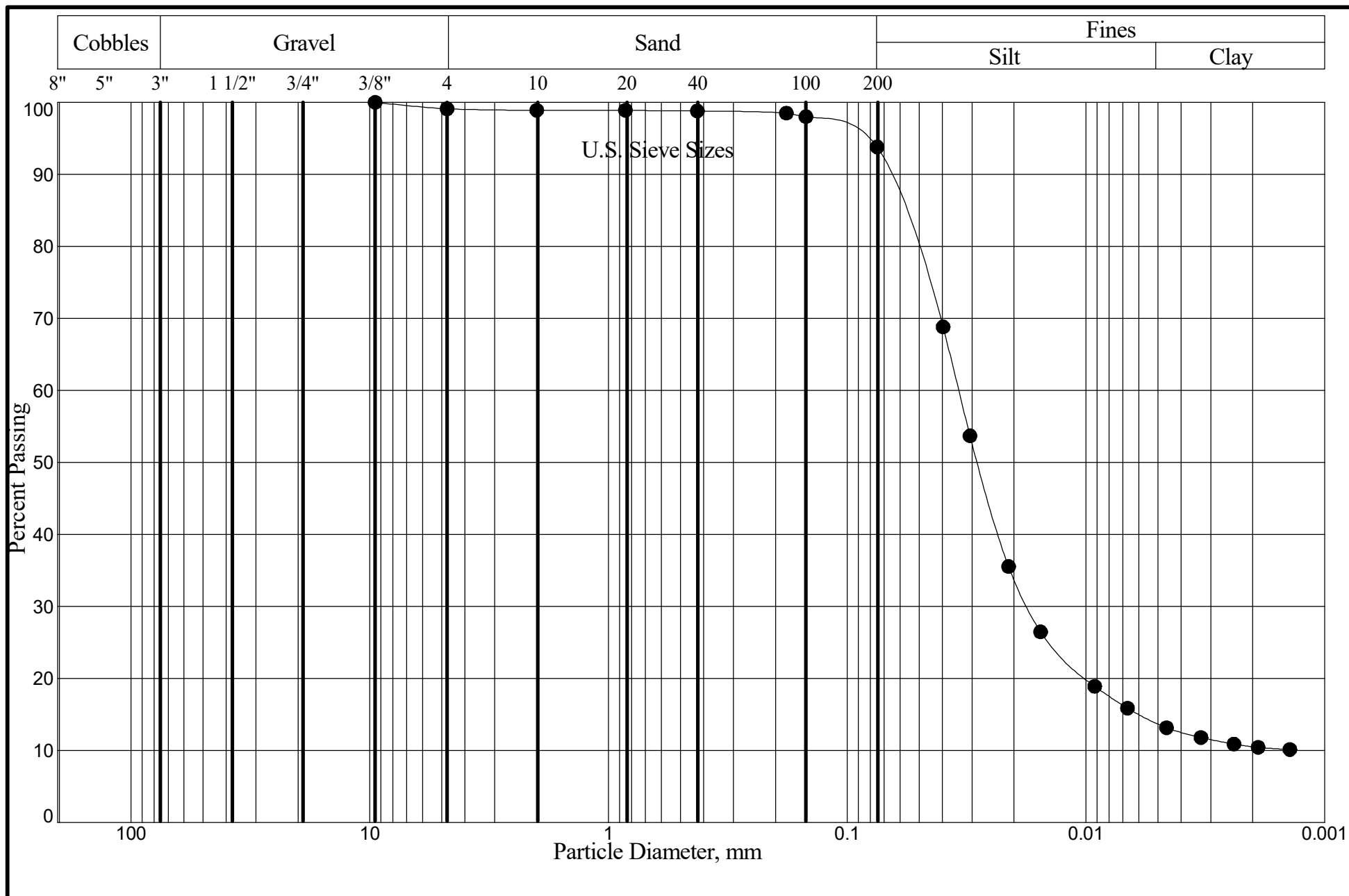
Grain Size Analysis Curve

Project Number: 05-3404L
984 Budge Drive

Boring No.: JG-3
Sample No: D13
Depth: 70' to 71.5'
Date Received: 05/19/2017

% Gravel:	0.0	LL:	27
% Sand:	27.5	PL:	15
% Silt:	43.8	PI:	12
% Clay:	28.7	MC:	7.8%
Class:	CL		
Lean Clay With Sand			

5/26/17



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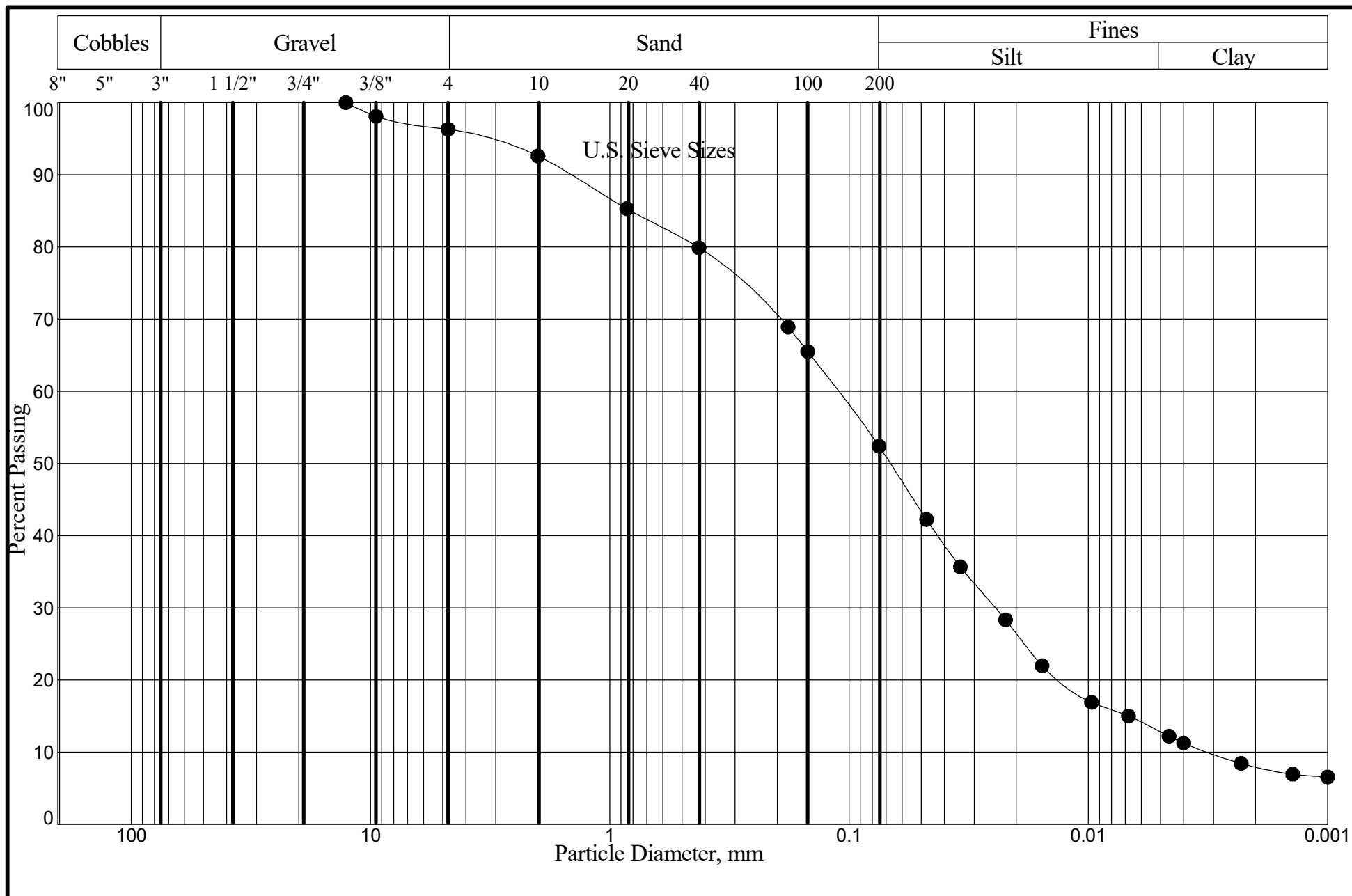
Grain Size Analysis Curve

Project Number: 05-3404L
984 Budge Drive

Boring No.: JG-4
Sample No: D3
Depth: 15' to 16.5'
Date Received: 05/19/2017

% Gravel:	0.9	LL:	25
% Sand:	5.3	PL:	23
% Silt:	80.0	PI:	2
% Clay:	13.8	MC:	19.4%
Class:	ML		
Silt			

5/26/17



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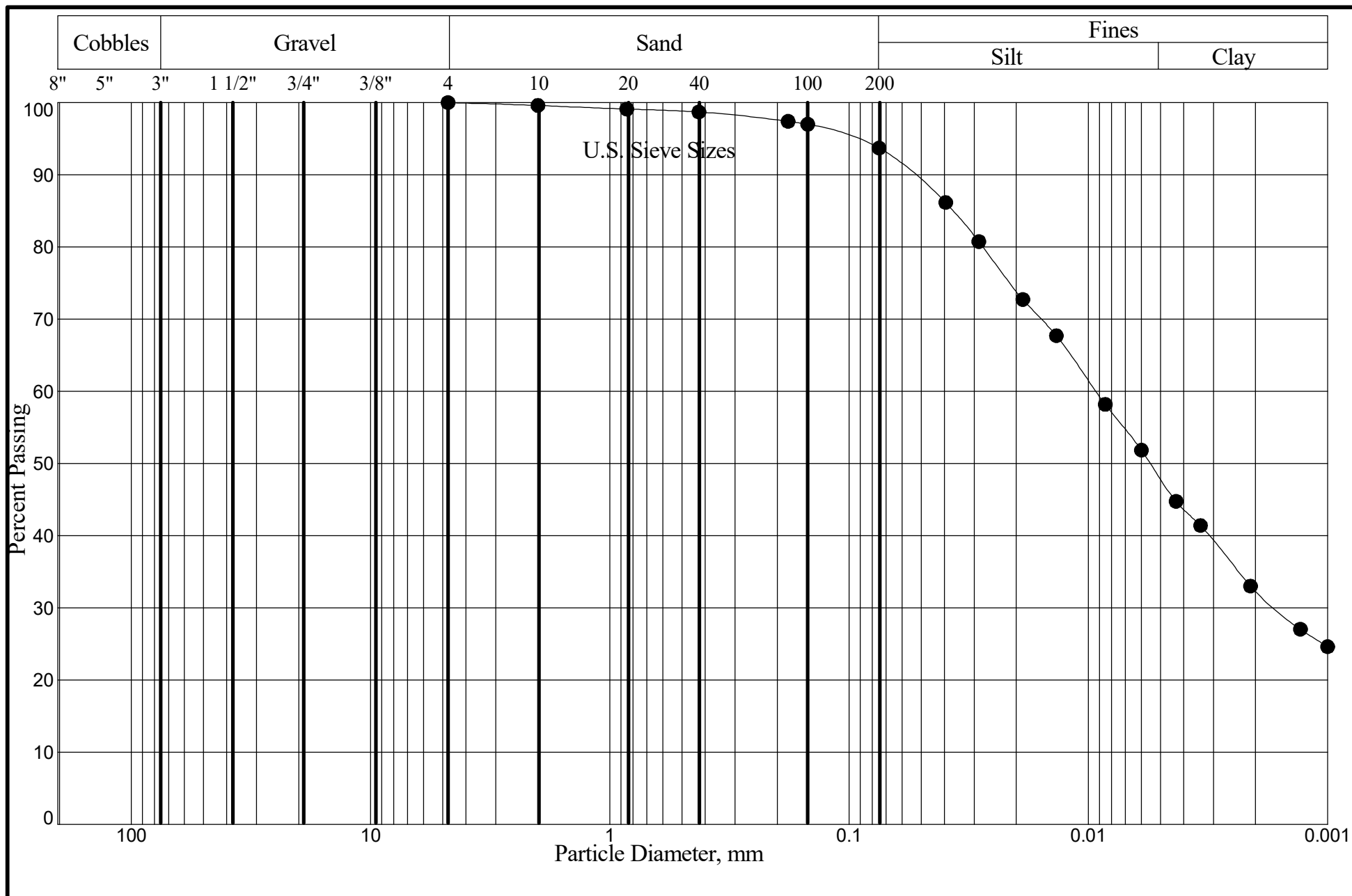
Grain Size Analysis Curve

Project Number: 05-3404L
984 Budge Drive

Boring No.: JG-4
Sample No: D4
Depth: 20' to 21.5'
Date Received: 05/19/2017

% Gravel:	3.7	LL:	37
% Sand:	43.9	PL:	33
% Silt:	39.6	PI:	4
% Clay:	12.8	MC:	34.3%
Class:	ML		
Sandy Silt			

5/26/17



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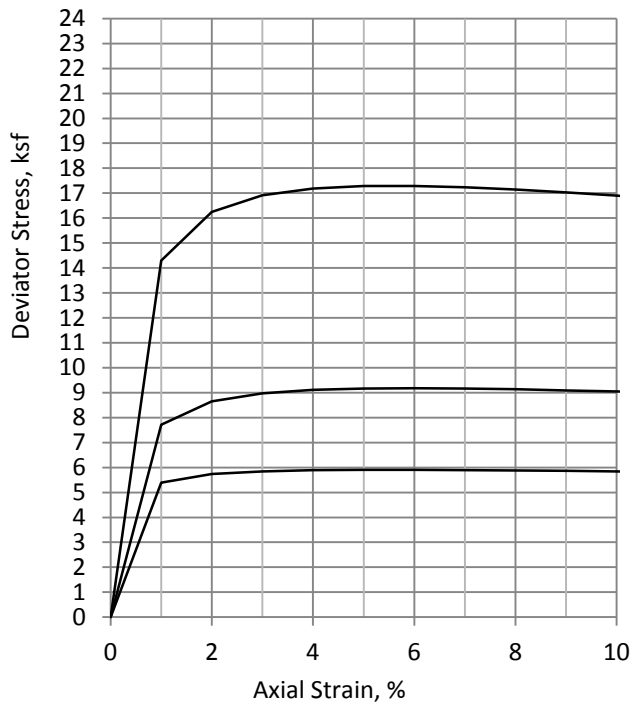
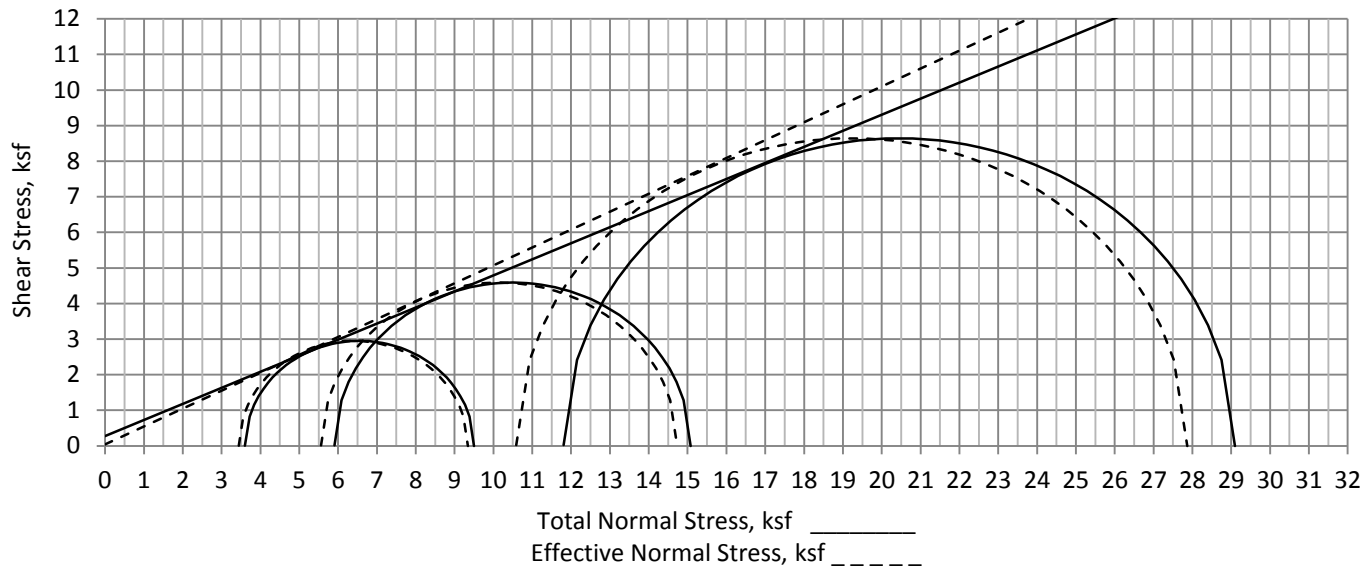
Grain Size Analysis Curve

Project Number: 05-3404L
984 Budge Drive

Boring No.: JG-5
Sample No: D3
Depth: 15' to 16.5'
Date Received: 05/19/2017

% Gravel:	0.0	LL:	36
% Sand:	6.3	PL:	19
% Silt:	45.7	PI:	17
% Clay:	48.0	MC:	16.9%
Class:	CL		
Lean Clay			

5/26/17

Total: $\phi = 24.3^\circ$, $C = 0.275$ ksfEffective: $\phi' = 26.7^\circ$, $C' = 0.042$ ksf

