

CENTERVILLE CITY

250 North Main • Centerville, Utah 84014-1824 • (801) 295-3477 • Fax: (801) 292-8034

Incorporated in 1915

Mayor

Ronald G. Russell

City Council

Justin Y. Allen

Ken S. Averett

John T. Higginson

Sherri L. Lindstrom

Lawrence Wright

City Manager

Steve H. Thacker

interoffice MEMORANDUM

to: Mayor Russell
City Council
cc: Department Heads
Planning Commission
from: Steve H. Thacker, City Manager *A. Thacker*
subject: City Manager's Summary of November 6, 2013 Council Meeting
date: November 1, 2013

Please note this meeting is on **Wednesday** due to elections on Tuesday.

- E.1. Minutes Review and Acceptance** – The minutes to be approved are enclosed.
- E.2. Chase Lane Pump Station** – The agenda shows three bid awards relating to the construction of the Chase Lane Pump Station--one for electrical work, one for construction of the facility, and a third for purchase of a backup generator. This project is funded with a portion of the Water Revenue Bonds issued in 2012. This pump station will provide capacity for future growth.
- E.3. Stability Analysis for "V" on Mountain** – Earlier this year City officials were approached by Bryce Trump and his son Ryan with a proposal to repair/rehab the "V" on the mountainside, which is located on City property. The "V" was constructed in 1973 by Bryce's father and other persons under a Use Permit issued to Viewmont High School. Even though that permit expired 30 years ago, high school students continue to access the site every year to paint and/or light the "V." In response to contact from Mr. Trump, staff inspected the site and became concerned about the erosion that has undermined the structure. Hiram Alba of GeoStrata, a geotechnical engineering firm, has donated his professional services to conduct a stability analysis of the "V." His report is the subject of discussion in this Council meeting. The good news is that he has concluded the "V" is stable and does not require additional anchoring into the bedrock as earlier suspected. However, he does recommend some repair/rehab work to address the erosion that has occurred. The Viewmont Alumni Association appears willing to undertake a fundraising effort to pay for the repairs to this structure. The City Council, however, needs to determine what conditions and maintenance obligations would be put into in a new Conditional Use Permit to be issued to the School District/Viewmont High School. The City Manager has spoken with the High School Principal about this matter, but has not yet talked to School District officials. With this recent report in hand, that conversation can now occur with the School District about the need for a new Conditional Use Permit. Staff will recommend content for that permit.
- E.4. Mayor's Report** – Mayor Russell may want to report on one or more topics.
- E.5. City Manager's Report** – I have identified seven topics on the agenda for my report.



Mayor
City Council
Department Heads
Planning Commission
October 11, 2013
Page 2

- E.6. Miscellaneous Business** – No topics have been identified under this heading.
- E.7. Closed meeting** – The City Attorney recommends the Council go into a closed meeting to be updated on the Ellison lawsuit.
- E.8. Appointments to Boards and Committees** – Mayor Russell may recommend appointments to City boards and committees.

Potential Agenda Items for November 19 regular City Council Meeting (subject to change):

- Community Park expansion open house
- Canvass of November 5 General Election
- Educational presentation re accessory dwelling units
- Gun Range Lease Agreement

mlm

CENTERVILLE CITY COUNCIL AGENDA

NOTICE IS HEREBY GIVEN THAT THE CENTERVILLE CITY COUNCIL WILL HOLD ITS REGULAR PUBLIC MEETING AT 7:00 P.M. ON WEDNESDAY, NOVEMBER 6, 2013 AT THE CENTERVILLE CITY COMMUNITY CENTER AND CITY HALL COUNCIL CHAMBERS, 250 NORTH MAIN STREET, CENTERVILLE, UTAH. THE AGENDA IS SHOWN BELOW.

Meetings of the City Council of Centerville City may be conducted via electronic means pursuant to Utah Code Ann. § 52-4-207, as amended. In such circumstances, contact will be established and maintained via electronic means and the meeting will be conducted pursuant to the Electronic Meetings Policy established by the City Council for electronic meetings.

Centerville City, in compliance with the Americans With Disabilities Act, provides accommodations and auxiliary communicative aids and services for all those citizens in need of assistance, including hearing devices. Persons requesting these accommodations for City-sponsored public meetings, services, programs, or events should call Blaine Lutz, Centerville Finance Director, at 295-3477, giving at least 24 hours notice prior to the meeting.

A notebook containing supporting materials for the business agenda items is available for public inspection and review at City Hall and will be available for review at the meeting. Upon request, a citizen may obtain (without charge) the City Manager's memo summarizing the agenda business, or may read this memo on the City's website www.centervilleut.net or at the following link: www.centervillepublic.novusagenda.com/.

Tentative - The times shown below are tentative and are subject to change during the meeting.
Time:

7:00 **A. ROLL CALL**

B. PLEDGE OF ALLEGIANCE

C. PRAYER OR THOUGHT
 Blaine Lutz

7:05 **D. OPEN SESSION (This item allows for the public to comment on any subject of municipal concern, including agenda items that are not scheduled for a public hearing. Citizens are encouraged to limit their comments to two (2) minutes per person. Citizens may request a time to speak during Open Session by calling the City Recorder's office at 295-3477, or may make such request at the beginning of Open Session.) Please state your name and city of residence.**

 City Manager's Summary Memo

E. BUSINESS

7:10 **1. MINUTES REVIEW AND ACCEPTANCE**
 October 15, 2013 meeting minutes

7:15 **2. Chase Lane Pump Station**
 a. Award bid to Alder Electric in the amount of \$64,810 for electrical work

(OVER)

- b. Award bid to Burton Morgan Contractors in the amount of \$187,272 for construction of the facility
 - c. Award bid to Precision Power in the amount of \$92,840 for a backup generator
- 7:25 3. Stability Analysis for "V" on Mountain
 Discuss stability analysis report for "V" on mountain
- 7:45 4. Mayor's Report
- 7:55 5. City Manager's Report
 - a. Street Lights Planning Process
 - b. Museum Director hiring update
 - c. Community Park Expansion Project update
 - d. Letter of Intent re: potential project for the State Transportation Improvement Program
 - e. Parrish & Main Intersection Project
 - f. Business License online renewal
 - g. Wasatch Choice Toolbox Training – December 4, 2013
- 8:15 6. Miscellaneous Business
- 8:20 7. Closed meeting for reasons allowed by state law , including, but not limited to, the provisions of Section 52-4-205 of the Utah Open and Public Meetings Act, and for attorney-client matters that are privileged pursuant to *Utah Code Ann.* § 78B-1-137, as amended
 - a. Ellison versus Centerville lawsuit update
- 8:30 8. Possible action following closed meeting, including appointments to boards and committees

F. ADJOURNMENT

Items of Interest (i.e., newspaper articles, not items on agenda)

Marsha L. Morrow, MMC
Centerville City Recorder

CENTERVILLE CITY COUNCIL

**Staff Backup Report
11/6/2013**

Item No.

Short Title: City Manager Summary Memo

Initiated By:

Scheduled Time:

SUBJECT

RECOMMENDATION

BACKGROUND

ATTACHMENTS:

Description

- City Manager's Summary of November 6, 2013 Council Meeting

CENTERVILLE CITY COUNCIL

**Staff Backup Report
11/6/2013**

Item No.

Short Title: Blaine Lutz

Initiated By:

Scheduled Time:

SUBJECT

RECOMMENDATION

BACKGROUND

CENTERVILLE CITY COUNCIL

**Staff Backup Report
11/6/2013**

Item No. 1.

Short Title: Minutes Review and Acceptance

Initiated By:

Scheduled Time: 7:10

SUBJECT

October 15, 2013 meeting minutes

RECOMMENDATION

BACKGROUND

ATTACHMENTS:

Description

- D October 15, 2013 Council meeting minutes

PRELIMINARY DRAFT

Minutes of the Centerville City Council meeting held Tuesday, October 15, 2013 at 7:00 p.m. in the Centerville City Hall Council Chambers, 250 North Main Street, Centerville, Utah.