Sample Number		1	2	3
Initial	Water Content, %	19.8	19.8	19.8
	Dry Density, pcf	109.9	109.9	109.9
	Saturation, %	108.0	108.0	108.0
	Void Ratio	0.476	0.476	0.476
	Diameter, in.	2.869	2.869	2.869
	Height, in.	5.047	5.047	5.047
At Test	Water Content, %	18.2	18.0	17.5
	Dry Density, pcf	110.2	110.5	111.4
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.472	0.468	0.456
	Diameter, in.	2.860	2.852	2.829
	Height, in.	5.032	5.017	4.976
Strain Rate, in/min		0.004	0.004	0.004
Back Pressure, psi		1.99	3.29	4.68
Cell Pressure, psi		26.99	44.29	86.68
Pore Pressure @ Fail, ksf		0.16	0.35	1.22
Deviator Stress, ksf		5.90	9.18	17.29
σ'_1 Effective Failure, ksf		9.34	14.74	27.87
σ'_3 Effective Failure, ksf		3.44	5.56	10.58

TRIAXIAL COMPRESSION

ASTM D4767, CU with Pore Pressures, Extension

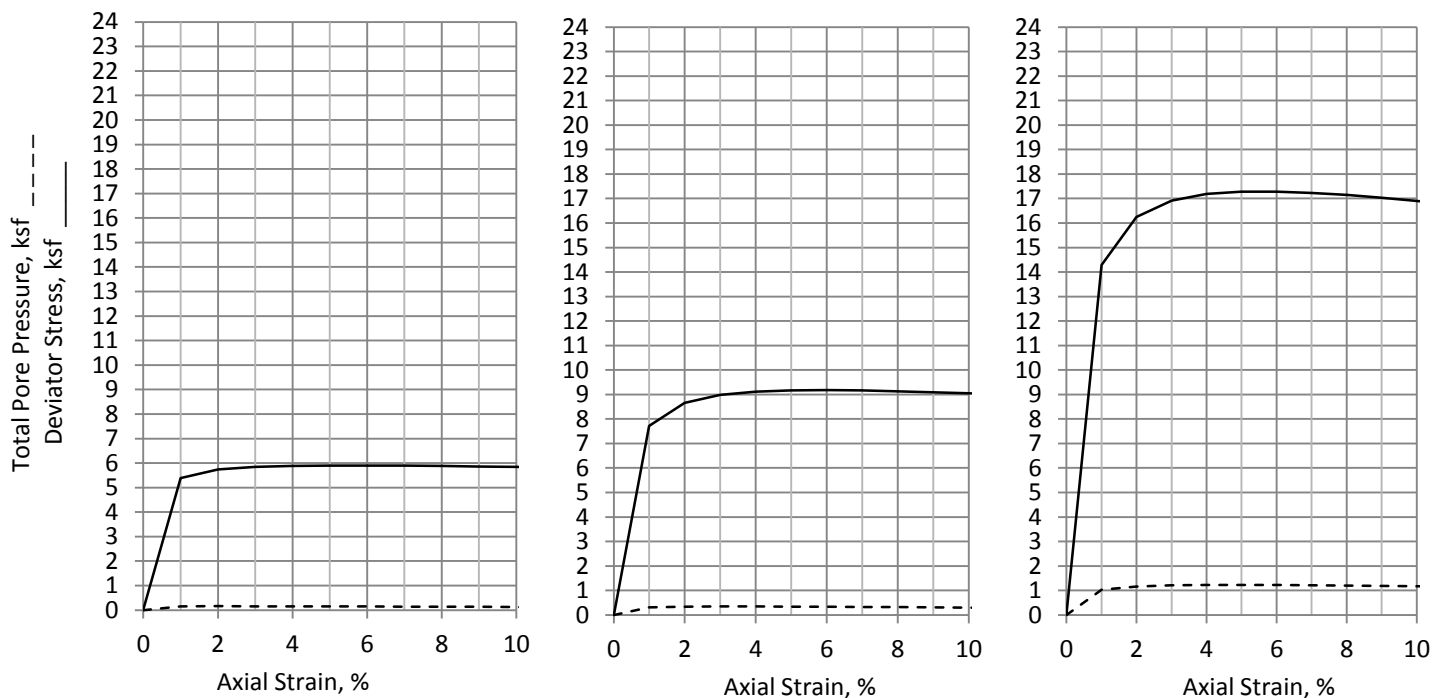
Project: 15-3404L Laboratory Testing
Jorgensen Associates, P.C.
Jackson, Wyoming

Client: Jorgensen Associates, P.C.**Project:** 16092 984 Budge Drive**Description:** Geotechnical Evaluation**Sample:** JG-2 U1 **Depth:** 45 - 47 '**Received:** 5/19/17 **by:** HC/JA**Type:** Shelby Thinwall

Description: Lean Clay (CL) with Sand, medium plasticity, trace layered orangish brown sandstone and grey shale, moist, stiff

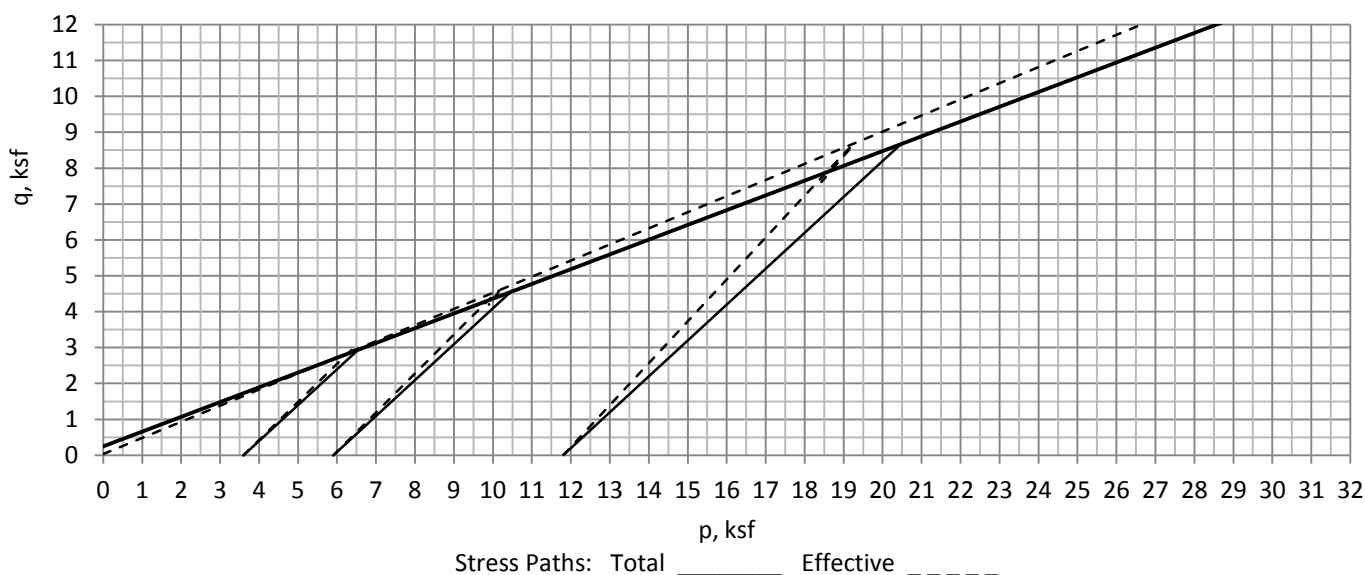
Remarks:**Figure** _____

P. O. Box 80190
Billings, MT 59108-0190
Phone: 406.652.3930
Fax: 406.652.3944



Total: $\alpha = 22.4^\circ$, $a = 0.251$ ksf

Effective: $\alpha' = 24.2^\circ$, $a' = 0.037$ ksf



TRIAXIAL COMPRESSION

ASTM D4767, CU with Pore Pressures, Extension

Project: 15-3404L Laboratory Testing
Jorgensen Associates, P.C.
Jackson, Wyoming

Client: Jorgensen Associates, P.C.

Project: 16092 984 Budge Drive

Description: Geotechnical Evaluation

Sample: JG-2 U1

Depth: 45 - 47'

Sampled: 5/19/17

by: HC/JA

Type: Shelby Thinwall

Description: Lean Clay (CL) with Sand, medium plasticity, trace layered orangish brown sandstone and grey shale, moist, stiff

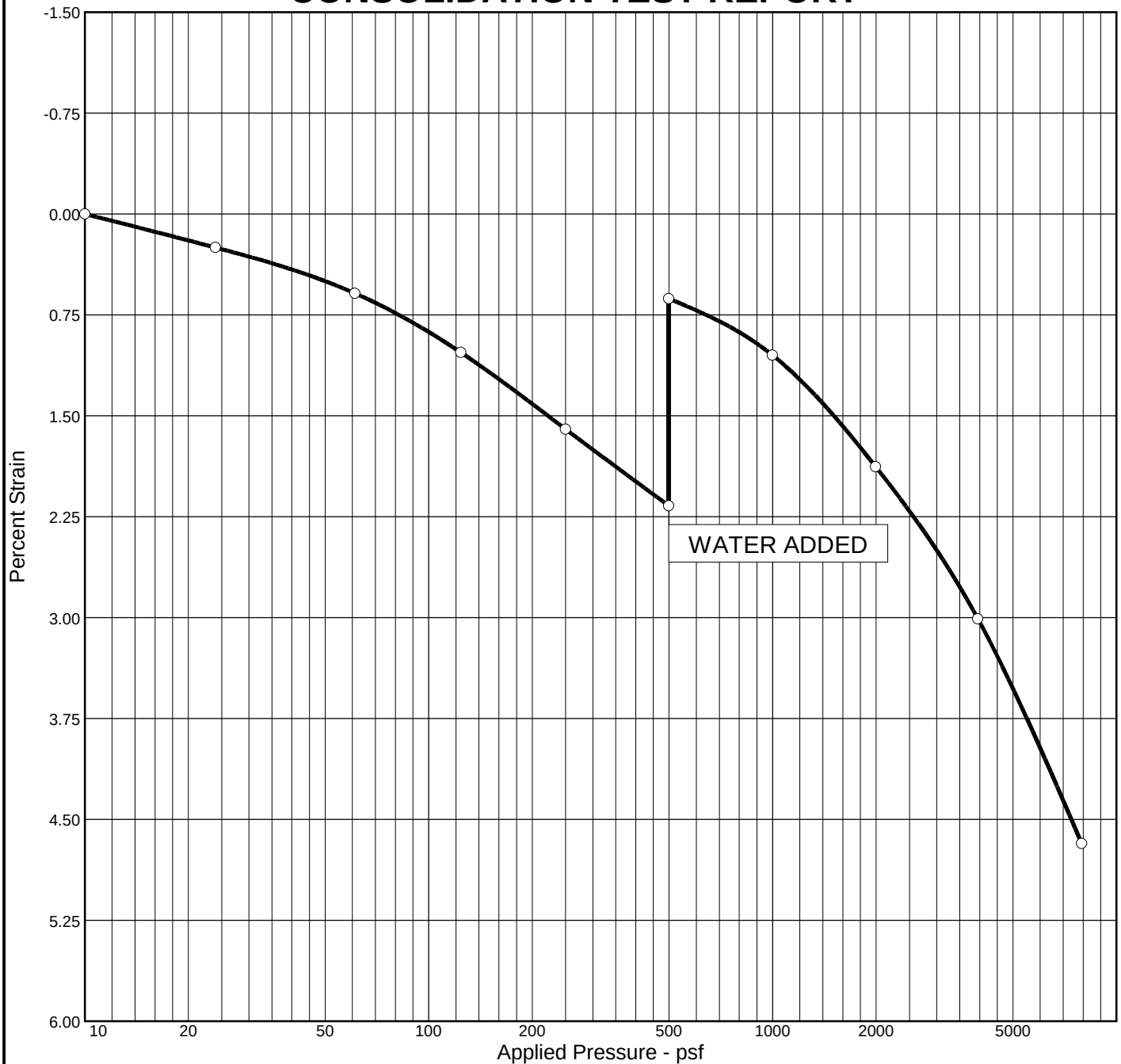
Remarks:



P. O. Box 80190
Billings, MT 59108-0190
Phone: 406.652.3930
Fax: 406.652.3944

Figure _____

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (psf)	P_c (psf)	C_c	C_r	Swell Press. (psf)	Swell %	e_0
Sat.	Moist.											
89.4 %	16.6 %	110.9	38	20	2.65	1293	1987	0.08		2436	1.6	0.492

MATERIAL DESCRIPTION										USCS	AASHTO
Lean Clay (CL), medium plasticity, trace layered light brown sandstone and dark brown shale, orangish brown, moist, stiff											CL

Project No. 15-3404L	Client: Jorgensen Associates, PC	Remarks:
Project: 16092 984 Budge Drive		
Location: JG-3 U1 Depth: 10 - 12 ft		
CONSOLIDATION TEST REPORT		Figure
SK GEOTECHNICAL CORP.		

Figure

BY: AJ/JK

Date: 01/16/2020

Average Day Demand ¹

125 gpd

Maximum Day Demand ¹

340 gpd

Peak Hour Factor ³

4 PHF

WATER DEMAND						
	Occupancy Per Lot ⁴	Number of Lots ⁴	Total Occupancy ⁵	Average TOTAL, gpd	Maximum TOTAL, gpd	PEAK HOUR, gpm
Single Family Lot	5	5	28	3,500	9,520	26.4
Subtotal Housing				3,500	9,520	26.4
	Quantity	Unit	Average inch/day	Average TOTAL, gpd	Maximum TOTAL, gpd	PEAK HOUR, gpm
Irrigation System	16,000	SF	0.25	2,493	4,987	13.9
Subtotal Irrigation				2,493	4,987	13.9
	Building Size, SF	Building Type, IBC	Number of Sprinklers	Flow Per Sprinkler, gpm	Required Pressure, psi	Fire Sprinkler Flow ⁵
Fire Suppression	3,500	R3/4	2	15	60	30.0
Subtotal Fire Suppression						30.0
TOTAL WATER DEMAND				5,993	14,507	70

Maximum Day Demand ²

150 gpd

Average Daily Demand ²

60% gpd

Peak Hour Factor ³

4 PHF

SANITARY SEWER DEMAND						
	Bedrooms Per Lot	Number of Lots ⁴	Total Bedrooms ⁵	Average TOTAL, gpd	Maximum TOTAL, gpd	PEAK HOUR, gpm
Single Family Lot	4	5	22	1980	3300	9.2
TOTAL SANITARY SEWER DEMAND				1,980	3,300	9

Note:

¹ Water Demand based on daily rates from the WYDEQ CH 12, Section 8

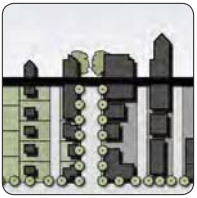
² Sewer Demand based on daily flow rates from the WYDEQ CH 25, Section 3, Table 1

³ Peak Hour Factor based on busiest hour occurring during the busiest quarter of the day

⁴ Occupancy/Bedroom count based on current development program

⁵ An ARU with 2 bedrooms was added for Lot 5

4.2: Northern Hillside



Village Form

This TRANSITIONAL Subarea must strike a delicate balance between allowing some mixed use and residential development while maintaining wildlife permeability and the natural form of the undeveloped hillsides. A key to successful future development will be to sensitively place development in harmony with the existing terrain in order to minimize land disturbance. Development intensity in this subarea should be less than that found within the adjacent Midtown Highway Corridor (Subarea 4.1). Structures will be allowed up to two stories and may be configured in a variety of layouts with attached and detached units blending into the natural surroundings. Smaller building footprints will be encouraged in order to provide adequate open and/or landscaped areas. A variety of residential types, including live/work, multifamily, and duplexes, may be appropriate in this area depending on the specific characteristics of a site and its existing topography. Low density single family housing may continue to be appropriate at the edges of this area, particularly when adjacent to existing undisturbed hillsides. Future development should address wildlife permeability and assist in guiding wildlife movement to future roadway crossings.



SECTION 6 – APPLICATION MATERIALS

- 6.1 Applications
- 6.2 Quitclaim Deed
- 6.3 Letter of Authorization
 - 6.4 Title Report
 - 6.5 Plat 1051
- 6.6 Pre-application Conference Checklist



PLANNING PERMIT APPLICATION
Planning & Building Department

150 E Pearl Ave. | ph: (307) 733-0440
P.O. Box 1687 | www.townofjackson.com
Jackson, WY 83001

For Office Use Only

Fees Paid _____ Date & Time Received _____
Application #s _____

Please note: Applications received after 3 PM will be processed the next business day.

PROJECT.

Name/Description: 984 Budge Subdivision
Physical Address: 984 Budge Drive, Jackson, WY 83001
Lot, Subdivision: Lot 1, Crystal Valley Addition PIDN: 22-41-16-32-1-07-001

PROPERTY OWNER.

Name: Bluffs Development Group, LLC Phone: _____
Mailing Address: PO Box 551, Jackson, WY ZIP: 83001
E-mail: _____

APPLICANT/AGENT.

Name: Jorgensen Associates, Inc. Phone: 307-733-5150
Mailing Address: PO Box 9550 ZIP: 83002
E-mail: bschulte@jorgeng.com

DESIGNATED PRIMARY CONTACT.