MEMBERS PRESENT

Mayor	Ronald G. Russell
Council Members	Ken S. Averett John T. Higginson Sherri Lyn Lindstrom

MEMBERS ABSENT

Justin Y. Allen
Lawrence Wright

STAFF PRESENT

Steve Thacker, City Manager
Blaine Lutz, Finance Director/Assistant City Manager
Randy Randall, Public Works Director
Lisa Romney, City Attorney
Katie Rust, Recording Secretary

VISITORS

Interested citizens (see attached sign-in sheet)

PLEDGE OF ALLEGIANCE

PRAYER OR THOUGHT

Councilman John Higginson

MINUTES REVIEW AND APPROVAL

The minutes of the Tuesday, October 1, 2013 Joint City Council/Youth Council work session and the October 1, 2013 Council meeting were reviewed. Councilwoman Lindstrom made a motion to approve both sets of minutes. The motion was seconded by Councilman Higginson and passed by unanimous vote (3-0).

OPEN SESSION

No one wished to comment.

REVISED SITE PLAN – CHASE LANE PUMP STATION

Randy Randall, Public Works Director, showed an example of the brick color that will be used on the exterior of the Chase Lane pump station. Mayor Russell asked if using brick rather than stucco will result in an increased cost. Mr. Randall responded that the difference is minimal. The Mayor and Council indicated approval of the selection.

RIGHT OF ENTRY CONSENT

The State of Utah has funding and a program for closing off abandoned mine shafts along the Wasatch Front. A shallow mine shaft is located on City-owned property above the gun range. Staff recommend the City take advantage of the opportunity to have this potential hazard eliminated without cost to the City, by approving a Right of Entry Consent and authorizing Randy Randall to sign on behalf of the City.

PRELIMINARY DRAFT

Centerville City Council
Minutes of Meeting of October 15, 2013

Page 2

1 Councilwoman Lindstrom made a **motion** to approve the Right of Entry Consent for
2 Reclamation Activities as requested by the Utah Division of Oil, Gas and Mining regarding Mine
3 Closure and authorize Randy Randall, Public Works Director, to sign on behalf of the City.
4 Councilman Higginson seconded the motion, which passed by unanimous vote (3-0).
5

MAYOR'S REPORT

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8 Mayor Russell reported that he will be attending a COG meeting later in the week. He
9 believes there is a good chance that the local option gas tax will be adopted.
10

CITY MANAGER'S REPORT

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13 City Manager Thacker reported that online payments are now available for the Justice
14 Court. Staff is still working on making park pavilion reservations and business license renewal
15 available online.
16

MISCELLANEOUS

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 - Council member comments and suggestions regarding the upcoming newsletter are
20 due after the meeting.
 - Councilman Higginson made a **motion** to commence the warranty period for the
21 MTC Lot 2 Site Plan project, effective October 15, 2013. Councilwoman Lindstrom
22 seconded the motion, which passed by unanimous vote (3-0).
23
24

APPOINTMENT

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27 Mayor Russell recommended that the Council reappoint Jeanne Randall to the
28 Landmarks Commission. Councilwoman Lindstrom made a **motion** to reappoint Jeanne
29 Randall to the Landmarks Commission for another 3-year term. Councilman Higginson
30 seconded the motion, which passed by unanimous vote (3-0).
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FINANCIAL REPORT

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34 Blaine Lutz, Finance Director/Assistant City Manager, reviewed the financial report for
35 the three-month period ending September 30, 2013.
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ADJOURNMENT

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39 At 7:24 p.m. Councilwoman Lindstrom made a **motion** to adjourn the meeting.
40 Councilman Higginson seconded the motion, which passed by unanimous vote (3-0).
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Marsha L. Morrow, City Recorder

Date Approved

Katie Rust, Recording Secretary

CENTERVILLE CITY COUNCIL

Staff Backup Report 11/6/2013

Item No. 2.

Short Title: Chase Lane Pump Station

Initiated By: City Engineer and Public Works Director

Scheduled Time: 7:15

SUBJECT

- a. Award bid to Alder Electric in the amount of \$64,810 for electrical work
- b. Award bid to Burton Morgan Construction in the amount of \$187,272 for construction of the facility
- c. Award bid to Precision Power in the amount of \$92,840 for a backup generator

RECOMMENDATION

- a. Award bid to Alder Electric in the amount of \$64,810 for electrical work .
- b. Award bid to Burton Morgan Construction in the amount of \$187,272 for construction of the facility.
- c. Award bid to Precision Power in the amount of \$92,840 for a backup generator.

BACKGROUND

Bids for the electrical work and construction of the Chase Lane Pump Station were solicited by ESI Engineering. See attached bid results. Bids for the backup generator were solicited by the Centerville Public Works Department.

Electrical Work

Due to the critical nature of the electrical systems in the operation of a pump station, staff wanted to separately bid and directly oversee the electrician's work. Staff also pre-qualified these bidders to make sure they have sufficient relevant experience. Three bids were received, as shown on the attachment. The low bid of \$64,810 is higher than the Engineer's Estimate of \$50,000, but is deemed competitive based on two other bids received. A fourth bid was also received (from Taylor Electric)--close in amount to the Engineer's Estimate--but was ". . . deemed to be incomplete as it failed to comply with the Instructions to Bidders--Preparation of Bid." The City Attorney reviewed this matter and concurred with this decision, concluding it was a "non-responsive" bid.

Facility Construction

Contractors were also pre-qualified to bid on the pump station, due to the specialized nature of the construction. Four bids were received (see attachment). The low bid of \$187,272 from Burton Morgan Contractors is below the Engineer's Estimate of \$200,000. This company constructed the Church Well Pump Station for the City in 2004 and recently completed repairs on the Island View Reservoir.

Backup Generator

Precision Power submitted the low bid of \$92,840 (see attachment).

Project Cost vs Budget

Prior to the Council meeting, staff will compile a summary of the costs/bids to date for the pump station and compare to the project budget. This requires the compilation of several invoices for parts and equipment ordered directly by the Public Works Director over the past few months. Staff will present this recap at the Council meeting.

ATTACHMENTS:

Description

- D Engineer's Estimate - Chase Lane Well
- D Bid Results Chase Lane Pump Station Electrical
- D Bid Results Construction of Chase Lane Pump Station
- D Bid Results Backup Generator Chase Lane Well

#3.b.

Steve Thacker

From: kevin campbell <kevin.campbell@esieng.com>
Sent: Friday, May 03, 2013 11:35 AM
To: Steve Thacker
Cc: matt robertson
Subject: Culinary Water Projects - updated budgets vs estimated costs
Attachments: Updated Estimates for Culinary Water Projects_05-02-13.pdf

Steve -

Attached is an updated breakdown of Budgeted Costs vs. Current Estimated Costs for the Culinary Waterline projects. For projects that we do not have bids for the budgeted cost was used.

We split the "Tie North System to Chase Lane Pump Bldg" project budget and cost up 50/50 into the Chase Lane WL project and into the Main Street WL project as it is being completed with these contracts.

In brief, the [REDACTED] Lane Well Drilling is over budget, but the Main Street and Chase Lane WLs are under budget.

Kevin

Kevin L. Campbell, P.E.

ESI Engineering, Inc
3500 S. Main St.
SLC, Ut 84115
801.263.1752

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Fax (801) 263-1780

Consulting Engineers & Land Surveyors

Project	Capital Facilities Finance	
	Plan - Update	
Owner	Centerville City	
Estimated by:	MLR	Date: 5/2/13
Checked by:	KLC	Date:

PROJECT	BUDGETED COST	ESTIMATED COST 05/13
Main Street Waterline (100 North to 1000 North and half of "tie north system to Chase Lane building")	\$769,000.00	\$730,268.57
Chase Lane Well Property	\$72,000.00	\$72,000.00
Chase Lane Well Drilling	\$335,000.00	\$400,000.00
Chase Lane Pump Building	\$445,000.00	\$445,000.00
Chase Lane Waterline (including half of "tie north system to Chase Lane Building")	\$372,000.00	\$240,000.00
Oakridge Drive Waterline	\$202,000.00	\$202,000.00
500 E. 1400 N. Waterline	\$128,000.00	\$128,000.00
10" Waterline Tunnel under I-15 at Chase Lane	\$231,000.00	\$231,000.00
Total	\$2,554,000.00	\$2,448,268.57

Steve Thacker

From: kevin campbell <kevin.campbell@esieng.com>
Sent: Wednesday, October 30, 2013 11:40 AM
To: Steve Thacker
Cc: Marsha Morrow; Randy Randall; Lisa Romney; cody pedersen
Subject: Chase Lane Well Pump Building - Electrical - recommended NOA
Attachments: 00 51 00 Notice of Award_11-05-13.doc

Steve -

The following contractors submitted bids for the Chase Lane Well Pump Building - Electrical:

1. Alder Electric \$64,810.00
2. Hidden Peak Electric \$73,109.00
3. Skyline Electric \$81,782.25

Engineer's Estimate \$50,000.

It is recommended that the project be awarded to Alder Electric in the amount of \$64,810.00. All electric contractors were prequalified prior to being allowed to submit a bid for the project. We are confident that Alder Electric is qualified and capable to complete the project. Randy has worked with Alder Electric in the past and they have done a good job.

Let me know if additional information is needed.

Kevin

Kevin Campbell, PE
Centerville City Engineer

Kevin L. Campbell, P.E.

ESI Engineering, Inc
3500 S. Main St.
SLC, Ut 84115
801.263.1752

Steve Thacker

From: Steve Thacker
Sent: Wednesday, October 30, 2013 11:36 AM
To: 'kevin campbell'; Randy Randall; Blaine Lutz
Subject: RE: Chase Lane Well Pump Building - recommended NOA

Kevin: What was the engineer's estimate?

Blaine: What is the budget assumed for the pump station as used in the list of bonded projects?

Randy: Can you compile for me a summary of the expenditures/obligations to date for the pump station that should be covered by the project budget? (utilities, parts/equipment purchased separately by you, etc) In other words, I want to give the City Council a recap of what this project will cost versus the project budget as included in the bond issue. Blaine, maybe you can provide that through the accounting system since I presume you are using a unique account to track the costs for this project.

Kevin, Blaine and Randy: Please get this info to me by tomorrow (Thursday) so I can write the staff report for council meeting. Thanks.

Steve

From: kevin campbell [<mailto:kevin.campbell@esieng.com>]
Sent: Wednesday, October 30, 2013 11:17 AM
To: Steve Thacker
Cc: Marsha Morrow; Randy Randall; Lisa Romney; cody pedersen
Subject: Chase Lane Well Pump Building - recommended NOA

Steve -

Bids were received yesterday for the Chase Lane Well Pump Building. The following bids were received:

- | | |
|------------------------------|--------------|
| 1. Burton Morgan Contractors | \$187,272.00 |
| 2. COP Construction | \$234,550.50 |
| 3. Pro-build | \$238,497.50 |
| 4. Hills Construction | \$368,912.14 |

Engineer's Estimate *200,000.

It is recommended that the project be awarded to Burton Morgan Contractors in the amount of \$187,272.00. All contractors were prequalified prior to being allowed to submit a bid for the project. We are confident that Burton Morgan is qualified and capable to complete the project. Jack Burton, one of the partners of Burton Morgan, constructed the Church Well Pump Station for the City in 2004. Burton Morgan also recently completed the repair of the Island View reservoir for the City.

Let me know if additional information is needed.

Kevin

Kevin Campbell, PE
Centerville City Engineer

Kevin L. Campbell, P.E.
ESI Engineering, Inc

MEMO

TO: MAYOR RUSSELL, CITY COUNCIL
FROM: RANDY RANDALL
SUBJECT: BACK-UP GENERATOR FOR CHASE LANE WELL
DATE: OCTOBER 30, 2013

Bid Results for a Back-up Generator for the Chase Lane Well

Precision Power	\$92,840.00
Smith Power Products	\$126,769.00
Wheeler Machinery	Doesn't have a dual fuel generator
Cummins Rocky Mountain	No bid submitted

We have reviewed the bid of \$92,840.00 for a back-up generator from Precision Power and find they meet all of our specifications. We recommend awarding this bid to them.

The delivery of the generator will take 10-12 weeks from the time it's ordered

CENTERVILLE CITY COUNCIL

Staff Backup Report 11/6/2013

Item No. 3

Short Title: Stability Analysis for "V" on Mountain

Initiated By: City Manager, City Engineer and Public Works Director

Scheduled Time: 7:25

SUBJECT

Discuss stability analysis report for "V" on mountain

RECOMMENDATION

Discuss GeoStrata's report of their analysis of the "V" on the mountainside and give staff direction regarding the conditions and maintenance requirements for continued use of this site by Viewmont High School. Staff would then work with other parties regarding funding and drafting of a new conditional use permit--to be considered by the Council in a future meeting.

BACKGROUND

The "V" on the mountain was constructed in 1973 on City-owned property under a 10-year "Use Permit" issued by the City Council to Viewmont High School. Since then Viewmont students have accessed the site every year to paint and/or light the "V", even though the Use Permit expired 30 years ago. Earlier this year, Bryce Trump and his son Ryan contacted City staff and expressed a desire to undertake a project to repair/rehab the V. Staff subsequently inspected the site and realized that significant erosion has undermined the structure. The City Council received a report on this matter soon thereafter. Staff recommended a stability analysis be conducted on the V as a basis for determining the repairs/rehab needed to prevent the V from slipping down the mountainside in the future. Staff also recommended the School District be asked to apply for a new conditional use permit that would include guidelines regarding use of the site, maintenance requirements, indemnification and insurance provisions, etc.

Hiram Alba, the Principal Engineer of GeoStrata, agreed to donate his services to conduct a professional assessment of the stability of the V. Bryce Trump agreed to secure donations to pay \$600 for rental of seismic survey equipment. Alba's report is attached. The good news is summarized in his report as follows: "Based on our results we conclude that the V is stable under current loading and seismic conditions. We recommend that some stabilization be completed to repair the existing undermining and to prevent further erosion." (see pages 3 and 4 of his report)

Alba's conclusion about the V's stability means the cost of repair/rehab should not be as high as anticipated earlier. Kevin Campbell, City Engineer, has agreed to volunteer his professional services to design the repairs to the V, and Randy Randall, Public Works Director, will evaluate what kind of work should be done in the vicinity of the V to redirect water away from the structure. The City expects the cost of these repairs to be undertaken/funded by parties other than the City--such as the Viewmont Alumni Association. Bryce Trump and Alumni Association reps will be invited to attend the Council meeting to participate in this discussion.

ATTACHMENTS:

Description

- ☐ GeoStrata Combined Report re "V" on Mountain

GeoStrata

October 24, 2013

Centerville City
c/o Mr. Randy Randall
655 North 1250 West
Centerville, Utah 84014

Geotechnical Investigation
Viewmont "V" Structure
Bountiful, Utah

INTRODUCTION

PROJECT DESCRIPTION

GeoStrata is pleased to present our proposal for a geotechnical investigation for a geotechnical assessment of the Viewmont "V" located in Centerville, Utah. Based on conversations with you, and based upon a site visit completed by GeoStrata personnel on August 20, 2013, portions of the "V" have been undermined and some concerns about stability exist. The slope upon which the "V" is constructed was measured while on site to be a nearly 30% grade. Our scope of work was completed to assess the overall stability and provide recommendations to increase the stability of the structure. A site vicinity map of the project site was created and is attached to this letter as Plate 1.

FIELD INVESTIGATION

Our field work consisted of coring into the structure to assess the thickness of the concrete, performing a site reconnaissance and performing a seismic survey to identify, if possible, the depth to bedrock. The field work was performed from October 17, 2013 to October 23, 2013.

At the time of our field work, the following observations were made of the V structure. A significant amount of erosion undermining has occurred, especially on the northern side of the structure. The undermining extends as much as 3 to 4 feet beneath the structure and generally averages a minimum of 1 foot around the entire northern, western and southern perimeter of the concrete. Two significant cracks were noted on the northern leg of the structure. The first was located at the connection of the square top to the northern leg. The second crack is located approximately 20 feet downhill of the first crack. The cracks are open approximately $\frac{1}{2}$ inch. They appear to be associated with the undermining and not slippage of the structure down the slope. A similar concrete crack exists on the southern leg of the structure.

GeoStrata made an attempt to core the V with a 2 inch core barrel, however, based on the elevation of the V from the lower parking area, the core rig could not be effectively be used. As an alternative, GeoStrata drilled 6 holes into the concrete with a rotary hammer. The concrete thickness was measured in each of the holes and the concrete thickness ranged from a low of 5 inches to a maximum of 10 inches. A concrete plug was encountered at the lowest point of the structure. The plug appears to have been created as an anchor for the structure. The plug was approximately 18 to 20 inches thick. The location of the drill holes are presented on Plate 2, titled Exploration Location Map.