____ Property Owner ☒ Applicant/Agent

TYPE OF APPLICATION. Please check all that apply; review the type of application at www.townofjackson/200/Planning

Use Permit

____ Basic Use
☒ Conditional Use
____ Special Use

Relief from the LDRs

____ Administrative Adjustment
____ Variance
____ Beneficial Use Determination
____ Appeal of an Admin. Decision

Physical Development

____ Sketch Plan
☒ Development Plan
____ Design Review

Subdivision/Development Option

____ Subdivision Plat
____ Boundary Adjustment (replat)
____ Boundary Adjustment (no plat)
____ Development Option Plan

Interpretations

____ Formal Interpretation
____ Zoning Compliance Verification

Amendments to the LDRs

____ LDR Text Amendment
____ Map Amendment

Miscellaneous

____ Other: _____
____ Environmental Analysis

PRE-SUBMITTAL STEPS. To see if pre-submittal steps apply to you, go to www.townofjackson.com/200/Planning and select the relevant application type for requirements. Please submit all required pre-submittal steps with application.

Pre-application Conference #: P19-251 Environmental Analysis #: _____
Original Permit #: _____ Date of Neighborhood Meeting: _____

SUBMITTAL REQUIREMENTS. Please ensure all submittal requirements are included. The Planning Department will not hold or process incomplete applications. Partial or incomplete applications will be returned to the applicant. Go to www.townofjackson.com/200/Planning and select the relevant application type for submittal requirements.

Have you attached the following?

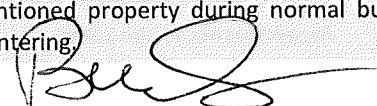
X **Application Fee.** Fees are cumulative. Go to www.townofjackson.com/200/Planning and select the relevant application type for the fees.

X **Notarized Letter of Authorization.** A notarized letter of consent from the landowner is required if the applicant is not the owner, or if an agent is applying on behalf of the landowner. Please see the Letter of Authorization template at www.townofjackson.com/DocumentCenter/View/102/Town-Fee-Schedule-PDF.

X **Response to Submittal Requirements.** The submittal requirements can be found on the TOJ website for the specific application. If a pre-application conference is required, the submittal requirements will be provided to applicant at the conference. The submittal requirements are at www.townofjackson.com/200/Planning under the relevant application type.

Note: Information provided by the applicant or other review agencies during the planning process may identify other requirements that were not evident at the time of application submittal or a Pre-Application Conference, if held. Staff may request additional materials during review as needed to determine compliance with the LDRs.

Under penalty of perjury, I hereby certify that I have read this application and associated checklists and state that, to the best of my knowledge, all information submitted in this request is true and correct. I agree to comply with all county and state laws relating to the subject matter of this application, and hereby authorize representatives of Teton County to enter upon the above-mentioned property during normal business hours, after making a reasonable effort to contact the owner/applicant prior to entering.



Signature of Property Owner or Authorized Applicant/Agent

Brendan Schulte

Name Printed

1/16/2020

Date

Senior Project Manager

Title



*First American Title
Insurance Company*

WARRANTY DEED

Jody R. Burkes and Linda S. Burkes, duly acting as Trustees of the Amended and Restated Burkes Family Trust created u/t/a dated January 1, 2014, of Teton County, Wyoming, GRANTORS, for and in consideration of Ten Dollars (\$10.00) and other good and valuable consideration in hand paid, receipt of which is hereby acknowledged, CONVEY AND WARRANT unto **Bluffs Development Group, LLC**, a Wyoming limited liability company, P.O. Box 551, Jackson, Wyoming 83001, GRANTEE, the following-described property situated in the County of Teton, State of Wyoming, to-wit:

Lot 1 of Crystal Valley Addition to the Town of Jackson, Teton County, Wyoming, according to Plat No. 1051 recorded June 24, 2002 with the Clerk of Teton County, Wyoming,

Parcel Identification No. 22-41-16-32-1-07-001

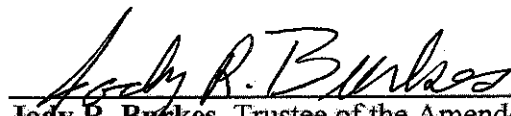
including and together with all and singular the tenements, hereditaments, appurtenances and improvements or thereunto belonging and any rights of grantor to minerals thereunder, but subject to taxes, assessments, covenants, restrictions, reservations, easements and rights-of-way of sight and/or record,

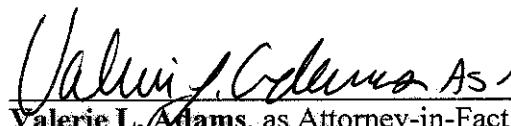
hereby releasing and waiving all rights under and by virtue of the homestead exemption laws of the State of Wyoming, for purposes of this conveyance.

WITNESS the due execution and delivery of this instrument effective as of the 16th day of June, 2017.

Released	☒
Indexed	☒
Abstracted	☒
Scanned	☒

GRANTOR: BURKES, JODY R ET AL TRUSTEE
GRANTEE: BLUFFS DEVELOPMENT GROUP LLC
Doc 0929996 bk 947 pg 488-489 Filed At 14:58 ON 06/19/17
Sherry L. Daigle Teton County Clerk fees: 15.00
By Mary Smith Deputy

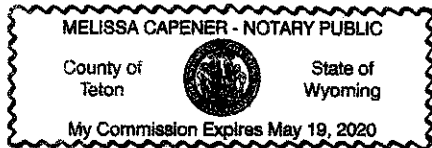

Jody R. Burkes, Trustee of the Amended
and Restated Burkes Family Trust u/t/a
dated 1/1/2014


Valerie L. Adams, as Attorney-in-Fact
for Linda S. Burkes, Trustee of the Amended
and Restated Burkes Family Trust u/t/a
dated 1/1/2014

STATE OF WYOMING)
) ss.
COUNTY OF TETON)

The foregoing instrument was acknowledged before me by **Jody R. Burkes, duly acting as Trustee of the Amended and Restated Burkes Family Trust u/t/a dated January 1, 2014**, this 14th day of June, 2017.

WITNESS my hand and official seal.



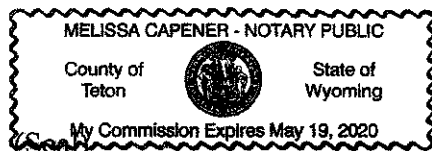
(Seal)

Melissa Capener
Notary Public
My Commission Expires: 5/19/20

STATE OF WYOMING)
) ss.
COUNTY OF TETON)

The foregoing instrument was acknowledged before me by **Valerie L. Adams, duly acting as Attorney-in-Fact for Linda S. Burkes, Trustee of the Amended and Restated Burkes Family Trust u/t/a dated January 1, 2014**, this 14th day of June, 2017.

WITNESS my hand and official seal.



(Seal)

Melissa Capener
Notary Public
My Commission Expires: 5/19/20

LETTER OF AUTHORIZATION

Bluffs Development Group, LLC

, "Owner" whose address is:

PO Box 551, Jackson WY 83001

(NAME OF ALL INDIVIDUALS OR ENTITY OWNING THE PROPERTY)

Bluffs Development Group, LLC

, as the owner of property

more specifically legally described as: LOT 1, Crystal Valley Addition

(If too lengthy, attach description)

HEREBY AUTHORIZES Jorgensen Associates, P.C.

as

agent to represent and act for Owner in making application for and receiving and accepting on Owners behalf, any permits or other action by the Town of Jackson, or the Town of Jackson Planning, Building, Engineering and/or Environmental Health Departments relating to the modification, development, planning or replatting, improvement, use or occupancy of land in the Town of Jackson. Owner agrees that Owner is or shall be deemed conclusively to be fully aware of and to have authorized and/or made any and all representations or promises contained in said application or any Owner information in support thereof, and shall be deemed to be aware of and to have authorized any subsequent revisions, corrections or modifications to such materials. Owner acknowledges and agrees that Owner shall be bound and shall abide by the written terms or conditions of issuance of any such named representative, whether actually delivered to Owner or not. Owner agrees that no modification, development, platting or replatting, improvement, occupancy or use of any structure or land involved in the application shall take place until approved by the appropriate official of the Town of Jackson, in accordance with applicable codes and regulations. Owner agrees to pay any fines and be liable for any other penalties arising out of the failure to comply with the terms of any permit or arising out of any violation of the applicable laws, codes or regulations applicable to the action sought to be permitted by the application authorized herein.

Under penalty of perjury, the undersigned swears that the foregoing is true and, if signing on behalf of a corporation, partnership, limited liability company or other entity, the undersigned swears that this authorization is given with the appropriate approval of such entity, if required.

OWNER:

[Signature]

(SIGNATURE) (SIGNATURE OF CO-OWNER)

Title: MANAGER

(if signed by officer, partner or member of corporation, LLC (secretary or corporate owner) partnership or other non-individual Owner)

STATE OF Wyoming)

)SS.

COUNTY OF Teton)

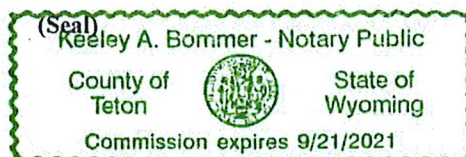
The foregoing instrument was acknowledged before me by STEFAN FODOR this 7th day of MARCH, 2001B

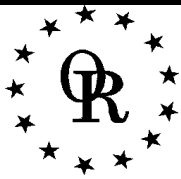
WITNESS my hand and official seal.

[Signature]

(Notary Public)

My commission expires:





Guarantee

SG 08011717

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE LIMITS OF LIABILITY AND OTHER PROVISIONS OF THE CONDITIONS AND STIPULATIONS HERETO ANNEXED AND MADE A PART OF THIS GUARANTEE, AND SUBJECT TO THE FURTHER EXCLUSION AND LIMITATION THAT NO GUARANTEE IS GIVEN NOR LIABILITY ASSUMED WITH RESPECT TO THE IDENTITY OF ANY PARTY NAMED OR REFERRED TO IN SCHEDULE A OR WITH RESPECT TO THE VALIDITY, LEGAL EFFECT OR PRIORITY OF ANY MATTER SHOWN THEREIN.

Old Republic National Title Insurance Company, a Florida corporation, herein called the Company
GUARANTEES

the Assured named in Schedule A, against actual monetary loss or damage not exceeding the liability amount stated in Schedule A which the Assured shall sustain by reason of any incorrectness in the assurances set forth in Schedule A.

IN WITNESS WHEREOF, OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY has caused its corporate name and seal to be hereunto affixed by its duly authorized officers, the Guarantee to become valid when countersigned on Schedule A by an authorized officer or agent of the Company.

Issued through the Office of:

Jackson Hole Title & Escrow

Authorized Signature

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

A Stock Company

400 Second Avenue South, Minneapolis, Minnesota 55401
(612) 371-1111

By

President

Attest

Secretary

GUARANTEE CONDITIONS AND STIPULATIONS

1. Definition of Terms.

The following terms when used in the Guarantee mean:

- (a) the "Assured": the party or parties named as the Assured in this Guarantee, or on a supplemental writing executed by the Company.
- (b) "land": the land described or referred to in Schedule (A)(C) or in Part 2, and improvements affixed thereto which by law constitute real property. The term "land" does not include any property beyond the lines of the area described or referred to in Schedule (A)(C) or in Part 2, nor any right, title, interest, estate or easement in abutting streets, roads, avenues, alleys, lanes, ways or waterways.
- (c) "mortgage": mortgage, deed of trust, trust deed, or other security instrument.
- (d) "public records": records established under state statutes at Date of Guarantee for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without knowledge.
- (e) "date": the effective date.

2. Exclusions from Coverage of this Guarantee.

The Company assumes no liability for loss or damage by reason of the following:

- (a) Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
- (b) (1) Unpatented mining claims; (2) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (3) water rights, claims or title to water: whether or not the matters excluded by (1), (2) or (3) are shown by the public records.
- (c) Assurances to title to any property beyond the lines of the land expressly described in the description set forth in Schedule (A)(C) or in Part 2 of this Guarantee, or title to streets, roads, avenues, alleys, lanes, ways or waterways in which such land abuts, or the right to maintain therein vaults, tunnels, ramps or any other structure or improvement; or any rights or easements therein unless such property, rights or easements are expressly and specifically set forth in said description.
- (d) (1) Defects, liens, encumbrances, or adverse claims against the title, if assurances are provided as to such title, and as limited by such assurances.

(2) Defects, liens, encumbrances, adverse claims or other matters (a) whether or not shown by the public records, and which are created, suffered, assumed or agreed to by one or more of the Assureds; (b) which result in no loss to the Assured; or (c) which do not result in the invalidity or potential invalidity of any judicial or non-judicial proceeding which is within the scope and purpose of assurances provided.

3. Notice of Claim to be Given by Assured Claimant.

An Assured shall notify the Company promptly in writing in case any knowledge shall come to an Assured hereunder of any claim of title or interest which is adverse to the title to the estate or interest, as stated herein, and which might cause loss or damage for which the Company may be liable by virtue of this Guarantee. If prompt notice shall not be given to the Company, then all liability of the Company shall terminate with regard to the matter or matters for which such prompt notice is required; provided, however, that failure to notify the Company shall in no case prejudice the rights of any Assured under this Guarantee unless the Company shall be prejudiced by such failure and then only to the extent of the prejudice.

4. No Duty to Defend or Prosecute.

The Company shall have no duty to defend or prosecute any action or proceeding to which the Assured is a party, notwithstanding the nature of any allegation in such action or proceeding.

5. Company's Option to Defend or Prosecute Actions; Duty of Assured Claimant to Cooperate.

Even though the Company has no duty to defend or prosecute as set forth in Paragraph 4 above:

- (a) The Company shall have the right, at its sole option and cost, to institute and prosecute any action or proceeding, interpose a defense, as limited in (b), or to do any other act which in its opinion may be necessary or desirable to establish the title

to the estate or interest as stated herein, or to establish the lien rights of the Assured, or to prevent or reduce loss or damage to the Assured. The Company may take any appropriate action under the terms of this Guarantee, whether or not it shall be liable hereunder, and shall not thereby concede liability or waive any provision of this Guarantee. If the Company shall exercise its rights under this paragraph, it shall do so diligently.

- (b) If the Company elects to exercise its options as stated in Paragraph 5(a) the Company shall have the rights to select counsel of its choice (subject to the right of such Assured to object for reasonable cause) to represent the Assured and shall not be liable for and will not pay the fees of any other counsel, nor will the Company pay any fees, costs or expenses incurred by an Assured in the defense of those causes of action which allege matters not covered by this Guarantee.
- (c) Whenever the Company shall have brought an action or interposed a defense as permitted by the provisions of this Guarantee, the Company may pursue any litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from an adverse judgment or order.
- (d) In all cases where this Guarantee permits the Company to prosecute or provide for the defense of any action or proceeding, the Assured hereunder shall secure to the Company the right to prosecute or provide defense of any action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of such Assured for this purpose. Whenever requested by the Company, an Assured, at the Company's expense, shall give the Company all reasonable aid in any action or proceeding, securing evidence, obtaining witnesses, prosecuting or defending the action or lawful act which in the opinion of the Company may be necessary or desirable to establish the title to the estate or interest as stated herein, or to establish the lien rights of the Assured. If the Company is prejudiced by the failure of the Assured to furnish the required cooperation, the Company's obligations to the Assured under the Guarantee shall terminate.

6. Proof of Loss or Damage.

In addition to and after the notices required under Section 3 of these Conditions and Stipulations have been provided to the Company, a proof of loss or damage signed and sworn to by the Assured shall be furnished to the Company within 90 days after the Assured shall ascertain the facts giving rise to the loss or damage. The proof of loss or damage shall describe the matters covered by this Guarantee which constitute the basis of loss or damage and shall state, to the extent possible, the basis of calculating the amount of the loss or damage. If the Company is prejudiced by the failure of the Assured to provide the required proof of loss or damage, the Company's obligation to such assured under the Guarantee shall terminate. In addition, the Assured may reasonably be required to submit to examination under oath by any authorized representative of the Company and shall produce for examination, inspection and copying, at such reasonable times and places as may be designated by any authorized representative of the company, all records, books, ledgers, checks, correspondence and memoranda, whether bearing a date before or after Date of Guarantee, which reasonably pertain to the loss or damage. Further, if requested by any authorized representative of the Company, the Assured shall grant its permission, in writing, for any authorized representative of the Company to examine, inspect and copy all records, books, ledgers, checks, correspondence and memoranda in the custody or control of a third party, which reasonably pertain to the loss or damage. All information designated as confidential by the Assured provided to the Company pursuant to this Section shall not be disclosed to others unless, in the reasonable judgment of the Company, it is necessary in the administration of the claim. Failure of the Assured to submit for examination under oath, produce other reasonably requested information or grant permission to secure reasonably necessary information from third parties as required in the above paragraph, unless prohibited by law or governmental regulation, shall terminate any liability of the Company under this Guarantee to the Assured for that claim.

7. Options to Pay or Otherwise Settle Claims: Termination of Liability.

In case of a claim under this Guarantee, the Company shall have the following additional options:

- (a) To Pay or Tender Payment of the Amount of Liability or to Purchase the Indebtedness.
The Company shall have the option to pay or settle or compromise for or in the name of the Assured any claim which could result in loss to the Assured within the coverage of this Guarantee, or to pay the full amount of this Guarantee or, if this Guarantee is issued for the benefit of a holder of a mortgage or a lienholder, the Company shall have the option to purchase the indebtedness secured by said mortgage or said lien for the amount owing thereon, together with any costs, reasonable attorneys' fees and expenses incurred by the Assured claimant which were authorized by the Company up to the time of purchase.