Reinforcing rebar was identified visually at several locations throughout the V. No rebar was encountered in any of our drilled holes. It is our opinion that the structure likely has little to no reinforcing other than in localized areas. Design or as built drawings for the structure were not provided and likely were never prepared for the structure.

Seismic Refraction Survey

The seismic refraction method uses the travel time of compressional or p-waves generated by a source to characterize the subsurface. Geophones are placed at regular intervals in a line to record the travel time of the radiating p-wave. A seismograph records the time and motion that each of the geophones experience. Utilizing the principles of Snell's law the thickness and velocities of the subsurface can be estimated as long as the velocities of the subsurface layers increase with depth.

Plate 2 shows the location of the seismic refraction survey that was conducted at the subject site on October 23, 2013. For the seismic survey 24, 30 Hz geophones were driven several inches into the ground at five foot intervals. The geophones were then connected to the seismograph via a cable. The seismograph used in these surveys was a GEODE manufactured by GEOMETRICS. To complete a line, shots were recorded at intervals along the geophone spread. An 8 pound sledge hammer was used as the source for this project. One person would swing and strike a metal plate with the sledgehammer transferring energy into the subsurface. A minimum of three shots were stacked at each location to increase the signal to noise ratio.

Data was reduced using Pickwin and Plotrefra programs created by Geometrics Inc. The first step in the data process involved having each shot imported into Pickwin and the first arrival of the p-wave was picked at each geophone location. This was done for each of the five shots in each line. This data was then imported into Plotrefra where the profiles were inverted to find a best fit solution to the data. Plate 9 shows the final model of the subsurface and the interpretation.

This model identifies the boundary between a soil and weathered bedrock layer and bedrock at 4 ft - 10 ft. The soil and weathered bedrock layer thickens from north to south. The soil and bedrock layer have an average seismic P-wave velocity of 900 ft/sec and the bedrock layer has a velocity of 4200 ft/sec. The root mean square (RMS) error or the fit of the model to the data was 2.3. The RMS is a statistical comparison of how well the data fits the model. Low RMS values indicates a robust fit of the model, however a model is not a unique solution to the data.

Global Position System (GPS) points were also gathered along the length of each line using our Topcon GMS-2 GPS. The topographic profiles were incorporated into the inversion model for each of the lines to incorporate changes in topography.

The increase in depth to bedrock from north to south is likely a function of the southern portion of the survey line was in the upper reaches of a drainage channel. Drainage channels tend to have a thicker accumulation of soil and weathered bedrock.

LABORATORY TESTING

A Bucket sample of the surficial soils was obtained, packaged and transported to our laboratory for testing. A gradation test of the soil sample was completed. The soil was classified as a GP with 53% gravel, 35% Sand and 12% fines. The results of the gradation test are attached to this report and are presented as Plate 5.

Based on our preliminary engineering assessment, our slope stability analysis was highly dependent on the soils shear strength. To further refine our model, a direct shear test was completed on the soil. Results of this test are presented on Plate 6; the soil had a friction angle of 38° and cohesion of 515 psf.

ENGINEERING ANALYSIS

Based on our field work and observations, GeoStrata performed an engineering assessment of the structure and slope. The software program SLIDE6 was used to create the model. The loading from the structure was created in the model as a line load of 120 psf. The cross section for the slope was defined from the local topography obtained from the State of Utah AGRC database.

Results of our model indicate that the existing structure and slope has a factor of safety of 1.7 and a factor of safety of 1.4 under seismic loading conditions. We used a seismic coefficient that correlates to 10% probability of exceedance in 50 years. We used this value because the structure is not a habitable structure. A static factor of safety of 1.5 and a seismic loading factor of safety of 1.0 are generally considered as acceptable. Based on our analysis, the structure appears to be stable from a slope stability perspective. Results of the slope stability analysis are presented as Plates 7 and 8 which are attached to this report.

CONCLUSIONS AND RECOMMENDATIONS

Our work was performed to provide an assessment of the stability of the V. Based on our results we conclude that the V is stable under current loading and seismic conditions. We recommend that some stabilization be completed to repair the existing undermining and to prevent further erosion. The following paragraphs describe alternatives for remediation that should be considered.

We recommend that the current voids beneath the structure be filled with grout or a lean concrete mix. This can be completed by placing and attaching concrete forms to the exterior sides of the structure and by grouting into the void area through core holes. As another option, the forms can be

constructed adjacent to the structure and all of the space between the forms and structure filled with a lean concrete mix. We recommend that a structural engineer be contacted to design appropriate dowel placement from the existing structure into the new concrete/grout placement.

We further recommend that drainage changes be made on the uphill side of the structure to direct surface flows around and away from the edges of the concrete. These changes could include the creation of a diversion ditch. The ditch should be designed to convey at a minimum a 25 year flow event around the structure. We also recommend that consideration be given to armoring the current outside edges of the structure. The armoring would help protect the soils from further erosion that may occur during rainfall events and through foot traffic up and down the sides of the structure.

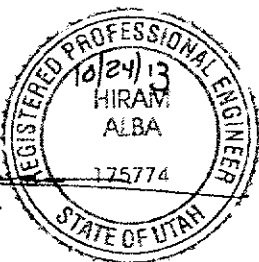
LIMITATIONS AND CLOSURE

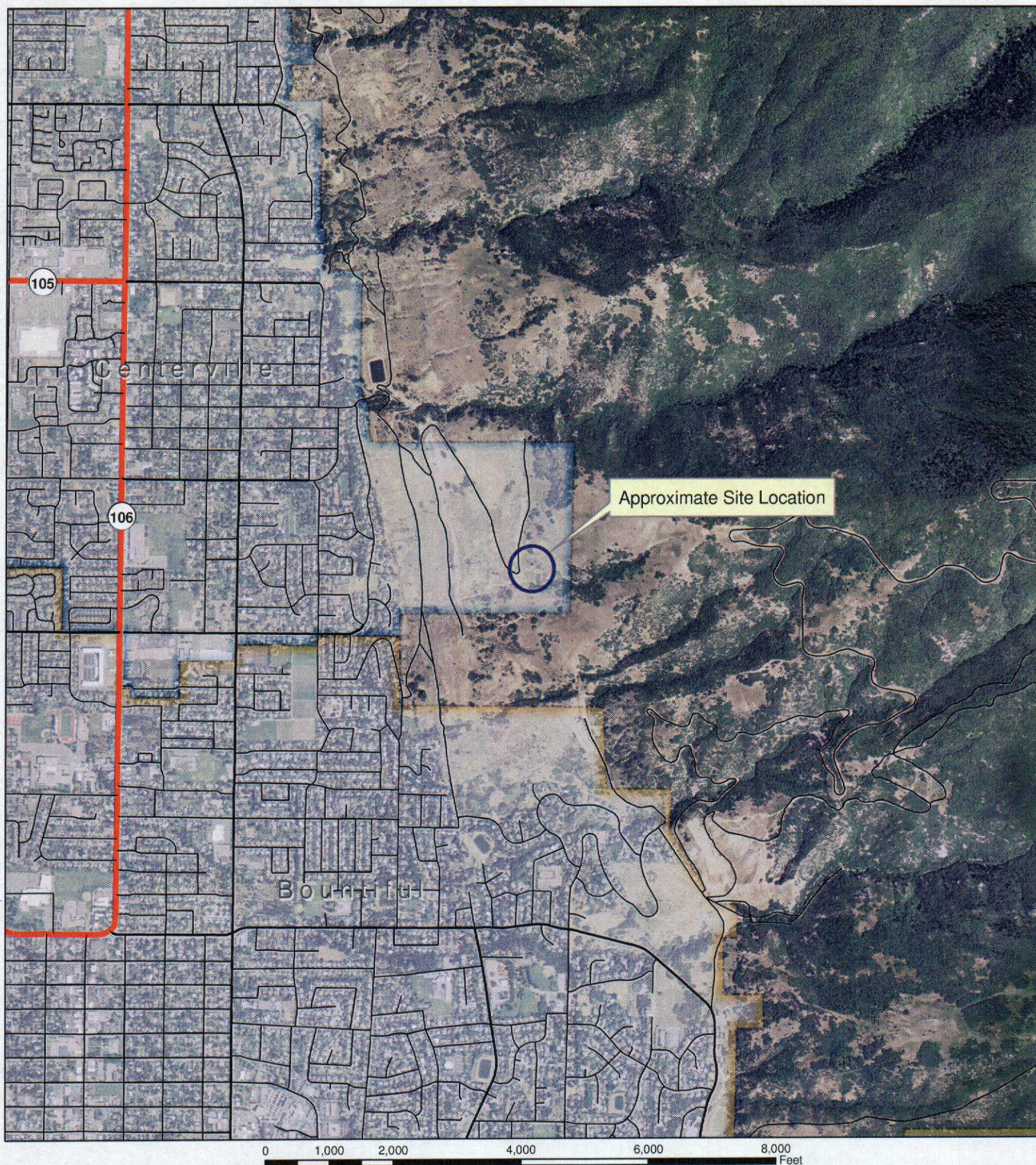
The recommendations contained in this report are based on our limited field exploration, laboratory testing, and understanding of the proposed construction. The subsurface data used in the preparation of this report were obtained from the explorations made for this investigation. It is possible that variations in the soil and groundwater conditions could exist between and beyond the points explored. This report was prepared in accordance with the generally accepted standard of practice at the time the report was written. No warranty, expressed or implied, is made.

We appreciate the opportunity to provide you with our services and look forward to discussing the project with you in more detail. If you have any questions regarding the scope of work or any other aspects of our report please call.

Respectfully Submitted,
GeoStrata


Hiram Alba, P.E.
Principal





1:24,000

Base Map: 2011 NAIP 1 Meter Orthophotography
obtained from the State of Utah.



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Centerville City
Viewmont "V" Structure
Centerville, Utah
Project Number: 349-003

Site Vicinity Map

Plate
1



0 25 50 100 150 200 Feet

1:750

Base Map: 2011 NAIP 1 Meter Orthophotography
obtained from the State of Utah.



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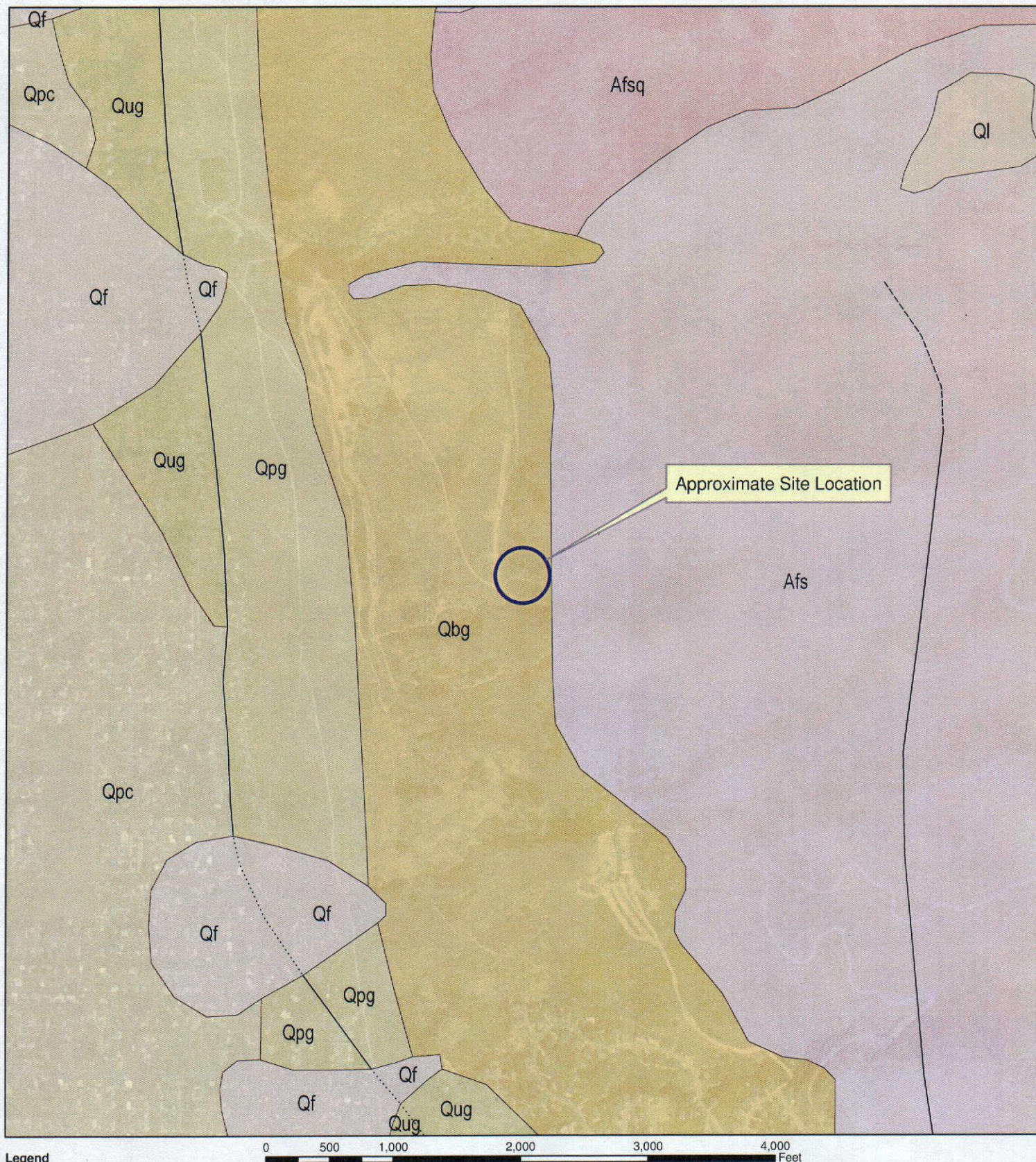
Legend:

- Core Location - 
- Geophysical Survey Location - 
- Slope Stability Profile - 

Centerville City
Viewmont "V" Structure
Centerville, Utah
Project Number: 349-003

Exploration Location Map

**Plate
2**



Legend

- contact, well located
- fault, well located
- - - fault, approximately located
- fault, concealed
- Afs - Schist and gneiss of Farmington Canyon Complex
- Afsq - Schist, gneiss, and quartzite of Farmington Canyon Complex
- Qbg - Sand and gravel deposits of the high stand of Lake Bonneville
- Qf - Alluvial-fan and debris-fan deposits
- Qi - Landslide deposits
- Qpc - Silt and clay deposits of regressive phase of Lake Bonneville
- Qpg - Sand and gravel deposits of regressive phase of Lake Bonneville
- Qug - Sand and gravel deposits of the high stand and regressive phase of Lake Bonneville, undivided

1:12,000

Base Map: 2011 NAIP 1 Meter Orthophotography
obtained from the State of Utah.