Such purchase, payment or tender of payment of the full amount of the Guarantee shall terminate all liability of the Company hereunder. In the event after notice of claim has been given to the Company by the Assured the Company offers to purchase the indebtedness, the owner of such indebtedness shall transfer and assign said indebtedness, together with any collateral security, to the Company upon payment of the purchase price.

Upon the exercise by the Company of the option provided for in Paragraph (a) the Company's obligation to the Assured under this Guarantee for the claimed loss or damage, other than to make the payment required in that paragraph, shall terminate, including any obligation to continue the defense or prosecution of any litigation for which the Company has exercised its options under Paragraph 5, and the Guarantee shall be surrendered to the Company for cancellation.

- (b) To Pay or Otherwise Settle With Parties Other Than the Assured or With the Assured Claimant.
To pay or otherwise settle with other parties for or in the name of an Assured claimant any claim assured against under this Guarantee, together with any costs, attorneys' fees and expenses incurred by the Assured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay.

Upon the exercise by the Company of the option provided for in Paragraph (b) the Company's obligations to the Assured under this Guarantee for the claimed loss or damage, other than to make the payment required in that paragraph, shall terminate, including any obligation to continue the defense or prosecution of any litigation for which the Company has exercised its options under Paragraph 5.

8. Determination and Extent of Liability.

This Guarantee is a contract of indemnity against actual monetary loss or damage sustained or incurred by the Assured claimant who has suffered loss or damage by reason of reliance upon the assurances set forth in this Guarantee and only to the extent herein described, and subject to the exclusions stated in Paragraph 2.

The liability of the Company under this Guarantee to the Assured shall not exceed the least of:

- (a) the amount of liability stated in Schedule A;
- (b) the amount of the unpaid principal indebtedness secured by the mortgage of an Assured mortgagee, as limited or provided under Section 7 of these Conditions and Stipulations or as reduced under Section 10 of these Conditions and Stipulations, at the time the loss or damage assured against by this Guarantee occurs, together with interest thereon; or
- (c) the difference between the value of the estate or interest covered hereby as stated herein and the value of the estate or interest subject to the defect, lien or encumbrance assured against by this Guarantee.

9. Limitation of Liability.

- (a) If the Company establishes the title, or removes the alleged defect, lien or encumbrance, or cures the any other matter assured against by this Guarantee in a reasonably diligent manner by any method, including litigation and the completion of any appeals therefrom, it shall have fully performed its obligations with respect to that matter and shall not be liable for any loss or damage caused thereby.
- (b) In the event of any litigation by the Company or with the Company's consent, the Company shall have no liability for loss or damage until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title, as stated herein.
- (c) The Company shall not be liable for loss or damage to any Assured for liability voluntarily assumed by the Assured in settling any claim or suit without the prior written consent of the Company.

10. Reduction of Liability or Termination of Liability.

All payments under this Guarantee, except payments made for costs, attorneys' fees and expenses pursuant to Paragraph 5 shall reduce the amount of liability pro tanto.

11. Payment of Loss.

- (a) No payment shall be made without producing this Guarantee for endorsement of the payment unless the Guarantee has been lost or destroyed, in which case proof of loss or destruction shall be furnished to the satisfaction of the Company.
- (b) When liability and the extent of loss or damage has been definitely fixed in accordance with these Conditions and Stipulations, the loss or damage shall be payable within 30 days thereafter.

12. Subrogation Upon Payment or Settlement.

Whenever the Company shall have settled and paid a claim under this Guarantee, all right of subrogation shall vest in the Company unaffected by any act of the Assured claimant.

The Company shall be subrogated to and be entitled to all rights and remedies which the Assured would have had against any person or property in respect to the claim had this Guarantee not been issued. If requested by the Company, the insured claimant shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect this right of subrogation. The Assured shall permit the Company to sue, compromise or settle in the name of the Assured and to use the name of the Assured in any transaction or litigation involving these rights or remedies.

If a payment on account of a claim does not fully cover the loss of the Assured the Company shall be subrogated to all rights and remedies of the Assured after the Assured shall have recovered its principal, interest, and costs of collection.

13. Arbitration.

Unless prohibited by applicable law, either the Company or the Assured may demand arbitration pursuant to the Title Insurance Arbitration Rules of the American Arbitration Association. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the Assured arising out of or relating to this Guarantee, any service of the Company in connection with its issuance or the breach of a Guarantee provision or other obligation. All arbitrable matters when the Amount of Liability is \$1,000,000 or less shall be arbitrated at the option of either the Company or the Assured. All arbitrable matters when the Amount of Liability is in excess of \$1,000,000 shall be arbitrated only when agreed to by both the Company and the Assured. The Rules in effect at Date of Guarantee shall be binding upon the parties. The award may include attorneys' fees only if the laws of the state in which the land is located permits a court to award attorneys' fees to a prevailing party. Judgment upon the award rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof.

The law of the situs of the land shall apply to an arbitration under the Title Insurance Arbitration Rules.

A copy of the Rules may be obtained from the Company upon request.

14. Liability Limited to this Guarantee; Guarantee Entire Contract.

- (a) This Guarantee together with all endorsements, if any, attached hereto by the Company is the entire Guarantee and contract between the Assured and the Company. In interpreting any provision of this Guarantee, this Guarantee shall be construed as a whole.
- (b) Any claim of loss or damage, whether or not based on negligence, or any action asserting such claim, shall be restricted to this Guarantee.
- (c) No amendment of or endorsement to this Guarantee can be made except by a writing endorsed hereon or attached hereto signed by either the President, a Vice President, the Secretary, an Assistant Secretary, or validating officer or authorized signatory of the Company.

15. Notices, Where Sent.

All notices required to be given the Company and any statement in writing required to be furnished the Company shall include the number of this Guarantee and shall be addressed to: Old Republic National Title Insurance Company, 400 Second Avenue South, Minneapolis, Minnesota 55401, (612) 371-1111.



OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

Full Recorded Owner Guarantee - Wyoming

Schedule A

File No.	Liability	Fee	Reference	Guarantee No.
713873JAC	\$1,000.00	\$250.00	Bluff's Development Group, LLC FROG	SG 08011717

1. Name of Assured: Jorgensen Associations, PC
2. Date of Guarantee: 02/04/2019 at 8:00 A.M.
3. The estate or interest in the land hereinafter described is: Fee Simple.
4. Title to said or estate or interest at the Date hereof is vested in:

Bluffs Development Group, LLC, a Wyoming limited liability company
5. The land referred to in this Guarantee is situated in the County of Teton, State of Wyoming and is described as follows:

**Lot 1 of Crystal Valley Addition to the Town of Jackson, Teton County, Wyoming,
according to that plat recorded in the Office of the Teton County Clerk on June 24, 2002
as Plat Number 1051.**



OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

Full Recorded Owner Guarantee - Wyoming

Schedule B-I Exceptions/Recorded Documents

File No.	Liability	Fee	Reference	Guarantee No.
713873JAC	\$1,000.00	\$250	Bluff's Development Group, LLC FROG 984 Budge Drive	SG 08011717

As of the Date of this Guarantee, the following exceptions reference all recorded documents which may affect title to the herein described land:

1. Covenants, conditions, restrictions, reservations, easements, encroachments, ditches, roadways, rights-of-way, common areas and building set back requirements as delineated on the recorded Plat Number(s) 1051, records of Teton County, Wyoming.
2. Easement, including terms and conditions contained therein:
Granted By: Allen and Kayleen Gibson
Granted To: Lower Valley Power and Light, Inc.
For: Construction, operation and maintenance of electric lines and other incidental purposes
Recording Information: Book 11 of Mixed Records, Page 624
3. Terms and conditions of Grant of Easement from Jody R. Burkes and Linda Burkes to Elizabeth L. Kingwill appearing of record in Book 436 of Photo, Pages 579-582, records of Teton County, Wyoming.
4. Permanent Utility Easement:
Between: Bluffs Development Group, LLC, a Wyoming limited liability company
And: Town of Jackson
Recording Information: Doc 0956941
5. **Mortgage** dated January 9, 2019, to secure an original indebtedness of \$550,000.00, and any other amounts and/or obligations secured thereby.
Recorded: 01/10/19, as Doc 0963075
Mortgagor: Bluffs Development Group, LLC, a Wyoming limited liability company
Mortgagee: Wells Fargo Bank, National Association



OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

Full Recorded Owner Guarantee - Wyoming

Schedule B-II Informational Notes

File No.	Liability	Fee	Reference	Guarantee No.
713873JAC	\$1,000.00	\$250.00	Bluff's Development Group, LLC FROG	SG 08011717

The following is provided for informational purposes and is not part of the Assurances given under this Guarantee:

The Status of real property taxes is as follows:

Tax ID#	2018 Tax Status
OJ-005676	1st Half in the Amount of \$3,733.28 is PAID
	2nd Half in the Amount of \$3,733.28 is PAID

We recommend that the person responsible for closing this verify this tax information prior to closing.

*Real Estate Taxes are payable as follows

*If making one payment: Due on or before December 31.

*If making two payments: First half payable September 1 and delinquent November 10;
second half due March 1 and delinquent May 10.

The PIDN for this property appears to be: 22-41-16-32-1-07-001

FACTS		WHAT DOES OLD REPUBLIC TITLE DO WITH YOUR PERSONAL INFORMATION?
Why?	Financial companies choose how they share your personal information. Federal law gives consumers the right to limit some but not all sharing. Federal law also requires us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand what we do.	
What?	The types of personal information we collect and share depend on the product or service you have with us. This information can include: • Social Security number and employment information • Mortgage rates and payments and account balances • Checking account information and wire transfer instructions When you are <i>no longer</i> our customer, we continue to share your information as described in this notice.	
How?	All financial companies need to share customers' personal information to run their everyday business. In the section below, we list the reasons financial companies can share their customers' personal information; the reasons Old Republic Title chooses to share; and whether you can limit this sharing.	

Reasons we can share your personal information	Does Old Republic Title Share?	Can you limit this sharing?
For our everyday business purposes – such as to process your transactions, maintain your accounts(s), or respond to court orders and legal investigations, or report to credit bureaus	Yes	No
For our marketing purposes – to offer our products and services to you	No	We don't share
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes – information about your transactions and experiences	Yes	No
For our affiliates' everyday business purposes – information about your creditworthiness	No	We don't share
For our affiliates to market to you	No	We don't share
For non-affiliates to market to you	No	We don't share

Questions	Go to www.oldrepublictitle.com (Contact Us)
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Who we are	
Who is providing this notice?	Companies with an Old Republic Title names and other affiliates. Please see below for a list of affiliates.
What we do	
How does Old Republic Title protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer safeguards and secured files and buildings. For more information, visit http://www.OldRepublicTitle.com/newnational/Contact/privacy .
How does Old Republic Title collect my personal information?	We collect your personal information, for example, when you: • Give us your contact information or show your driver's license • Show your government-issued ID or provide your mortgage information • Make a wire transfer We also collect your personal information from others, such as credit bureaus, affiliates, or other companies.
Why can't I limit all sharing?	Federal law gives you the right to limit only: • Sharing for affiliates' everyday business purposes - information about your creditworthiness • Affiliates from using your information to market to you • Sharing for non-affiliates to market to you State laws and individual companies may give you additional rights to limit sharing. See the

	"Other important information" section below for your rights under state law.
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Definitions	
Affiliates	Companies related by common ownership or control. They can be financial and nonfinancial companies. • <i>Our affiliates include companies with an Old Republic Title name, and financial companies such as Attorneys' Title Fund Services, LLC, Lex Terrae National Title Services, Inc., Mississippi Valley Title Services Company, and The Title Company of North Carolina.</i>
Non-affiliates	Companies not related by common ownership or control. They can be financial and non-financial companies. • <i>Old Republic Title does not share with non-affiliates so they can market to you</i>
Joint marketing	A formal agreement between non-affiliated financial companies that together market financial products or services to you. • <i>Old Republic Title doesn't jointly market.</i>

Affiliates Who May Be Delivering This Notice				
American First Abstract, LLC	American First Title & Trust Company	American Guaranty Title Insurance Company	Attorneys' Title Fund Services, LLC	Compass Abstract, Inc.
eRecording Partners Network, LLC	Genesis Abstract, LLC	Kansas City Management Group, LLC	L.T. Service Corp.	Lenders Inspection Company
Lex Terrae National Title Services, Inc.	Lex Terrae, Ltd.	Mara Escrow Company	Mississippi Valley Title Services Company	National Title Agent's Services Company
Old Republic Branch Information Services, Inc.	Old Republic Diversified Services, Inc.	Old Republic Exchange Company	Old Republic National Title Insurance Company	Old Republic Title and Escrow of Hawaii, Ltd.
Old Republic Title Co.	Old Republic Title Company of Conroe	Old Republic Title Company of Indiana	Old Republic Title Company of Nevada	Old Republic Title Company of Oklahoma
Old Republic Title Company of Oregon	Old Republic Title Company of St. Louis	Old Republic Title Company of Tennessee	Old Republic Title Information Concepts	Old Republic Title Insurance Agency, Inc.
Old Republic Title, Ltd.	Republic Abstract & Settlement, LLC	Sentry Abstract Company	The Title Company of North Carolina	Title Services, LLC
Trident Land Transfer Company, LLC				

This Summary will be prepared by Planning Staff. The applicant, or the applicant's agent, shall receive a copy of this summary for their reference in submitting a sufficient application.

Staff may request additional materials during review as needed to determine compliance with the LDRs.

PRE-APPLICATION MEETING BASICS.

PAP#: P19-251

Date of Conference: 12/06/2019

Planning Staff: Tyler Valentine

PROJECT.

Name/Description: 984 Budge Subdivision

Physical Address: 984 Budge Drive

Lot, Subdivision LOT 1, CRYSTAL VALLEY ADDITION PIDN: 22-41-16-32-1-07-001

Zoning District(s): Neighborhood Low Density-5 (NL-5)

Overlay(s): N/A

STAKEHOLDERS.

Applicant: Jorgensen Associates – Brendan Schulte

Owner: Bluffs Development Group, LLC

Agent: _____

REQUIRED APPLICATIONS. (See B.12, C.1, D.4 of applicable zone in Article 2, 3 or 4) *This project will require the following applications:*

Application	Reason	Fee
Step #1: Development Plan	Required prior to all Subdivision Plats (Section 8.3.2)	\$2,500
Step #1: Hillside Conditional Use Permit (CUP)	Required for subdivision and development on lots with average cross slopes of 10% or greater (Section 5.4.1)	\$500
Step #2: Subdivision Plat	Required for lot split (Section 8.5.3)	\$1,000 plus review fees
Step #3: Design Review Committee (DRC)	Required for residential development of 3 units or greater per lot in NL-5 zone. May not apply to this project.	\$200
Step #4: Grading Pre-Application	Required prior to Building Permit for site disturbance greater than 3,000 sf or required at Town Engineer discretion.	\$150
Step #5: Building Permit	Required for all physical development.	TBD

MEETING ATTENDEES:

Name	Company	Phone/Email
Stefan Fodor	Fodor Law	307-733-2880
Brendan Schulte	Jorgensen Associates	307-733-5150
Tyler Valentine	Town of Jackson, Planning	307-733-0440 x1305
Aaron Japel	Jorgensen Associates	307-733-5150
Brian Lenz	Town of Jackson, Engineering	307-733-3079 x1410

TIMELINES. *This table is intended to provide general information regarding the review process and timing of decisions. See Article 8 for a complete explanation of the review process.*

For administrative decisions made by the Planning Director, the following timelines are generally applicable:

Application Types:	Sufficiency	Planning Director
n/a	n/a	n/a

For decisions requiring a public hearing process, the following timelines are generally applicable:

Application Types:	Sufficiency	Planning Commission (PC)/ Board of Adjustment (BOA)	Town Council
STEP #1 Development Plan Hillside CUP	Within 14 days of Submittal	Hearing within 90 days of Sufficiency	Hearing within 60 days of PC Recommendation
STEP #2 Subdivision Plat	Within 14 days of Submittal		Hearing within 90 days of Sufficiency
STEP #3 DRC	None		
STEP #4 Grading Pre-application	None		
STEP #5 Building Permit	TBD		

GENERAL INFORMATION.