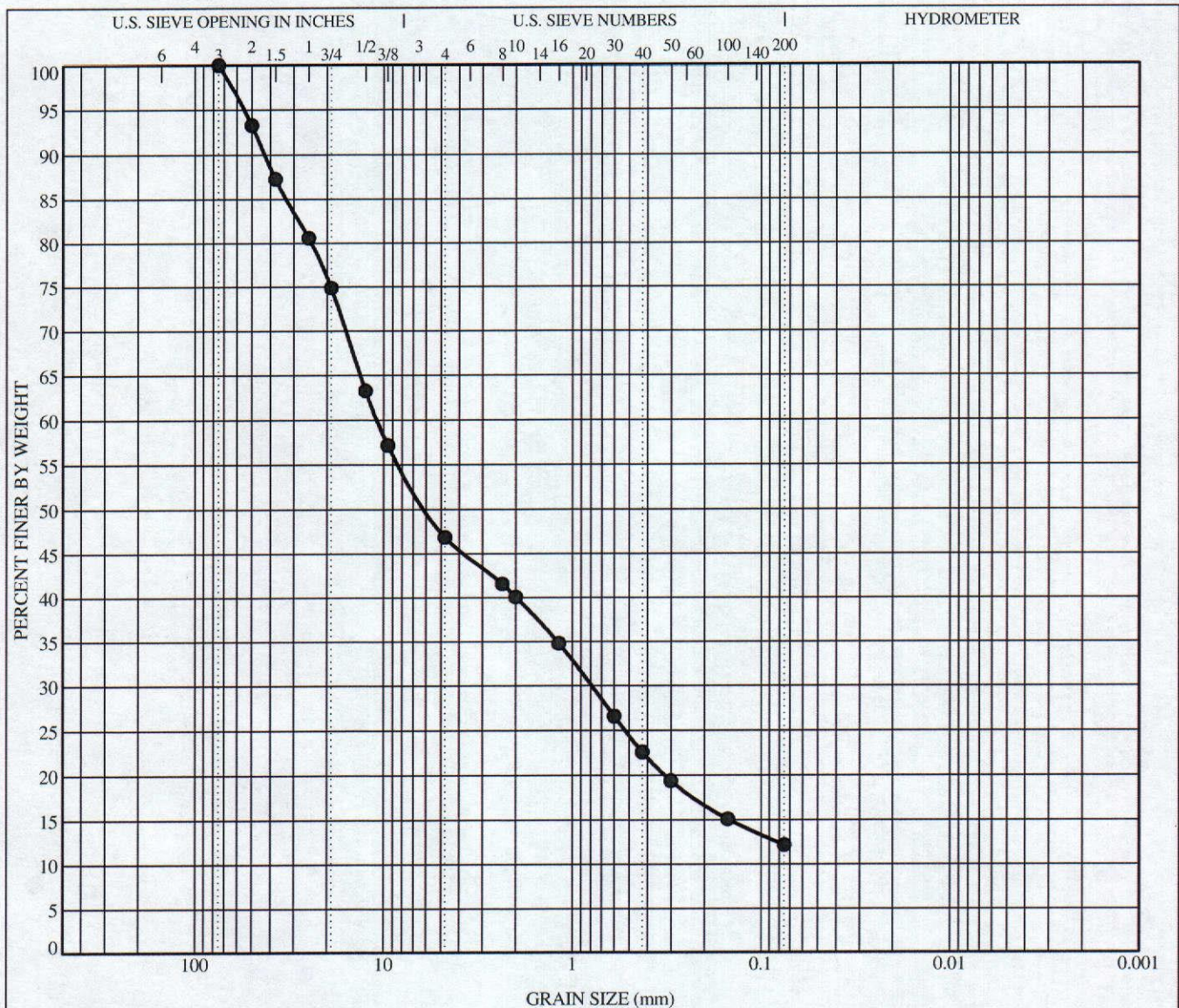
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Centerville City
Viewmont "V" Structure
Centerville, Utah
Project Number: 349-003

Geologic Map

**Plate
3**

Sample No.	USCS Soil Classification	Gradation			Atterberg		Direct Shear	
		Gravel (%)	Sand (%)	Fines (%)	LL	PI	Internal Friction Angle (°)	Apparent Cohesion (psf)
8322	GM	53.1	34.7	12.2	NP	NP	38	515



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample Location	Depth	Classification					LL	PL	PI	Cc	Cu
● 8322	0.0	Silty GRAVEL with sand					NP	NP	NP	1.32	243.07
Sample Location	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
● 8322	0.0	75	10.775	0.794		53.1	34.7	12.2			

GRAIN SIZE DISTRIBUTION - ASTM D422

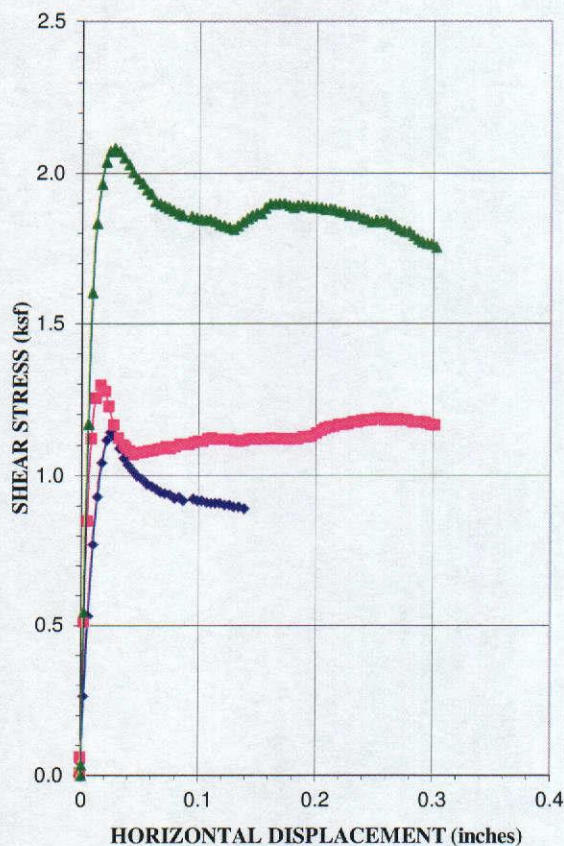
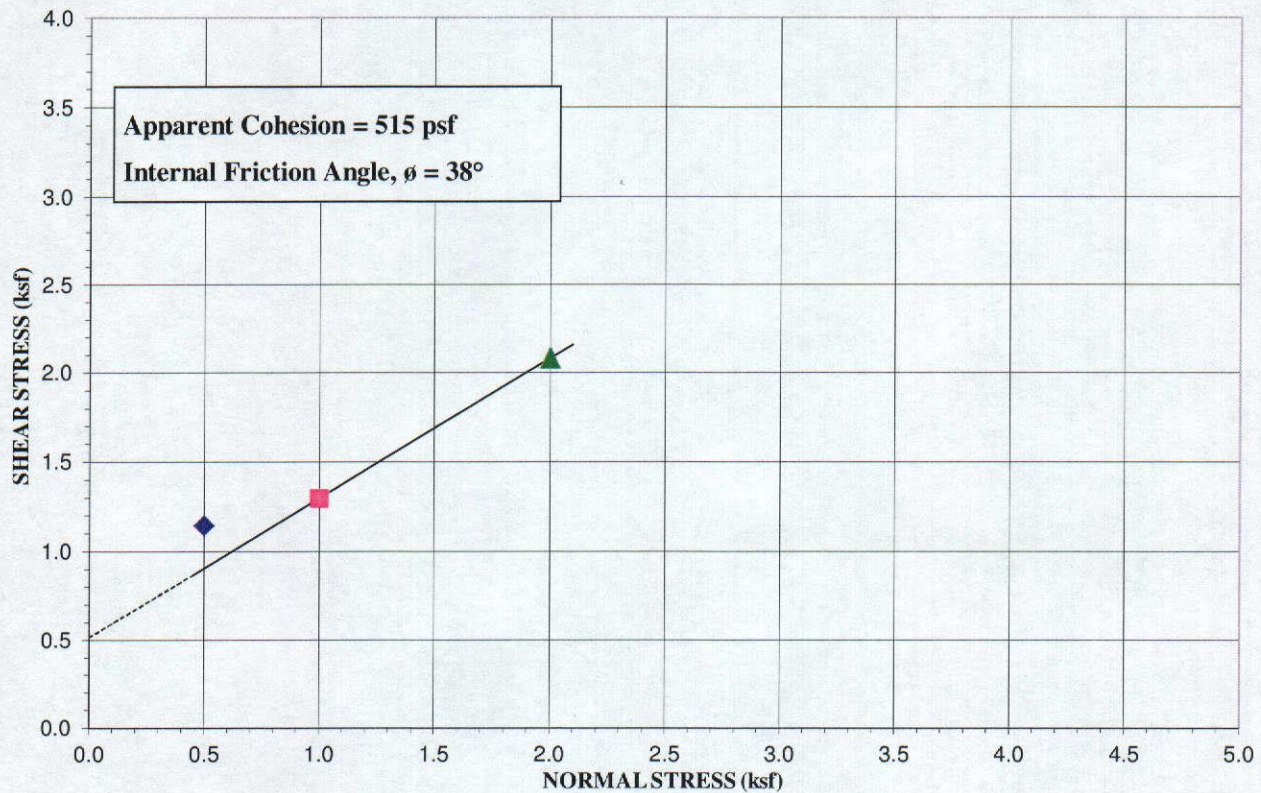
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Centerville City
Viewmont "V" Structure
Centerville, UT
Project Number: 349-003