☒ *Required, If Checked.*

☐ *If not checked, review requirement with a Staff member to determine if necessary for your application.*

-Requirement

Notes

✓	Planning Permit Application. The application should list all pertinent permits (use, physical development, interpretation, relief from the LDRs, Development Option/Subdivisions, Amendments to the LDRs) for which you are applying.	Required to be filled out and signed.
✓	Notarized Letter of Authorization. See Section 8.2.4.A for requirements. A template is established in the Administrative Manual.	Required if the applicant/representative is not the owner of the property.
✓	Application Fees. Fees are cumulative. Applications for multiple types of permits, or for multiple permits of the same type, require multiple fees. See the currently adopted Fee Schedule in the Administrative Manual for more information.	Please see above.
✓	Review fees. The applicant is responsible for paying any review fees and expenses from consulting services necessitated by the review of the application by the Town Surveyor, Town Engineer, Town Associate Engineer, Title Company and any other required consultant. Such fees shall be paid prior to approval of the permit.	Review fees required with Subdivision Plat for surveyor and title review.
✓	Mailed Notice fee. See Section 8.2.14.C.2 for notice requirements. If mailed notices are required, the applicant is responsible for paying for any mailing in excess of 25 notices.	Done by the Town Staff.
✓	Other information needed. All applications submitted to the Town of Jackson Planning Department must be submitted in digital format once the application is determined to be sufficient.	Please visit TownofJackson.com for Development Plan & CUP submittal requirements.
✓	Response to Submittal Checklist. All applications require response to applicable review standards. For applications where a pre-application conference is required, applicable standards are identified below. If a pre-application conference is optional, see the submittal checklist for the relevant application type, established in the Administrative Manual.	
✓	Title Report. A title report, title certificate or record document guarantee prepared within the last six months that includes evidence of ownership and all encumbrances on the subject property. Copies of the documents referenced in the report should not be submitted unless requested by the planner during review.	Required with Subdivision Plat only.
✓	Narrative description of the proposed development. Briefly describe the existing condition of the property and the proposed use, physical development, subdivision or development option for which you are seeking approval.	Please visit TownofJackson.com for Development Plan & CUP submittal requirements.
N/A	Proposed Development Program. Please use the attached template established in the Administrative Manual.	
✓	Site Plan. Please see the attached list of minimum standards for a site plan, established in the Administrative Manual.	Please show location of 30 foot private roadway easement with 20 foot paved road. This is crucial to determining structure setbacks. Gravel or dirt are not permitted materials for the road.
	Floor Plans. Include floor plans for any existing buildings that will be occupied by a proposed use. If changes to existing buildings are proposed, indicate those on the floor plans.	
✓	Neighborhood Meeting Summary. See Section 8.2.3 for Neighborhood Meeting requirements.	Optional for a Development Plan/CUP

- ✓ **Posted Notice.** See **Section 8.2.14.C.4** for Posted Notice requirements for all public hearings.
- ✓ **Digital Format.** All application submitted to the Town Planning Department must be submitted in digital format.

Requirements listed under each Article will be checked if required for the application.

- ✓ *Required, If Checked.*
- _____ *If not checked, this requirement is not applicable to your application.*

ARTICLE 2, COMPLETE NEIGHBORHOODS, ARTICLE 3, RURAL AREA ZONES, and ARTICLE 4, SPECIAL PURPOSE ZONES – (Public/Semi-Public & Park and Open Space zones only).

Applicable Zone: NL-5

Applicable LDR Section: 2.2.6

PHYSICAL DEVELOPMENT. Please see Subsection B in applicable Zone District for specific standards.

Requirement	Notes
✓ Structure Location and Mass (setbacks, height, FAR, etc.)	With Development Plan show size of each building envelop and allowed FAR per lot.
_____ Maximum Scale of Development (individual building size)	
✓ Design Review (Design Guidelines and Design Review Committee)	DRC is required for development of 3 units or more per lot.
✓ Site Development (Driveway and Access limits)	30 foot private roadway easement required.
✓ Landscaping (see Div. 5.5 for more information)	Required with Building Permit
✓ Fencing (see Sec. 5.1.2 for more information)	Required with Building Permit
N/A Environmental Standards (see Div. 5.1 and 5.2 for more information)	
• Natural Resource Buffers • Irrigation Ditch Setback • Natural Resource Overlay Standards	
✓ Scenic Standards (see Div. 5.3 for more information)	Lighting plan required with Building Permit
• Exterior Lighting • Scenic Resource Overlay (SRO) Standards	
✓ Natural Hazards to Avoid (see Div. 5.4 for more information)	Hillside CUP required for average cross slopes 10% and greater.
• Steep Slopes • Areas of Unstable Soils • Fault Areas • Floodplains • Wildland Urban Interface	
N/A Signs (see Div. 5.6 for more information)	

☒	Grading, Erosion Control, Stormwater (see Div. 5.7 for more information)	R
	• Grading • Erosion Control • Stormwater Management	

USE STANDARDS. *Please see Subsection C in applicable Zone District for specific standards.*

Requirement	Notes
☒ Allowed Uses (see Div. 6.1 for more information)	
☒ Parking (see Div. 6.2 for more information)	
☒ Employee Housing (see Div. 6.3 for more information)	Applicant shall provide a housing mitigation plan at the time of building permit submittal.
☒ Maximum Scale of Use	
☒ Operational Standards (see Div. 6.4 for more information)	
• Outside Storage • Refuse and Recycling • Noise • Vibration • Electrical Disturbances • Fire and Explosive Hazards • Heat and Humidity • Radioactivity	

SUBSECTION D, DEVELOPMENT OPTIONS. *Please provide the following information for the applicable zone.*

Requirement	Notes:
☒ Allowed Subdivision and Development Options	
☐ Subdivision and Development Option Permits	

Additional Comments:

ARTICLE 7, DEVELOPMENT OPTION AND SUBDIVISION STANDARDS APPLICABLE IN ALL ZONES.

Requirement	Notes
☐ Division 7.1, Development Option Standards	
7.1.3 Urban Cluster Development 7.1.4 Mobile Home Park	
☒ Division 7.2, Subdivision Standards	
7.2.2 Standards Applicable to all Subdivision 7.2.3 Land Division Standards 7.2.4 Condominium and Townhouse Subdivisions	

✓	Division 7.5, Development Exaction Standards	Required to be paid at time of recording of plat.
	7.5.2. Park Exactions	
	7.5.3. School Exactions	
✓	Division 7.6, Transportation Facility Standards	As stated above, a 30 foot private roadway easement is required with a 20 foot wide paved road. Gravel or dirt are <u>not</u> permitted materials.
	7.6.2 Access to Roads, Streets and Highways	
	7.6.3 Streets, Alleys, and Easements	
	Division 7.7, Required Utilities	
	7.7.2 Potable Water Supply	
	7.7.3 Sanitary Sewer Systems	
	7.7.4 Irrigation Ditch Systems and Design	
	7.7.5 Other Utilities	
	7.7.6 Fuel Storage Tank	
	Division 7.8, Workforce Housing Incentive Program	

PLAN REVIEW COMMITTEE. *The Plan Review Committee consists of the following listed agencies. Planning Staff will transmit pertinent portions of the application to each agency. **Other agencies and individuals not checked off on this list may be added to the PRC if necessary.***

✓	Public Works/Town Engineer	✓	Police Department
✓	Building Official	✓	START Bus
✓	Town Attorney	✓	Jackson Hole Fire EMS
	Town Clerk	✓	Parks and Recreation Department
✓	Pathways Coordinator		Teton County School District #1
	Surveyor – for subdivision plat		Teton County Sheriff
	Title Company – for subdivision plat		Teton Conservation District
✓	Teton County Housing Authority		Wyoming Department of Game & Fish
	Teton County Weed & Pest		Wyoming Department of Transportation
	Teton County Planning		Wyoming Department of Environmental Quality
	Teton County Engineer		Army Corp of Engineers
	Teton County Assessor		Lower Valley Energy
	Integrated Solid Waste and Recycling		U.S. National Park Service
	Teton County Clerk		U.S. Forest Service
	Teton County Public Health		U.S. Fish and Wildlife
	Teton County Scenic Preserve Trust		Other (Teton County Historic Preservation Board)

Additional Comments:

- The Town has adopted private roadway standards that require a 30 foot wide roadway easement with a 20 foot wide paved road. Gravel, dirt or other similar materials are not permitted. Please provide a plan with the location of the 30 foot easement so that Planning can accurately define street setbacks for each lot.
- This request is for land division and it is unknown as to how much parking will be required for each lot. Please provide site plans that show a building envelop only.

- Please include slopes on at least one of the site plans.
- Fire has denied this initial site plan because there is no adequate turn-around. If these units are to be fire sprinklered, please make that known in the Development Plan. Language requiring fire sprinklering will be added to the recorded plat at time of subdivision.
- Units 2, 3, and 4 have parking located within the 5 foot side yard setback. Parking can be as close as 1' from a side property line if there are at least 3 units on that lot. Staff cannot approve this parking plan a presented.
- Please show compliance with minimum lot size. Also please show building envelop size and potential FAR for each lot.
- How will snow storage be addressed at the dead end? Town staff will not allow snow to be pushed downhill of the parking spaces. How will parking be plowed?
- The parking for Unit 6 does not seem practical. Let's discuss these. Problematic in winter. Will likely encourage guests to park behind them resulting in a line of cars in the road.
- Apartment Occupancy. Occupancy of an apartment shall be restricted to persons employed within Teton County, in accordance with the Jackson/Teton County Housing Rules and Regulations or the occupants shall be members of the same family occupying the principal dwelling unit, such as parents or adult children, or intermittent, nonpaying guests

PLANNING

Project Number	P19-251	Applied	11/6/2019	STOL
Project Name	Pre-App - 984 Budge Drive	Approved		
Type	PREAPPLICATION	Closed		
Subtype	DEVELOPMENT OPTION PLAN	Expired		
Status	STAFF REVIEW	Status		

Applicant	Jorgensen Associates, P.C.	Owner	BLUFFS DEVELOPMENT GROUP, LLC
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Site Address	City	State	Zip
984 BUDGE DRIVE	JACKSON	WY	83001

Subdivision	Parcel No	General Plan
CRYSTAL VALLEY ADDITION	22411632107001	

Type of Review	Status	Dates			Remarks
		Sent	Due	Received	
Contact					
Notes					
Building Kelly Sluder (11/7/2019 11:50 AM KS) New homes will require to meet the building code at time of permitting.	APPROVED W/CONDITI	11/6/2019	11/27/2019	11/7/2019	
Fire Kathy Clay (11/18/2019 2:50 PM CLAY) This will become a subdivision. Provide fire department access notes and water supply notes for subdivision.	DENIED	11/6/2019	11/27/2019	11/18/2019	See notes
Joint Housing Dept Stacy Stoker (12/2/2019 10:04 AM SAS) A complete Housing Mitigation Plan is required to be submitted with any development plan. Required units shall meet the Livability Standards in the Jackson/Teton County Housing Department Rules and Regulations and must receive approval from the Housing Department. The Housing Department will work with the applicant to ensure required units meet the Livability Standards and to record restrictions on required units.	APPROVED W/CONDITI	11/6/2019	12/2/2019	12/2/2019	See notes
Legal Lea Colasuonno	NO COMMENT	11/6/2019	11/27/2019	11/14/2019	No comment at this time.
Parks and Rec Steve Ashworth (11/14/2019 9:18 AM STOL) No comments from Parks & Rec regarding P19-251, 984 Budge Dr.	NO COMMENT	11/6/2019	11/27/2019	11/14/2019	
Pathways Brian Schilling (11/26/2019 12:47 PM STOL) No comments from Pathways	NO COMMENT	11/6/2019	11/27/2019	11/26/2019	
Planning Tyler Valentine	APPROVED W/CONDITI	11/6/2019	11/27/2019	12/9/2019	

Type of Review	Status	Dates			Remarks
		Sent	Due	Received	
Contact Notes (12/9/2019 8:56 AM TV)					
- The Town has adopted private roadway standards that require a 30 foot wide roadway easement with a 20 foot wide paved road. Gravel, dirt or other similar materials are not permitted. Please provide a plan with the location of the 30 foot easement so that Planning can accurately define street setbacks for each lot. - This request is for land division and it is unknown as to how much parking will be required for each lot. Please provide site plans that show a building envelop only. - Please include slopes on at least one of the site plans. - Fire has denied this initial site plan because there is no adequate turn-around. If these units are to be fire sprinklered, please make that known in the Development Plan. Language requiring fire sprinklering will be added to the recorded plat at time of subdivision. - Units 2, 3, and 4 have parking located within the 5 foot side yard setback. Parking can be as close as 1' from a side property line if there are at least 3 units on that lot. Staff cannot approve this parking plan a presented. - Please show compliance with minimum lot size. Also please show building envelop size and potential FAR for each lot. - How will snow storage be addressed at the dead end? Town staff will not allow snow to be pushed downhill of the parking spaces. How will parking be plowed? - The parking for Unit 6 does not seem practical. Let's discuss these. Problematic in winter. Will likely encourage guests to park behind them resulting in a line of cars in the road. - Apartment Occupancy. Occupancy of an apartment shall be restricted to persons employed within Teton County, in accordance with the Jackson/Teton County Housing Rules and Regulations or the occupants shall be members of the same family occupying the principal dwelling unit, such as parents or adult children, or intermittent, nonpaying guests					
Police Todd Smith	NO COMMENT	11/6/2019	11/27/2019	11/15/2019	
Public Works Brian Lenz	APPROVED W/CONDITI	11/6/2019	12/2/2019	12/13/2019	

Type of Review	Status	Dates			
		Sent	Due	Received	Remarks
Contact					
Notes					
(12/13/2019 1:32 PM BTL)					
Pre-Ap Comments					
P19-251					
ADDRESS: 984 Budge Drive					
OWNER: Bluffs Development Group, LLC					
APPLICANT: Jorgensen Associates, Uriel					
12/13/2019					
Brian Lenz, 733-3079					
DATE OF SUBMITTAL: 11/6/2019					
DATE OF MATERIALS: Civil Plan 11/4/2019					
REVISION NO.: 00					

The engineering division has reviewed your application for a DEVELOPMENT PERMIT submitted on and with application materials as dated above.

*The following comments are being provided for use in preparation of future applications and are required for sufficiency .

In addition to the required Town of Jackson submittal requirements, The Engineering Division requires applicants to submit plans, documents, etc in electronic PDF format in addition to the standard paper submittal(s). Please submit these materials through Tiffany Stolte of the Planning Department (tstolte@jacksonwy.gov).

TOJ CODE

A construction-staging narrative shall be submitted for review and approval with the Development Plan application.

Plans provided shall show all work to be completed within the Town's right-of-way.

Show all encroachments into the Town's right-of-way or easements. Encroachment agreements are required for encroachments of buildings, retaining walls, foundations, canopies, balconies, roofs, shoring, etc.

A demolition permit is required for each existing structure to be removed from the site . Water and sewer services to be abandoned for the project shall be abandoned at the main during the demolition phase of the project.

LAND DEVELOPMENT REGULATIONS

Development shall comply with the physical development standards for its zoning.

5.1.2 Wildlife Friendly Fencing: Show location and height of fencing. No fencing is allowed within the right-of-way. Protect sight triangles at intersections.

5.1.1 Natural Resource Setback: Provide a plan that

5.4 NATURAL HAZARDS PROTECTION STANDARDS

5.4.1 Steep Slopes: For development in Hillside Areas, identify any unstable soils and show compliance with this section. At a minimum, provide a slope analysis, reconnaissance level soil and subsurface investigation. Provide a complete grading and drainage plan that meet the criteria of 5.4.1.C.6.d.

5.4.2 Unstable Soils: Identify any unstable soils and show compliance with this section.

5.4.3 Faults: Identify any unstable soils and show compliance with this section.

5.4.4 Floodplains: Identify and floodplains or floodways and show compliance with the municipal code and / or the LDRs.

5.5 LANDSCAPING STANDARDS

Provide a plan that complies with the LDRs and addresses erosion control and slope stability for Hillside Area developments .

5.7 GRADING, EROSION CONTROL, AND STORMWATER

5.7.1 Grading Permit Required: Provide information on how the application will comply with this section, including the Geotechnical Report.