Plate

5

DIRECT SHEAR TEST



Source:
Type of Test: Consolidated Drained/Saturated

Test No. (Symbol)	1 (◆)	2 (■)	3 (▲)
Sample Type	Remolded		
Initial Height, in.	1.25	1.25	1.25
Diameter, in.	2.5	2.5	2.5
Dry Density Before, pcf	112.4	111.6	113.3
Dry Density After, pcf	114.0	113.2	114.7
Moisture % Before	9.4	10.2	8.5
Moisture % After	17.0	17.3	17.2
Normal Load, ksf	0.5	1.0	2.0
Shear Stress, ksf	1.14	1.30	2.08
Strain Rate	0.0200 IN/MIN		

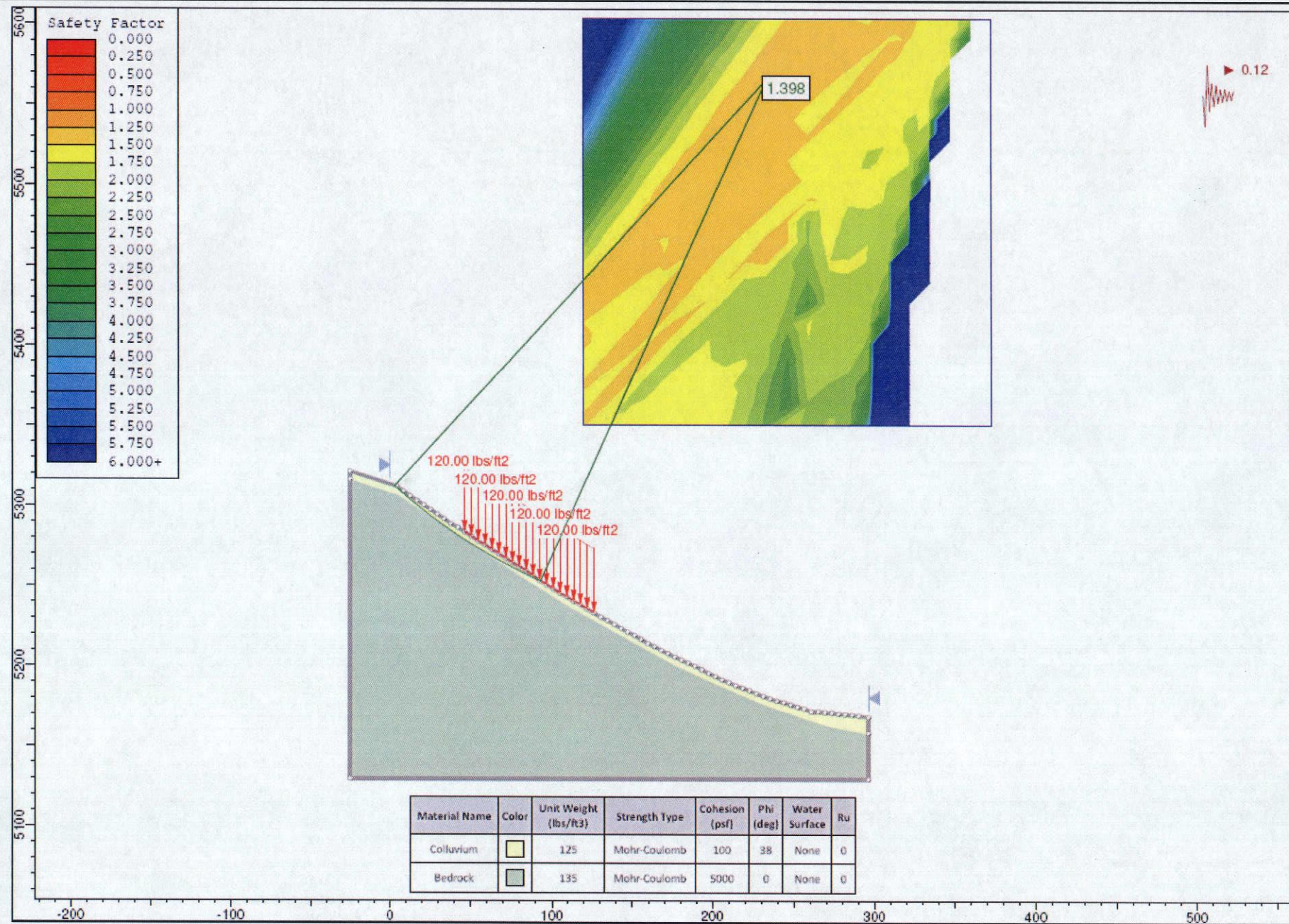
Sample Properties	
Cohesion, psf	515
Friction Angle, ϕ	38
Liquid Limit, %	NP
Plasticity Index, %	NP
Percent Gravel	53.1
Percent Sand	34.7
Percent Passing No. 200 sieve	12.2
Classification	GM

PROJECT: The "V" Structure

PROJECT NO.: 349-003

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Plate
6



GeoStrata

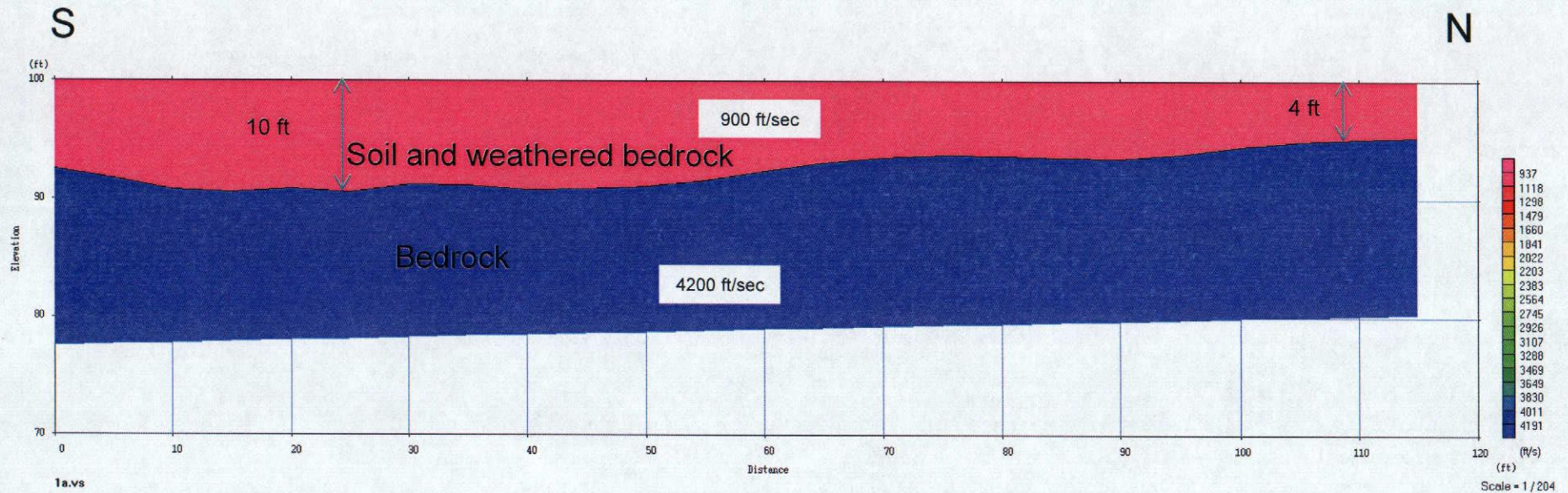
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Viewmont "V" - Pseudo Static

Centerville City
Viewmont "V" Structure
Centerville, Utah
Project Number: 349-003

Plate
8

Line 1 Model and Interpretation



Rms 2.3

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Seismic Refraction Results

Centerville City
Viewmont "V" Structure
Centerville, UT
Project Number: 349-003

**Plate
9**

CENTERVILLE CITY COUNCIL

**Staff Backup Report
11/6/2013**

Item No. 4.

Short Title: Mayor's Report

Initiated By:

Scheduled Time: 7:45

SUBJECT

RECOMMENDATION

BACKGROUND

CENTERVILLE CITY COUNCIL

Staff Backup Report 11/6/2013

Item No. 5.

Short Title: City Manager's Report

Initiated By: City Manager

Scheduled Time: 7:55

SUBJECT

- a. Street Lights Planning Process
- b. Museum Director hiring update
- c. Community Park Expansion Project update
- d. Letter of Intent re: potential project for the State Transportation Improvement Program
- e. Parrish & Main Intersection Project
- f. Business License online renewal
- g. Wasatch Choice Toolbox training - December 4, 2013

RECOMMENDATION

Receive reports from City Manager about these various topics.