Type of Review	Status	Dates			
		Sent	Due	Received	Remarks
Contact					
Notes					
5.7.2 Grading Standards:					Provide a grading plan that shows compliance with this section. Plan shall include existing and proposed site contours with elevation labels, spot elevations, high and low points, grade breaks. Provide easements for grading proposed on adjacent properties.
5.7.3 Erosion Control Standards:					Provide an erosion control plan that shows compliance with this section.
5.7.4 Stormwater Management Standards:					Provide an erosion control plan that shows compliance with this section.
6.2 PARKING AND LOADING STANDARDS					
6.2.2 Required Parking and Loading:					Provide a plan that shows the proposed parking in compliance with this section. Include location and dimension of parking spaces, accessible spaces, including van accessible spaces, and bicycle parking. For uses that require delivers, show the proposed loading facilities.
6.2.5 Off-Street Parking and Loading Design Standards:					Provide a parking plan in compliance with this section. Include surface materials and drainage plans, access and circulation, and snow storage.
6.4 OPERATIONAL STANDARDS					
6.4.1 Outside Storage:					Provide a Construction Management Plan / Narrative, for any offsite storage address compliance with this section.
6.4.3 Noise:					Provide a Construction Management Plan / Narrative, for any offsite storage address compliance with this section.
6.4.4 Vibration:					Provide a Construction Management Plan / Narrative, for any offsite storage address compliance with this section.
7.2 SUBDIVISION STANDARDS					
7.2.2 Standards Applicable to all Subdivisions					
7.2.2.A Subdivision Improvements:					
1.					Provide plans and specifications for roads, streets, alleys, sidewalks, and pathways including street light, signage, and markings.
2.					Provide a sanitary sewer wastewater plan.
3.					Provide a water supply plan.
4.					Provide a storm drainage plan, basins, calculations, treatment method. Stormwater discharged to a public storm sewer or right of way requires treatment. Wyoming DEQ 5D2 permits are required for subsurface discharges.
5.					Provide an irrigation plan or statement.
6.					Provide a plan for all other utilities, such as telephone, cable TV, electric, fiber, gas.
7.					Provide a plan for permanent reference monuments, property corners, etc.
8.					Permits are required prior to construction of development improvements.
9.					All improvement shall be designed by a professional engineer licensed to do such work in the State of Wyoming.
10.					The Town Council may require installation and construction of utilities, pavement and other land improvements in excess of subdivision design needs, to assure adequate service to future development areas.
7.6 TRANSPORTATION FACILITY STANDARDS					
7.6.2 Access to Roads, Streets and Highways:					Provide a plan showing the point of access. Show compliance with the standards for access and justification for access to collector and arterial roads.
7.6.3 Streets Alleys and Easements:					Provide a plan showing all proposed streets, alleys, and easements. Show compliance with the general standards, extension, engineering access, right-of-way, pavement widths, urban and rural classification, alignment, profile, grades, and intersections.
7.6.4 Street and Road Standards (section not used, for reference):					
1.					Provide a plan that generally complies with the Community Streets plan and Bicycle improvements plan. Include property lines, dimensions, radii, elevations, slopes, grade changes, etc.
2.					For all pedestrian areas provide a plan that includes: dimensions, radii, elevations, slopes (running and cross slopes, not oblique slopes), ramp slopes, grade breaks, stair dimensions, handrails, guards, etc. showing compliance with ADA, IBC, and Town standards.
7.7 – REQUIRED UTILITIES					
7.7.2 Potable Water Supply:					
1.					Provide a water supply plan and estimated average day, maximum day, and maximum hour, required fire flows, and per capita maximum daily demands. Demands shall be determined by one of the following: Wyoming DEQ Chapter 12 Section 8 (equivalent per capita water use shall be at least 125 gpd and 340 gpd for average and maximum day respectively); Wyoming DEQ Chapter 25 Tables 1 and 2 with consumption and irrigation factored in, metered water supply data from another development where similar water demands have been demonstrated, or other Town Engineer approved source.
2.					Provide right-of-way or easements as required, 30 feet minimum width with 10 feet minimum to either side.
3.					Provide a water system analysis indicating the required domestic and fire flow demands. Identify impacts to or upgrade requirements for the existing distribution, supply, or treatment system.

Type of Review	Status	Dates			
		Sent	Due	Received	Remarks
Contact					
Notes					
4.					Show compliance with state regulations, construction standards, connections for lots of record, provisions for system expansion, and fire protection. Provide information on planned metering and backflow prevention locations.
5.					State whether the water system will be privately or publicly owned. Water services over 2-inch in diameter require engineering design. Water mains larger than 8-inch and or longer than 250 feet require a Wyoming DEQ permit.

7.7.3 Sanitary Sewer System:

1. Provide a sanitary sewer wastewater plan and estimated average day, maximum day, and peak hour for the design of the project, per capita design flows, extraneous flows, and industrial and/or commercial waste volumes. Volumes shall be determined by one of the following: Wyoming DEQ Chapter 25 Tables 1 and 2; metered water supply data from another development where similar water demands have been demonstrated; or other Town Engineer approved source.
2. Provide right-of-way or easements as required, 30 feet minimum width with 10 feet minimum to either side.
3. Provide a sanitary sewer analysis. Identify downstream impacts on existing sewers, lift stations, and treatment facilities.
4. Show compliance with state regulations, construction standards, maximum allowable infiltration, connections for lots of record, provisions for system expansion.
5. State whether the sewer system will be privately or publicly owned.

7.7.4 Irrigation System:

1. Provide an irrigation plan when the system is for the entire development or the system will be owned by the Town. For all systems provide the irrigation water demand, type of backflow preventer, location, and whether irrigation will be metered separately from domestic.
2. Show compliance with surface water rights (if applicable), irrigation surface water runoff, setbacks to ditches, and access to ditches.
3. Show compliance to standards for any alteration of an irrigation ditch.
4. A Wyoming Department of Transportation license is required for irrigation systems and landscaping located within the WYDOT right-of-way.

7.7.5 Other Utilities:

Provide a plan for all other utilities, such as telephone, cable TV, electric, fiber, gas. All utilities shall be installed underground. Provide right-of-way or easements as required. Show that private utilities can be located on private properties, e.g. transformers.

7.7.6 Fuel Storage Tanks:

Provide a plan showing any buried fuel storage tanks. All fuel storage tanks for private residential use, except for LP (liquid petroleum) gas and kerosene, shall be underground. All fuel tanks shall meet setbacks for accessory structures in the applicable zone, and no fuel may be buried within 50 feet from any stream, excluding irrigation ditches.

PROJECT SPECIFIC COMMENTS

This response is provided based on the application materials and materials shown at the Pre-Application meeting held 12/6/2019.

1. Provide a fire hydrant or other device suitable to provide scour velocities while flushing. Address runoff and erosion in the flushing area.
2. Based on the information provided no Subdivision Agreement is Required at this time.
3. If the private sewer line to the south across private properties is utilized for the development, provide the legal instruments that allow its use, any conditions of use, etc. Provide information on size, material, slopes, structures, cleanouts, solids retention, etc. to show compliance with current regulations and standards. If the sewer is not used provide information on any abandonment.
4. A zoning compliance verification is required to determine if the steep slopes are manmade. Provide historical photos, maps, surveys, etc. to support your request.
5. Show the new water main between budge drive and highway 22 with associated easements on the plans.
6. If just one lot is developed under the existing regulations for the lot provide all utility and grading information with the building permit.
7. A grading permit is required for the installation of the common utilities and services to the proposed lots.
8. A grading pre-application meeting is required for the installation of the utilities, and as required by the LDRs for the single family home developments.
9. A gravity sewer connecting in Budge Drive would require more detailed review. Consideration for the road being paved within the last five years may require pavement reclamation larger than a typical trench reclamation.
10. Verify with building official for helical piers and geotechnical report being sufficient to meet the requirements of IRC 403.1.7.4.
11. A geotechnical report is required for sites with existing slopes greater than 25% or per Town Engineer Commensurate with the degree of hazard and including a Stability Evaluation or Analysis for Pre and Post Development conditions considering internal, local, and global stability to the degree that the project influences the area. The report must address the stability of each lot as proposed for

Type of Review	Status	Dates			
		Sent	Due	Received	Remarks
Contact					
Notes					
development minimizing or eliminating the need for detailed investigation, review, and analysis with each individual building permit application. Currently, the Hillside areas and steep slope standards are under review for updating. Standards in place at the time of application for permit will be applicable.					
12. Utility easements for private water and sewer mains must be a minimum of 20 feet with at least 10 feet on either side of the utility. Utilities shall be installed to meet standard separation distances.					
13. Show plans for relocation of existing overhead power and communication utilities. Depending on pay structure, scope, and timing this may trigger a subdivision improvement agreement.					
.....					
START		11/6/2019	11/27/2019		
Darren Brugmann					
.....					

PLANNING

Project Number	P20-009	Applied	1/16/2020	STOL
Project Name	Development Plan - Bluffs Development		Approved	
Type	DEVPLAN	Closed		
Subtype	LAND DIVISION	Expired		
Status	STAFF REVIEW	Status		

Applicant	Jorgensen Associates, P.C.	Owner	BLUFFS DEVELOPMENT GROUP, LLC
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Site Address	City	State	Zip
984 BUDGE DRIVE	JACKSON	WY	83001

Subdivision	Parcel No	General Plan
CRYSTAL VALLEY ADDITION	22411632107001	

Type of Review	Status	Dates			Remarks
		Sent	Due	Received	
Contact Notes Building Kelly Sluder	APPROVED	1/17/2020	2/7/2020	1/21/2020	

Building
Kelly Sluder
(2/13/2020 11:06 AM KS)
All future structures will be required to meet the current adopted building codes.

Fire
Kathy Clay
(3/3/2020 9:08 AM TV)
(3/3/2020 CLAY)
Fire department turnaround is waived in lieu of all habitable structures within the subdivision are fire sprinklered per NFPA 13D. Although 13R was indicated originally, the structures appear to single units, not connected to each other. A fire hydrant within 500' of all structures is required.

Fire
Kathy Clay
(3/13/2020 11:21 AM TV)
please see first comments.

Joint Housing Dept
Stacy Stoker
2/13/2020 2/28/2020

Joint Housing Dept
Stacy Stoker
(1/30/2020 2:23 PM SAS)
The application is for a subdivision of land so there is no housing requirement at this time.

When the units are built on the individual lots, there will be required housing fees for each unit.

Any proposed restricted units will be exempt from housing fees. Restricted units are required to be in compliance with the Livability Standards in the Housing Rules and Regulations. A Livability Standards Questionnaire will be completed and submitted to the Housing Department prior to submittal for building permit. The Housing Department will provide the standard approved Special Restriction to be recorded on the property in accordance with the Housing Rules and Regulations.

Type of Review Contact Notes	Status	Dates			Remarks
		Sent	Due	Received	
Legal Lea Colasuonno (2/2/2020 6:22 AM LC)	APPROVED W/CONDITI	1/17/2020	2/7/2020	2/2/2020	Lea Colasuonno
The findings for approval of a development plan, Section 8.3.2.C, are that the application: 1. Is consistent with the desired future character described for the site in the Jackson/Teton County Comprehensive Plan; 2. Achieves the standards and objective of the Natural Resource Overlay (NRO) and Scenic Resources Overlay (SRO), if applicable; 3. Does not have significant impact on public facilities and services, including transportation, potable water and wastewater facilities, parks, schools, police, fire, and EMS facilities; 4. Complies with the Town of Jackson Design Guidelines, if applicable; 5. Complies with all relevant standards of these LDRs and other Town Ordinances; and 6. Is in substantial conformance with all standards or conditions of any prior applicable permits or approvals.					
8.4.2. sets out the findings for approval of a CUP, specifically that “a conditional use permit shall be approved upon finding the application: 1. Is compatible with the desired future character of the area; 2. Complies with the use specific standards of Div. 6.1.; 3. Minimizes adverse visual impacts; 4. Minimizes adverse environmental impacts; 5. Minimizes adverse impacts from nuisances; 6. Minimizes adverse impacts on public facilities; 7. Complies with all other relevant standards of these LDRs and all other Town Ordinances; and 8. Is in substantial conformance with all standards or conditions of any prior applicable permits or approvals.”					
Legal Lea Colasuonno	APPROVED W/CONDITI	2/13/2020	2/28/2020	2/14/2020	See comments.
Parks and Rec Steve Ashworth (2/13/2020 3:58 PM STOL) No comments from P&R on P20-009.010, Budge Drive.					
Andy Erskine, CPSI					
Parks and Rec Steve Ashworth (2/13/2020 3:59 PM STOL) No comments from P&R on P20-009.010, Budge Drive.	NO COMMENT	2/13/2020	2/28/2020	2/13/2020	
Andy Erskine, CPSI					
Pathways Brian Schilling		1/17/2020			
Pathways Brian Schilling					
		2/13/2020	2/28/2020		

Type of Review Contact Notes	Status	Dates			Remarks
		Sent	Due	Received	
Planning Tyler Valentine (2/3/2020 10:42 AM STOL) Dear Mr. Schulte:	INSUFFICIENT	1/17/2020	2/7/2020	2/3/2020	
This letter is to confirm that the application submitted on January 17, 2020 for a Development Plan and Hillside CUP at the property located at 984 Budge Drive has been determined “insufficient” by the Planning Department. The application has been deemed insufficient for the following reasons: 1. LDR Section 5.4.1.C.6 lists five (5) items for submittal of a Hillside CUP. The application submitted is missing (a) –Report summarizing wildlife use of the subject property and any potential impacts from the proposed development, and (c) Visual impact analysis. Since no development is proposed, the visual impact analysis should include the anticipated location of future development and show anticipated bulk, scale and mass from multiple vantage points. 2. Since no development is being reviewed with this application, please provide a new digital submission and remove the housing mitigation information in Section 3.1 of your submittal as that will be reviewed when each lot is developed. If the intent is to build an on-site affordable unit to mitigate future fees associated with individual lot development, then a housing mitigation plan for a banked unit should be submitted concurrent with the first building permit. Banking of units is allowed under Section 6.3.5.D.3. 3. Since no development is being reviewed with this application, please provide a new digital submission and remove the site plan in Section 5 of your submittal that shows multiple 3-bedroom units on each lot. As a side not, this plan conflicts with the housing mitigation plan submitted in Section 3 which calls for 1 unit on each lot (minus the lot with the proposed affordable unit). Should you have any questions or need additional information, please contact me at 307-733-0440, ext. 1305 or by email at tvalentine@jacksonwy.gov. Sincerely, Tyler Valentine Senior Planner					
Planning Tyler Valentine (3/13/2020 11:20 AM TV) Please see staff report.	APPROVED W/CONDITI	2/13/2020	2/28/2020	2/24/2020	
Police Todd Smith		1/17/2020			
Police Todd Smith		2/13/2020	2/28/2020		
Public Works Brian Lenz	NO COMMENT	1/17/2020		2/13/2020	See revised submittal comment
Public Works Brian Lenz	APPROVED W/CONDITI	2/13/2020	2/28/2020	3/13/2020	

Type of Review	Status	Dates			Remarks
		Sent	Due	Received	
Contact					
Notes					
(4/9/2020 11:24 PM BTL)					
Development Plan& Hillside CUP – APPROVED with Conditions					
P20-009 &P20-010					
ADDRESS: 984 Budge Drive – The Bluffs					
OWNER: Bluffs Development Group, LLC					
APPLICANT: Bluffs Development Group, LLC					
4/10/2020					
Brian Lenz, 733-3079					
DATE OF SUBMITTAL: 1/17/2020					
DATE OF MATERIALS: 01/13/2020 (Civil), 03/10/2017 (Preliminary Stability Analysis), July 2017 (Subsurface Exploration and Slope Stability Analysis), and 4/23/2019 (Geotech)					
REVISION NO.: 01					

The engineering division has reviewed your application for a DEVELOPMENT PLAN and Hillside CUP submitted on and with application materials as dated above.

Additional information has been provided since the initial 3/13/2020 review and the following conditions supersede the previous conditions.

The following conditions of approval need to be addressed prior to any further applications for platting and construction on the development, with the exception of development allowed by right.

1. Provide all the legal instruments granting permission for the existing sewer line across all the properties that the sewer line crosses.
2. Provide an exhibit or plan of the existing sewer line showing its location within its easements.
3. If no legal instrument exists or the sewer line is not located according to the recorded instrument, then an instrument must be recorded or modified, and/or the sewer line relocated to within the granted easement.
4. Provide a governing document for the ownership, maintenance, repair, etc. for the private sewer line that includes both existing lots of the Crystal Valley Subdivision.
5. Provide information on size, material, slopes, structures, cleanouts, solids retention, etc. to show compliance with current regulations and standards.
6. Prior to issuance of a grading or building permit the existing private sewer line must be permitted as a collection main by the Wyoming DEQ and a Wyoming DEQ notice of coverage of permit must be provided to the Town Engineer. Should the Wyoming DEQ not permit the line as a collection main another acceptable sewer collection system must be approved and permitted.
7. Third party review of the geotechnical reports has been commissioned and approval of the analysis and recommendations is required.
8. Prior to platting, existing overhead power and utilities shall be relocated and buried to the extent possible. If relocation is not feasible, vertical separation easements agreed to by the utilities must be recorded.
9. The water and sewer utilities from the point of connection to the main shall be privately owned, operated, and maintained by the development.
10. An access easement benefitting 988 Budge Drive shall be granted on the plat or contemporaneously with the plat.

****THE FOLLOWING 3/13/2020 CONDITIONS ARE SUPERSEDED BY THE PRECEDING 4/10/2020 CONDITIONS****

(3/13/2020 9:32 AM BTL)
Development Plan – APPROVED with Conditions

P20-009
ADDRESS: 984 Budge Drive – The Bluffs
OWNER: Bluffs Development Group, LLC
APPLICANT: Bluffs Development Group, LLC

Type of Review	Status	Dates			
		Sent	Due	Received	Remarks
Contact					
Notes					
3/13/2020					
Brian Lenz, 733-3079					
DATE OF SUBMITTAL: 1/17/2020					
DATE OF MATERIALS: 01/13/2020 (Civil), 03/10/2017 (Preliminary Stability Analysis), and 4/23/2019 (Geotech)					
REVISION NO.: 00					
The engineering division has reviewed your application for a DEVELOPMENT PLAN submitted on and with application materials as dated above.					
The following conditions of approval need to be addressed prior to any further applications for platting and construction on the development, with the exception of development allowed by right.					
1. Provide a fire hydrant or other device suitable to provide scour velocities while flushing. Address runoff and erosion in the flushing area. 2. Based on the information provided no Subdivision Agreement is Required at this time. 3. If the private sewer line to the south across private properties is utilized for the development, provide the legal instruments that allow its use, any conditions of use, easements (across at least three properties), who owns and pays for the line, etc. Provide information on size, material, slopes, structures, cleanouts, solids retention, etc. to show compliance with current regulations and standards. If the sewer is not used provide information on any abandonment. a. The existing private sewer line proposed for connection was built to convey effluent downstream of a septic tank to retain the solids. No septic tank for solids removal is included in the plans, provide engineering justification for modifying the existing system. 4. A gravity sewer connecting in Budge Drive would require more detailed review. Consideration for the road being paved within the last five years may require pavement reclamation larger than a typical trench reclamation. 5. A zoning compliance verification is required to determine if the steep slopes are manmade. Provide historical photos, maps, surveys, etc. to support your request. 6. Show the new water main between Budge Drive and highway 22 with associated easements on the plans. 7. If just one lot is developed under the existing regulations for the lot provide all utility and grading information with the building permit. 8. A grading permit is required for the installation of the common utilities and services to the proposed lots. 9. A grading pre-application meeting is required for the installation of the utilities, and as required by the LDRs. Additional grading pre-application meetings may be required for the individual home developments as well. 10. Verify with building official for helical piers and geotechnical report being sufficient to meet the requirements of IRC 403.1.7.4. Proposed building envelopes should not show availability to develop over the steep slopes. 11. A geotechnical report is required for sites with existing slopes greater than 25% or per Town Engineer Commensurate with the degree of hazard and including a Stability Evaluation or Analysis for Pre and Post Development conditions considering internal, local, and global stability to the degree that the project influences the area. The report must address the stability of each lot as proposed for development minimizing or eliminating the need for detailed investigation, review, and analysis with each individual building permit application. Currently, the Hillside areas and steep slope standards are under review for updating. Standards in place at the time of application for permit will be applicable. a. A Final Stability analysis is required, per the Preliminary Slope Stability Analysis, "...this analysis does not constitute an appropriate level of effort to support final development design; additional investigation and analysis is necessary." b. Provide complete geotechnical reports, including the bore logs. c. Address the impacts that the Cache Creek Thrust Fault may have on the proposed development. d. Show compliance with the geotechnical report regarding irrigation around the structures. 12. Utility easements for private water and sewer mains should be a minimum of 20 feet with at least 10 feet on either side of the utility. Utilities shall be installed to meet standard separation distances. a. Provide justification for how a 10-foot wide easement is adequate for the sewer line extending south to the private sewer line. State whether additional setbacks are required for the structure from the sewer line. 13. Show plans for relocation of existing overhead power and communication utilities. Depending on pay structure, scope, and timing this may trigger a subdivision improvement agreement. 14. The water and sewer utilities from the point of connection to the main shall be privately owned, operated, and maintained by the development. 15. 5.4.3: Provide notification on the Development Plan: On lots of record where a fault line exists according to fault line maps for the area, a note shall be placed on all development plans and plats stating that a Seismic Zone 3 fault line potentially subject to movement exists on the lot of record.					

Type of Review	Status	Dates			
		Sent	Due	Received	Remarks
Contact					
Notes					
16.	Proposed lots should be dimensioned.				
17.	Proposed parking should be dimensioned. For 18-foot deep spaces show the 2 feet of overhang. Is adequate room provided at the west end of the road for turn around?				

The following comments are provided as a reference for the submittal of future development of building permits.

TOJ CODE

A demolition permit is required for each existing structure to be removed from the site. Water and sewer services to be abandoned for the project shall be abandoned at the main during the demolition phase of the project.

Reduced Pressure Principal Backflow assemblies are required on fire sprinkler service lines.

5.4 NATURAL HAZARDS PROTECTION STANDARDS

5.4.1 Steep Slopes: For development in Hillside Areas, identify any unstable soils and show compliance with this section. At a minimum, provide a slope analysis, reconnaissance level soil and subsurface investigation. Provide a complete grading and drainage plan that meet the criteria of 5.4.1.C.6.d.

5.4.2 Unstable Soils: Identify any unstable soils and show compliance with this section.

5.4.3 Faults: Identify any faults and show compliance with this section.

5.5 LANDSCAPING STANDARDS

Provide a plan that complies with the LDRs and addresses erosion control and slope stability for Hillside Area developments.

5.7 GRADING, EROSION CONTROL, AND STORMWATER

5.7.1 Grading Permit Required: Provide information on how the application will comply with this section, including the Geotechnical Report.

5.7.2 Grading Standards: Provide a grading plan that shows compliance with this section. Plan shall include existing and proposed site contours with elevation labels, spot elevations, high and low points, grade breaks. Provide easements for grading proposed on adjacent properties.

5.7.3 Erosion Control Standards: Provide an erosion control plan that shows compliance with this section.

5.7.4 Stormwater Management Standards: Provide an erosion control plan that shows compliance with this section.

6.2 PARKING AND LOADING STANDARDS

6.2.2 Required Parking and Loading: Provide a plan that shows the proposed parking in compliance with this section. Include location and dimension of parking spaces, accessible spaces, including van accessible spaces, and bicycle parking. For uses that require deliveries, show the proposed loading facilities.

6.2.5 Off-Street Parking and Loading Design Standards: Provide a parking plan in compliance with this section. Include surface materials and drainage plans, access and circulation, and snow storage.

6.4 OPERATIONAL STANDARDS

6.4.1 Outside Storage: Provide a Construction Management Plan / Narrative, for any offsite storage address compliance with this section.

6.4.3 Noise: Provide a Construction Management Plan / Narrative stating compliance with noise regulations.

6.4.4 Vibration: Provide a Construction Management Plan / Narrative, stating compliance with noise regulations.

7.2 SUBDIVISION STANDARDS

7.2.2 Standards Applicable to all Subdivisions

7.2.2.A Subdivision Improvements:

1. Provide plans and specifications for roads, streets, alleys, sidewalks, and pathways including streetlight, signage, and markings.
2. Provide a sanitary sewer wastewater plan.
3. Provide a water supply plan.
4. Provide a storm drainage plan, basins, calculations, treatment method. Stormwater discharged to a public storm sewer or right of way requires treatment.
5. Provide an irrigation plan or statement.
6. Provide a plan for all other utilities, such as telephone, cable TV, electric, fiber, gas.
7. Provide a plan for permanent reference monuments, property corners, etc.

Type of Review	Status	Dates			
		Sent	Due	Received	Remarks
Contact					
Notes					
8. Permits are required prior to construction of development improvements.					
9. All improvement shall be designed by a professional engineer licensed to do such work in the State of Wyoming.					
10. The Town Council may require installation and construction of utilities, pavement and other land improvements in excess of subdivision design needs, to assure adequate service to future development areas.					
7.6 TRANSPORTATION FACILITY STANDARDS					
7.6.2 Access to Roads, Streets and Highways: Provide a plan showing the point of access. Show compliance with the standards for access and justification for access to collector and arterial roads.					
7.6.3 Streets Alleys and Easements: Provide a plan showing all proposed streets, alleys, and easements. Show compliance with the general standards, extension, engineering access, right-of-way, pavement widths, urban and rural classification, alignment, profile, grades, and intersections.					
7.6.4 Street and Road Standards (section not used, for reference):					
1. Provide a plan that generally complies with the Community Streets plan and Bicycle improvements plan. Include property lines, dimensions, radii, elevations, slopes, grade changes, etc.					
2. For all pedestrian areas provide a plan that includes: dimensions, radii, elevations, slopes (running and cross slopes, not oblique slopes), ramp slopes, grade breaks, stair dimensions, handrails, guards, etc. showing compliance with ADA, IBC, and Town standards.					
7.7 – REQUIRED UTILITIES					
7.7.2 Potable Water Supply:					
1. Provide right-of-way or easements as required, 30 feet minimum width with 10 feet minimum to either side.					
2. Show compliance with state regulations, construction standards, connections for lots of record, provisions for system expansion, and fire protection. Provide information on planned metering and backflow prevention locations.					
7.7.3 Sanitary Sewer System:					
1. Provide right-of-way or easements as required, 30 feet minimum width with 10 feet minimum to either side.					
2. Show compliance with state regulations, construction standards, maximum allowable infiltration, connections for lots of record, provisions for system expansion.					
3. State whether the sewer system will be privately or publicly owned.					
7.7.4 Irrigation System:					
1. Provide an irrigation plan when the system is for the entire development. Show compliance with geotech.					
7.7.5 Other Utilities:					
Provide a plan for all other utilities, such as telephone, cable TV, electric, fiber, gas. All utilities shall be installed underground. Provide right-of-way or easements as required. Show that private utilities can be located on private properties, e.g. transformers.					
START		2/13/2020	2/28/2020		
Darren Brugmann					
START		1/17/2020			
Darren Brugmann					

PLANNING

Project Number	P20-010	Applied	1/16/2020	STOL
Project Name	Hill Side CUP - Bluffs Development	Approved		
Type	CUP	Closed		
Subtype	HILLSIDE	Expired		
Status	STAFF REVIEW	Status		

Applicant		Owner	BLUFFS DEVELOPMENT GROUP, LLC
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Site Address	City	State	Zip
984 BUDGE DRIVE	JACKSON	WY	83001

Subdivision	Parcel No	General Plan
CRYSTAL VALLEY ADDITION	22411632107001	

Type of Review	Status	Dates			Remarks
		Sent	Due	Received	
Contact					
Notes					
Building	APPROVED	1/17/2020	2/7/2020	1/21/2020	
Kelly Sluder					

Building APPROVED W/CONDITI 2/13/2020 2/28/2020 2/13/2020
 Kelly Sluder
 (2/13/2020 11:07 AM KS)
 All future structures will be required to meet the current adopted building codes.

Fire APPROVED W/CONDITI 1/17/2020 3/3/2020
 Kathy Clay
 (3/3/2020 9:09 AM TV)
 (3/3/2020 CLAY)
 Fire department turnaround is waived in lieu of all habitable structures within the subdivision are fire sprinklered per NFPA 13D.
 Although 13R was indicated originally, the structures appear to single units, not connected to each other. A fire hydrant within 500' of
 all structures is required.

Fire APPROVED W/CONDITI 2/13/2020 2/28/2020 3/13/2020
 Kathy Clay
 (3/13/2020 11:21 AM TV)
 please see first comments.

Joint Housing Dept 1/17/2020
 Stacy Stoker

Joint Housing Dept 2/13/2020 2/28/2020
 Stacy Stoker

Legal APPROVED W/CONDITI 1/17/2020 2/7/2020 2/2/2020 See P20-009 comments
 Lea Colasuonno
 (2/2/2020 6:35 AM LC)
 See comments in P20-009; They apply to this P-number as well.

Type of Review Contact Notes	Status	Dates			
		Sent	Due	Received	Remarks
Legal Lea Colasuonno	APPROVED W/CONDITI	2/13/2020	2/28/2020	2/14/2020	

.....

Parks and Rec
Steve Ashworth
(2/13/2020 3:58 PM STOL)
No comments from P&R on P20-009.010, Budge Drive.

Andy Erskine, CPSI

.....

Parks and Rec
Steve Ashworth
(2/13/2020 3:59 PM STOL)
No comments from P&R on P20-009.010, Budge Drive.

Andy Erskine, CPSI

.....

Pathways
Brian Schilling

.....

Pathways
Brian Schilling

.....

Planning
Tyler Valentine
(2/3/2020 10:47 AM STOL)
Dear Mr. Schulte:

This letter is to confirm that the application submitted on January 17, 2020 for a Development Plan and Hillside CUP at the property located at 984 Budge Drive has been determined “insufficient” by the Planning Department. The application has been deemed insufficient for the following reasons:

1. LDR Section 5.4.1.C.6 lists five (5) items for submittal of a Hillside CUP. The application submitted is missing (a) –Report summarizing wildlife use of the subject property and any potential impacts from the proposed development, and (c) Visual impact analysis. Since no development is proposed, the visual impact analysis should include the anticipated location of future development and show anticipated bulk, scale and mass from multiple vantage points.
2. Since no development is being reviewed with this application, please provide a new digital submission and remove the housing mitigation information in Section 3.1 of your submittal as that will be reviewed when each lot is developed. If the intent is to build an on-site affordable unit to mitigate future fees associated with individual lot development, then a housing mitigation plan for a banked unit should be submitted concurrent with the first building permit. Banking of units is allowed under Section 6.3.5.D.3.
3. Since no development is being reviewed with this application, please provide a new digital submission and remove the site plan in Section 5 of your submittal that shows multiple 3-bedroom units on each lot. As a side not, this plan conflicts with the housing mitigation plan submitted in Section 3 which calls for 1 unit on each lot (minus the lot with the proposed affordable unit).

Should you have any questions or need additional information, please contact me at 307-733-0440, ext. 1305 or by email at tvalentine@jacksonwy.gov.

Sincerely,

Tyler Valentine
Senior Planner

Type of Review Contact Notes	Status	Dates			Remarks
		Sent	Due	Received	
Planning Tyler Valentine (3/13/2020 11:22 AM TV) Please see staff report.	APPROVED W/CONDITI	2/13/2020	2/28/2020	3/13/2020	
Police Todd Smith		1/17/2020			
Police Todd Smith		2/13/2020	2/28/2020		
Public Works Brian Lenz	NO COMMENT	1/17/2020		2/13/2020	Revised Submittal
Public Works Caitlin Barilec	APPROVED W/CONDITI	2/13/2020	2/28/2020	3/13/2020	

Type of Review	Status	Dates			Remarks
		Sent	Due	Received	
Contact					
Notes					
(4/9/2020 11:24 PM BTL)					
Development Plan& Hillside CUP – APPROVED with Conditions					
P20-009 &P20-010					
ADDRESS: 984 Budge Drive – The Bluffs					
OWNER: Bluffs Development Group, LLC					
APPLICANT: Bluffs Development Group, LLC					
4/10/2020					
Brian Lenz, 733-3079					
DATE OF SUBMITTAL: 1/17/2020					
DATE OF MATERIALS: 01/13/2020 (Civil), 03/10/2017 (Preliminary Stability Analysis), July 2017 (Subsurface Exploration and Slope Stability Analysis), and 4/23/2019 (Geotech)					
REVISION NO.: 01					

The engineering division has reviewed your application for a DEVELOPMENT PLAN and Hillside CUP submitted on and with application materials as dated above.

Additional information has been provided since the initial 3/13/2020 review and the following conditions supersede the previous conditions.

The following conditions of approval need to be addressed prior to any further applications for platting and construction on the development, with the exception of development allowed by right.

1. Provide all the legal instruments granting permission for the existing sewer line across all the properties that the sewer line crosses.
2. Provide an exhibit or plan of the existing sewer line showing its location within its easements.
3. If no legal instrument exists or the sewer line is not located according to the recorded instrument, then an instrument must be recorded or modified, and/or the sewer line relocated to within the granted easement.
4. Provide a governing document for the ownership, maintenance, repair, etc. for the private sewer line that includes both existing lots of the Crystal Valley Subdivision.
5. Provide information on size, material, slopes, structures, cleanouts, solids retention, etc. to show compliance with current regulations and standards.
6. Prior to issuance of a grading or building permit the existing private sewer line must be permitted as a collection main by the Wyoming DEQ and a Wyoming DEQ notice of coverage of permit must be provided to the Town Engineer. Should the Wyoming DEQ not permit the line as a collection main another acceptable sewer collection system must be approved and permitted.
7. Third party review of the geotechnical reports has been commissioned and approval of the analysis and recommendations is required.
8. Prior to platting, existing overhead power and utilities shall be relocated and buried to the extent possible. If relocation is not feasible, vertical separation easements agreed to by the utilities must be recorded.
9. The water and sewer utilities from the point of connection to the main shall be privately owned, operated, and maintained by the development.
10. An access easement benefitting 988 Budge Drive shall be granted on the plat or contemporaneously with the plat.

****THE FOLLOWING 3/13/2020 CONDITIONS ARE SUPERSEDED BY THE PRECEDING 4/10/2020 CONDITIONS****

(3/13/2020 9:44 AM BTL)
Development Plan – APPROVED with Conditions

P20-009
ADDRESS: 984 Budge Drive – The Bluffs
OWNER: Bluffs Development Group, LLC
APPLICANT: Bluffs Development Group, LLC

3/13/2020

Type of Review	Status	Dates			
		Sent	Due	Received	Remarks
Contact Notes Brian Lenz, 733-3079					
DATE OF SUBMITTAL: 1/17/2020					
DATE OF MATERIALS: 01/13/2020 (Civil), 03/10/2017 (Preliminary Stability Analysis), and 4/23/2019 (Geotech)					
REVISION NO.: 00					
The engineering division has reviewed your application for a HILLSIDE CONDITIONAL USE PERMIT submitted on and with application materials as dated above.					
The following conditions of approval need to be addressed prior to any further applications for platting and construction on the development, with the exception of development allowed by right.					
CONDITIONS OF APPROVAL:					
1. A geotechnical report is required for sites with existing slopes greater than 25% or per Town Engineer Commensurate with the degree of hazard and including a Stability Evaluation or Analysis for Pre and Post Development conditions considering internal, local, and global stability to the degree that the project influences the area. The report must address the stability of each lot as proposed for development minimizing or eliminating the need for detailed investigation, review, and analysis with each individual building permit application. Currently, the Hillside areas and steep slope standards are under review for updating. Standards in place at the time of application for permit will be applicable.					
a. A Final Stability analysis is required, per the Preliminary Slope Stability Analysis, "...this analysis does not constitute an appropriate level of effort to support final development design; additional investigation and analysis is necessary."					
b. Provide complete geotechnical reports, including the bore logs.					
c. Address the impacts that the Cache Creek Thrust Fault may have on the proposed development.					
d. Show compliance with the geotechnical report regarding irrigation around the structures.					
e. Based on the findings of the initial reports, the geology of the area is complicated and a third party review of the geotechnical reports may be required.					
2. A complete grading and drainage plan to include existing and proposed contours at 2-foot intervals containing grading, stabilization, revegetation, and structural elements pertaining to retention stabilization and protection systems for all disturbed terrain. The provided materials shall also include proposed access drives, the areas of encroachment into the public right-of-way for said access drives, as well as the grading and drainage work to be completed in the public right-of-way.					
3. LDRs 5.4.1 Bond for Required Improvements. Prior to the issuance of any building permit pursuant to this Section, the applicant shall post a performance bond for all restorative and mitigative treatments pursuant to Sec. 8.2.11.					
START		2/13/2020	2/28/2020		
Darren Brugmann					
START		1/17/2020			
Darren Brugmann					

MEMORANDUM

TO: Tyler Valentine
FROM: Stefan J. Fodor
Jillian Arnold
DATE: April 6, 2020

RE: P20-009 & P20-010 984 Budge Drive

Thank you for your time in reviewing the proposed staff conditions and engineering comments with us for the above referenced development. Below, please find responses the Recommendations/Conditions of Approval for the Development Plan and Conditional Use Permit as well as proposed modifications to the same. Jorgensen Associates will be concurrently submitting a revised site plan and response to the Engineering departmental review.