BACKGROUND

CENTERVILLE CITY COUNCIL

**Staff Backup Report
11/6/2013**

Item No. 6.

Short Title: Miscellaneous Business

Initiated By:

Scheduled Time: 8:15

SUBJECT

RECOMMENDATION

BACKGROUND

CENTERVILLE CITY COUNCIL

**Staff Backup Report
11/6/2013**

Item No. 7.

Short Title: Closed meeting for reasons allowed by state law , including, but not limited to, the provisions of Section 52-4-205 of the Utah Open and Public Meetings Act, and for attorney-client matters that are privileged pursuant to Utah Code Ann. § 78B-1-137, as amended

Initiated By: City Attorney

Scheduled Time: 8:20

SUBJECT

- a. Ellison versus Centerville lawsuit update

RECOMMENDATION

The City Attorney recommends the City Council go into a closed meeting for an update on the Ellison vs. Centerville City lawsuit.

BACKGROUND

CENTERVILLE CITY COUNCIL

**Staff Backup Report
11/6/2013**

Item No. 8

Short Title: Possible Action following closed meeting, including appointments to boards and committees

Initiated By:

Scheduled Time: 8:30

SUBJECT

RECOMMENDATION

BACKGROUND

CENTERVILLE CITY COUNCIL

Staff Backup Report 11/6/2013

Item No.

Short Title: Items of Interest (i.e., newspaper articles, not items on the agenda)

Initiated By:

Scheduled Time:

SUBJECT

RECOMMENDATION

BACKGROUND

ATTACHMENTS:

Description

- D Newspaper article re Cities & Counties new 3% gas tax
- D Newspaper article re UDOT slows decision for West Davis freeway

The Salt Lake Tribune

Cities, counties seek new 3 percent gasoline tax

Local governments contend money needed for vital road projects.

BY LEE DAVIDSON

THE SALT LAKE TRIBUNE

PUBLISHED: OCTOBER 16, 2013 09:02PM

UPDATED: OCTOBER 16, 2013 11:01PM

Utah's cities and counties asked the Legislature Wednesday for permission to impose a new local 3 percent tax on gasoline — which is initially expected to boost the price 10 cents a gallon.

That would be on top of the current federal tax of 18.4 cents and a state tax of 24.9 cents — pushing the total tax tab past 53 cents a gallon.

Taylorsville Mayor Jerry Rechtenbach said distribution formulas for the current state gasoline tax give cities and counties about 4 cents per gallon for local roads, falling far short of their needs. He said the state gas tax has not been raised in 16 years, while costs have skyrocketed.

"Projects get deferred," he added, "and the costs keep going up."

Rechtenbach noted many cities have raised property taxes or borrowed through bonding to pay for local roads — and still lack necessary funds while siphoning money that could go to other services.

Utah County Commissioner Larry Ellertson concurred that cities and counties want the 3 percent tax on the retail cost of gasoline — minus other taxes added to it — which currently averages about \$3 a gallon.

Under this proposal, he said, the Utah Tax Commission would look annually at the average cost per gallon for the previous year, then add a 3 percent tax to the price for the next year. If imposed next year, Ellertson estimated the local tax would be 10 cents a gallon.

By making the new tax a percentage of the cost of gasoline instead of a flat amount per gallon, it would go up — or down — with inflation, Ellertson said.

That avoids some problems the state has with its flat 24.9 cents per gallon tax. That tax has lost value to inflation, making funds stretch less each year.

The proposal also could be easier politically for legislators to pass in 2014, an election year for them. That's because legislators technically would not raise the tax themselves. They merely would give permission for counties to raise it for themselves and their cities. Ellertson predicted all of the counties would.

The nonpartisan Utah Foundation recently released a report saying that, with current taxes, Utah will have an \$11.3 billion shortfall over the next 30 years for planned, high-priority highway and mass transit projects.

Rechtenbach said city and county roads account for about \$3 billion of that projected shortfall — and the new gasoline tax hike would cover that share. Other methods would be needed to overcome deficits for state highways and mass transit.

Lane Beattie, president and chief executive of the Salt Lake Chamber, said the proposed tax increase "is critical."

Rechtenbach said the tax boost might save taxpayers money in the long run, allowing early maintenance of roads. That can be 10 times cheaper than deferring work until major rehabilitation or replacement is needed.

Ellertson compared the choice to an old motor-oil commercial that showed a mechanic doing expensive work on a car engine that had not been maintained properly. "As he said, 'You can pay me now, or you can pay me later,'" Ellertson said, adding proper maintenance is cheaper.

The committee, which spent the summer examining options to boost transportation funding, took no action.

Some lawmakers raised a few concerns. Rep. Don Ipson, R-St. George, warned that if the tax is too high, many cross-country travelers would skip over the state.

Sen. Kevin Van Tassell, R-Vernal, said he wants to ensure local governments would not get a windfall from the tax.

Beattie responded that local road needs are so great that he is sure the revenue would be spent on that and nothing else.

ldavidson@sltrib.com

The Salt Lake Tribune

UDOT slows decision process on West Davis freeway

Transportation • Agency says it will delay timetable by six months to review alternatives and comments.

BY LEE DAVIDSON | THE SALT LAKE TRIBUNE

PUBLISHED: OCTOBER 30, 2013 06:31PM

UPDATED: OCTOBER 30, 2013 10:22PM

Utah highway officials are tapping the brakes on the proposed West Davis Corridor freeway and slowing their schedule for making a final decision on the project after federal agencies expressed concern that the freeway could destroy too much of the Great Salt Lake's wetlands.

The Utah Department of Transportation now says it hopes to issue a final environmental impact statement by next summer, instead of by year's end as originally planned.

Officials hope for a confirming final record of decision by the Federal Highway Administration by the end of 2014.

"This is an important decision that affects many people and we want to make sure that we get it right," UDOT spokesman John Gleason said. "Due to the amount of comments we've received, we felt it was appropriate to adjust the schedule. We want to allow ourselves time to properly consider and address each comment we received during the public comment period."

UDOT received more than 1,600 comments on its plans earlier this year. Probably the most concerning was one from the U.S. Army Corps of Engineers that threatened to deny permits needed for construction because of damage to Great Salt Lake wetlands.

The corps wrote that federal law allows it to permit only the least-damaging alternative route that is practical. But it said UDOT's preferred route — which would begin at Glovers Lane in Farmington — "has the most acres of direct and indirect" impact to wetlands of all finalist alternatives studied.

It said an alternative beginning instead farther north at Shepard Lane would be less damaging, but UDOT has insisted that would destroy more homes and businesses.

The U.S. Environmental Protection Agency and the Department of Interior also sent comments opposing the Glovers Lane option, as did local environmental groups and neighbors of the preferred Glovers Lane option.

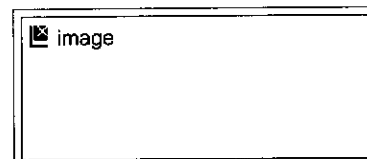
The three federal agencies encouraged UDOT to look closely at what critics call the "shared solution" alternative to avoid building a freeway by improving existing roads and adding more mass transit.

UDOT said in its announcement about slowing the schedule, made in a monthly newsletter, that extra time is needed partly to "study new alternatives presented during the comment period."

UDOT said its study team is "conducting further study of the new and existing alternatives." It added that changes to "UDOT's preferred alternative may occur."

The freeway would be the northwest extension of the Legacy Parkway — which itself was built after a four-year legal battle over damage it could do to wetlands. Compromise resulted in a parkway that has a reduced speed limit, special sound-muffling pavement, a ban on trucks and extensive areas of preserved wetlands, open space and a trail system. The new proposal does not include such mitigation.

Friends of Great Salt Lake, which opposes the freeway, wrote in its fall newsletter, "The proposal is a high-speed truck and car corridor paving over farmland, wetlands and homes that will become little more than a road to sprawling gas stations, big-box stores and new auto dependent homes."



Preferred route The Utah Department of Transportation's preferred alternative for the West Davis Corridor extends from Glover Lane on the south, northward along Bluff Road and 4100 West to 5500 South in Roy on the north end.

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