Recommendations/Conditions of Approval for the Development Plan

1. *If a subdivision plat is not submitted within 18 months of Development Plan approval the Development Plan will expire.*

Applicant Response: No changes proposed.

2. *Prior to Town Council review, the applicant shall revise the site plan to show the dimensions of the parking spaces and back-out distances for the 7 parking spaces shown on future Lot 4. All dimensions shall comply with Section 6.2.5. Off-Street Parking and Loading Design Standards.*

Applicant Response: The updated Site Development Plan, dated April 6, 2020 submitted by Jorgensen Associates, shows the dimensions and back out distances of the parking spaces on Lot 4, which dimensions comply with Section 6.2.5. of the LDRs. Accordingly, this condition should be removed.

3. *At the time of Subdivision Plat, the applicant shall provide a note on the plat requiring that all habitable structures be fire sprinklered as long as the private road remains without a compliant fire turnaround.*

Applicant Response: No changes proposed.

4. *Prior to submittal of a building permit for any of the future lots, the applicant shall demonstrate compliance with the standards in Section 5.3.2.H. Skyline Standards.*

Applicant Response: The applicant understands that if buildings on the property skyline, the LDRs require certain mitigation measures. After discussions with staff on this condition, we

understand that (1) if the buildings do not skyline, they do not need to meet the LDR skylining requirements and (2) that this condition does not prohibit variances. Accordingly, no changes are proposed.

5. *At the time of building permit submittal the applicant shall demonstrate compliance with all development recommendations set forth in the Alder report.*

Applicant Response: The Applicant proposes that this condition be revised to clearly specify the development conditions/recommendations from revised April 6, 2020 Alder report, rather than incorporating the entire report by reference. We feel that this will provide future owners and staff clarity as to the specific development recommendations. We propose to rewrite this condition as follows:

At the time of building permit submittal the applicant shall demonstrate compliance with ~~all~~ the 4 development recommendations set forth in the Alder report, dated April 6, 2020, which are as follows: (1) the majority of development shall be limited to already disturbed areas; (2) maintaining 15 ft wildlife movement corridors between structures; (3) fencing shall be prohibited on the property; and (4) other barriers such as retaining walls over 42" tall are prohibited between structures.

Recommendations/Conditions of Approval for the Conditional Use Permit

1. *Prior to issuance of a Grading & Erosion Control Permit & Building Permit, the applicant shall adequately address all concerns and consider all recommendations in the preliminary slope stability analysis and geotechnical report. In addition, the applicant shall address the conditions stated in the Engineering department review related to the geotechnical report and final slope stability analysis.*

Applicant Response: The Applicant has responded below to all comments generated by the Engineering Department through a letter from Jorgensen Associates dated today.

2. *All future building permits for each lot shall demonstrate that future site disturbance stays within already disturbed areas. Any temporary disturbance beyond already disturbed areas shall be identified and a bond for reclamation shall be provided.*

Applicant Response: The Applicant will be submitting a ZCV to the Town to confirm the slopes on the property are manmade. The LDRs, Section 5.4.1(B)(1) provides that "[p]hysical development on manmade slopes is permitted, provided that the proposed finish grade complies with all other applicable standards of these LDRs." Accordingly, we propose to remove this condition entirely (and let the LDRs control), or in the interim until a ZCV has been approved confirming the slopes on the property are manmade, to add a sentence to the end of this condition which states: "Development shall stay within already disturbed areas unless a ZCV shows surrounding slopes on the property to be man-made, in such event, development on the man-slopes shall be permitted in accordance with the LDRS, i.e. LDRs, Section 5.4.1(B)(1)"

3. *If a subdivision plat is not submitted within 18 months of CUP approval the CUP will expire.*

Applicant Response: No changes proposed.



JORGENSEN

It's About People, Trust and Know How

PO Box 9550 · 1315 HWY 89 S., Suite 201
Jackson, WY 83002
PH: 307.733.5150
www.jorgeng.com

April 6, 2020

Tyler Valentine
Town of Jackson Planning and Building Department
150 E Pear Avenue
Jackson, WY 83001

-Email Delivery-

RE: P20-009 - 984 Budge Drive – The Bluffs Development Plan Jorgensen's Response to Town of Jackson Engineering

Dear Tyler,

In response to the comments provided by the Town of Jackson Engineering Department, I have compiled our comments into one attachment in collaboration with Jorgensen's Geotechnical and Civil Disciplines and led by Colter Lane, P.E. and Aaron Japel, P.E. respectively. Please address any correspondence back to me directly should you have any questions.

Included with this transmittal you will find the following:

- **Attachment A – Jorgensen's Response to Town of Jackson Engineering**

Sincerely,

JORGENSEN ASSOCIATES, P.C.

Brendan Schulte
Senior Project Manager

Attachment A

Development Plan – APPROVED with Conditions.

Responded to By Jorgensen Associates, Inc. on 4/6/20 (in bold)

P20-009

ADDRESS: 984 Budge Drive – The Bluffs

OWNER: Bluffs Development Group, LLC

APPLICANT: Bluffs Development Group, LLC

3/13/2020

Brian Lenz, 733-3079

DATE OF SUBMITTAL: 1/17/2020

DATE OF MATERIALS: 01/13/2020 (Civil), 03/10/2017 (Preliminary Stability Analysis), and 4/23/2019 (Geotech)

REVISION NO.: 00

The engineering division has reviewed your application for a DEVELOPMENT PLAN submitted on and with application materials as dated above.

The following conditions of approval need to be addressed prior to any further applications for platting and construction on the development, with the exception of development allowed by right.

1. *Provide a fire hydrant or other device suitable to provide scour velocities while flushing. Address runoff and erosion in the flushing area.*
 - **Please refer to the updated Site Development Plan, dated 4/6/2020 to address this condition. A flushing hydrant (Kupferle Eclipse #2, or approved equal) has been added to the water system.**
2. *Based on the information provided no Subdivision Agreement is Required at this time.*
 - **No action required at this time.**
3. *If the private sewer line to the south across private properties is utilized for the development, provide the legal instruments that allow its use, any conditions of use, easements (across at least three properties), who owns and pays for the line, etc. Provide information on size, material, slopes, structures, cleanouts, solids retention, etc. to show compliance with current regulations and standards. If the sewer is not used provide information on any abandonment.*
 - **Notes have been added to the Site Development Plan to address this condition. Copies of all agreements and easements for maintenance, existing use, and improvements related to the private sewer line will be provided to the Town of Jackson prior to connection and installation of improvements. Easements were recorded as concurrent with Plat #1051 in Book 247 of photo 749-751, Book 266 of photo, pages 867-869. Further, the Wyoming DEQ will require permits for all proposed water and sewer infrastructure. All critical Information related to the existing sewer line will be included in the DEQ submittal.**
 - a. *The existing private sewer line proposed for connection was built to convey effluent downstream of a septic tank to retain the solids. No septic tank for solids removal is included in the plans, provide engineering justification for modifying the existing system.*
 - **Based on discussions with the engineer of the existing collection system, the design strategy allowed for solids and liquids to be conveyed together. The detention vault was added to break down solids due to the single service line from the multiple units. The proposed improvements to the collection system will utilize individual services from each lot consistent with the current regulations and relieves the need for the detention vault. As previously stated, the improvements to the private sewer collection**

system will require a Permit to Construct from the Wyoming DEQ for the system configuration and components.

4. *A gravity sewer connecting in Budge Drive would require more detailed review. Consideration for the road being paved within the last five years may require pavement reclamation larger than a typical trench reclamation.*
 - **Noted. Currently there are no plans to connect the sewer to Budge Drive.**
5. *A zoning compliance verification is required to determine if the steep slopes are manmade. Provide historical photos, maps, surveys, etc. to support your request.*
 - **A ZCV is being submitted concurrently with this submittal of comment response.**
6. *Show the new water main between Budge Drive and highway 22 with associated easements on the plans.*
 - **The waterline and associated easements have been added to the Site Development Plan dated 4/6/2020. Please note that the water system connection for this project has been relocated to tie into this new TOJ water line to alleviate the need to connect into the Budge Drive water main.**
7. *If just one lot is developed under the existing regulations for the lot provide all utility and grading information with the building permit.*
 - **Noted, this will be provided at building permit for Lot 1.**
8. *A grading permit is required for the installation of the common utilities and services to the proposed lots.*
 - **Noted, this will be provided subsequent to building permit for Lot 1.**
9. *A grading pre-application meeting is required for the installation of the utilities, and as required by the LDRs. Additional grading pre-application meetings may be required for the individual home developments as well.*
 - **Noted, this will be provided at prior to applications for the Lot 1 building permit are submitted.**
10. *Verify with building official for helical piers and geotechnical report being sufficient to meet the requirements of IRC 403.1.7.4. Proposed building envelopes should not show availability to develop over the steep slopes.*
 - **The proposed helical pier foundations transfer foundation loads to deeper, competent bearing strata and should be sufficient to satisfy the intent of Section 403.1.7 of the IRC. This will be verified during the building permit process for each lot.**
 - **No building envelopes are shown. The setbacks shown are what is called out in NL-5 zoning and depicted at the request of planning department. They are being left on the Development Plan as per agreement during the pre-app. A ZCV is being submitted to establish that the slopes in excess of 30% are man-made and therefore exempt from the grading LDRs (5.4.1.B.1).**
11. *A geotechnical report is required for sites with existing slopes greater than 25% or per Town Engineer Commensurate with the degree of hazard and including a Stability Evaluation or Analysis for Pre and Post Development conditions considering internal, local, and global stability to the degree that the project influences the area. The report must address the stability of each lot as proposed for development minimizing or eliminating the need for detailed investigation, review, and analysis with each individual building permit application. Currently, the Hillside areas and steep slope standards are under review for updating. Standards in place at the time of application for permit will be applicable.*
 - a. *A Final Stability analysis is required, per the Preliminary Slope Stability Analysis, "...this analysis does not constitute an appropriate level of effort to support final development design; additional investigation and analysis is necessary."*
 - **Stability analysis has been performed for the development in the report titled Subsurface Investigation and Slope Stability Analysis dated July 14, 2017. Two slope cross-sections were**

evaluated in order to assess conditions for the entire proposed development area. Factors of safety for seismic and static slope stability exceed those accepted by engineering practice.

b. Provide complete geotechnical reports, including the bore logs.

- **The Subsurface Investigation and Slope Stability Analysis dated July 14, 2017, and the Geotechnical Engineering Report dated August 23, 2019, shall together be considered as a complete geotechnical report for the development. The 2017 Report contains test pit and borehole logs as Appendix A. Results of test probes, an alternate investigation technique, are attached to the 2019 Report as Appendices B and C.**

c. Address the impacts that the Cache Creek Thrust Fault may have on the proposed development.

- **The Cache Creek Thrust Fault is no longer considered active and therefore not applicable. The East Gros Ventre Butte Fault (EGVB) is the nearest Quaternary-age (i.e., relatively young) fault mapped by the USGS with a nearest approach of approximately 800-ft from the property. The EGVB is classified as Class B indicating geologic evidence suggests its existence, but is not strong enough to indicate it as being the source of large earthquakes. The risk of surface rupture is considered very low. The greatest risk from a fault presented to the site is the Teton Fault, which could cause severe ground shaking in all of Jackson Hole.**

d. Show compliance with the geotechnical report regarding irrigation around the structures.

- **This is referring to Section 7.4 of the 2019 Geotechnical Report and pertains to exterior grading, drainage swales, roof runoff, and irrigation. The GEC should be able to show compliance.**

7.4 Final Backfilling and Grading

Properly compacted backfill and site drainage are extremely important. Final grading should provide positive drainage of at least 0.5 foot in the first 10 feet away from the structure. Adequate gutters are strongly recommended. Roof runoff should be discharged at least 3 feet away from the building or exterior slabs. Swales or other moisture collection points should be avoided if possible within 20 feet of the footings. Drainage swales should slope a minimum of 2%. There should be no irrigation within 5 feet of foundation walls. Irrigation pipes should be pressure-tested when installed and checked annually for leaks.

12. *Utility easements for private water and sewer mains should be a minimum of 20 feet with at least 10 feet on either side of the utility. Utilities shall be installed to meet standard separation distances.*

a. Provide justification for how a 10-foot wide easement is adequate for the sewer line extending south to the private sewer line. State whether additional setbacks are required for the structure from the sewer line.

- **The utility easement on the east side of Lot 1 has been revised to a 20' foot wide utility easement and represented on the Site Development Plan dated 4/6/2020. Proper separation distance will be maintained from the new TOJ waterline. A minimum of 5' will be required from future structures which is adequate given the depth of the sewer line.**

13. *Show plans for relocation of existing overhead power and communication utilities. Depending on pay structure, scope, and timing this may trigger a subdivision improvement agreement.*

- **All small service power lines and cable utilities that serve this subdivision will be buried where appropriate. Primary power poles are currently located with proper horizontal separation outside building envelopes.**
- **The applicant is currently working with Lower Valley Energy for the relocation of the existing large overhead power lines to the north side of the property. In the event that it is not practical for relocation of overhead lines, vertical separation easements will be put in place for the overhead lines. This condition will be met prior to recordation of the Plat.**

14. *The water and sewer utilities from the point of connection to the main shall be privately owned, operated, and maintained by the development.*
- **Please refer to the general note on the Site Development Plan to address this condition. A similar note will be included on the Plat.**
15. *5.4.3: Provide notification on the Development Plan: On lots of record where a fault line exists according to fault line maps for the area, a note shall be placed on all development plans and plats stating that a Seismic Zone 3 fault line potentially subject to movement exists on the lot of record.*
- **Not applicable. See response to Cache Creek Fault above. Seismic Zone 3 fault is antiquated language. No Quaternary-age faults are mapped through the property. See this link to the USGS Fault Map for reference.**
 - <https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aaddf88412fcf>
16. *Proposed lots should be dimensioned.*
- **Please refer to the updated Site Development Plan dated 4/6/2020 to address this condition.**
17. *Proposed parking should be dimensioned. For 18-foot deep spaces show the 2 feet of overhang. Is adequate room provided at the west end of the road for turn around?*
- **Please refer to the updated Site Development Plan dated 4/6/2020 to address this condition.**

From: [Tiffany Stolte](#)
To: [Tyler Valentine](#)
Subject: FW: Online Form Submittal: General Inquiry, Comment, or Concern
Date: Tuesday, March 10, 2020 1:53:00 PM

FYI from Tim Bohan.

TIFFANY STOLTE
PLANNING & BUILDING DEPT — OFFICE MANAGER
TOWN OF JACKSON
P.O. Box 1687
JACKSON, WY 83001
(307) 733-0440 x1304
tstolte@jacksonwy.gov
www.townofjackson.com

From: Carl Pelletier
Sent: Tuesday, March 10, 2020 11:42 AM
To: Tiffany Stolte
Subject: FW: Online Form Submittal: General Inquiry, Comment, or Concern

Tiffany,

Not exactly sure what to do with this one....could you help make sure it goes to an appropriate person for a response?

Thanks,
Carl

From: noreply@civicplus.com [mailto:noreply@civicplus.com]
Sent: Tuesday, March 10, 2020 11:33 AM
To: Carl Pelletier <cpelletier@jacksonwy.gov>
Subject: Online Form Submittal: General Inquiry, Comment, or Concern

General Inquiry, Comment, or Concern

First Name	Timothy
Last Name	Bohan
Phone Number	3074132167
Email Address	timvoan@gmail.com

General Inquiry,
Comment, or Concern

Re: Item P20-009&010. As the owner of lot 6 of the Hillside subdivision and one who shares a property corner pin. I need to simply ask to be included in the subdivision process. With 1.18 acres I should be afforded 4 lots. Or else this is simply another version of spot zoning. To believe that this Development will

decrease density is a fallacy. 5 single family homes with 3 bedrooms will equal the same amount of bedrooms as is there now. And a percentage of the people living there now don't own vehicles. Right wrong indifferent those of us who are neighbors should be included for this to be fair right & real

Email not displaying correctly? [View it in your browser.](#)