ALPINE CITY PLANNING COMMISSION MEETING

NOTICE is hereby given that the **PLANNING COMMISSION** of Alpine City, UT will hold a **Regular Meeting at Alpine City Hall,** 20 North Main, Alpine, Utah on **Tuesday, January 15, 2019 at 7:00 pm** as follows:

I. GENERAL BUSINESS

A.	Welcome and Roll Call:	David Fotheringham
B.	Prayer/Opening Comments:	David Fotheringham
C.	Pledge of Allegiance:	By Invitation

II. PUBLIC COMMENT

Any person wishing to comment on any item not on the agenda may address the Planning Commission at this point by stepping to the microphone and giving his or her name and address for the record.

III. ACTION ITEMS

A. Site Plan Review – Bank of American Fork
Review commercial site plan and make a recommendation to City Council.

B. Public Hearing – Plat Amendment – Summit Pointe Subdivision – Six Blue Bison LLC
Planning Commission will hold a public hearing and make a recommendation to City Council.

C. Public Hearing – Amendment to Article 3.1.11; 3.9.6; & 3.5.1 – Dwelling Clusters & Development Clusters
Planning Commission will hold a public hearing and make a recommendation to City Council.

D. Public Hearing – Amendment to Article 3.1.11; 3.2.9; 3.4.10; & 3.5.10 Flag Lots, Private Driveways, & Shared Driveways
Planning Commission will hold a public hearing and make a recommendation to City Council.

IV. COMMUNICATIONS

V. APPROVAL OF PLANNING COMMISSION MINUTES: December 4, 2018

ADJOURN

Chairman David Fotheringham
January 15, 2019

THE PUBLIC IS INVITED TO ATTEND ALL PLANNING COMMISSION MEETINGS. If you need a special accommodation to participate in the meeting, please call the City Recorder's Office at 801-756-6347 ext. 5.

CERTIFICATION OF POSTING. The undersigned duly appointed recorder does hereby certify that the above agenda notice was posted at Alpine City Hall, 20 North Main, Alpine, UT. It was also sent by e-mail to The Daily Herald located in Provo, UT a local newspaper circulated in Alpine, UT. This agenda is also available on the City's web site at www.alpinecity.org and on the Utah Public Meeting Notices website at www.utah.gov/pmn/index.html.

PUBLIC MEETING AND PUBLIC HEARING ETIQUETTE

Please remember all public meetings and public hearings are now recorded.

- All comments **must** be recognized by the Chairperson and addressed through the microphone.
- When speaking to the Planning Commission, please stand, speak slowly and clearly into the microphone, and state your name and address for the recorded record.
- Be respectful to others and refrain from disruptions during the meeting. Please refrain from conversation with others in the audience as the microphones are very sensitive and can pick up whispers in the back of the room.
- Keep comments constructive and not disruptive.
- Avoid verbal approval or dissatisfaction of the ongoing discussion (i.e., booing or applauding).
- Exhibits (photos, petitions, etc.) given to the City become the property of the City.
- Please silence all cellular phones, beepers, pagers or other noise making devices.
- Be considerate of others who wish to speak by limiting your comments to a reasonable length, and avoiding repetition of what has already been said. Individuals may be limited to two minutes and group representatives may be limited to five minutes.
- Refrain from congregating near the doors or in the lobby area outside the council room to talk as it can be very noisy and disruptive. If you must carry on conversation in this area, please be as quiet as possible. (The doors must remain open during a public meeting/hearing.)

Public Hearing vs. Public Meeting

If the meeting is a **public hearing**, the public may participate during that time and may present opinions and evidence for the issue for which the hearing is being held. In a public hearing there may be some restrictions on participation such as time limits.

Anyone can observe a **public meeting**, but there is no right to speak or be heard there **-** the public participates in presenting opinions and evidence at the pleasure of the body conducting the meeting.

ALPINE PLANNING COMMISSION AGENDA

SUBJECT: Site Plan Review – Bank of American Fork

FOR CONSIDERATION ON: 15 January 2019

PETITIONER: Bank of American Fork

ACTION REQUESTED BY PETITIONER: Approve the Site Plan

APPLICABLE STATUTE OR ORDINANCE: Article 3.7 & 3.11

BACKGROUND INFORMATION:
The Bank of American Fork has proposed a new building to replace the existing structure. The existing building would be demolished, and the new building would be located at the same site as the current building. The site is located within the Business Commercial Zone and the Gateway Historic District. Proposed building is approximately 4,166 square feet on a parcel approximately 0.84 acres in size. 21 total off-street parking stalls are proposed. The developer is seeking a recommendation of approval for the proposed site plan.

ALPINE CITY
STAFF REPORT
January 11, 2019

To: Alpine City Planning Commission
Business Date: January 15, 2019

From: Staff

Prepared By: Austin Roy, City Planner
Planning & Zoning Department

Jed Muhlestein, City Engineer
Engineering & Public Works Department

Re: **Site Plan Review – Bank of American Fork**

Applicant:	Jason Sandburg, representing People's Intermountain Bank
Project Location:	105 S. Main Street
Zoning:	Business Commercial Zone
Acreage:	Approximately 0.84 Acres
Building Area:	4,166 Sq. Ft.
Request:	Recommend approval of the site plan

SUMMARY

The Bank of American Fork has proposed a new building to replace the existing structure. The existing building would be demolished, and the new building would be located at the same site as the current building. The site is located within the Business Commercial Zone and the Gateway Historic District. Proposed building is approximately 4,166 square feet on a parcel approximately 0.84 acres in size. 21 total off-street parking stalls are proposed. The developer is seeking a recommendation of approval for the proposed site plan.

BACKGROUND

The proposed site plan shows a building which is located within the allowed setback area for the business commercial zone and with off-street parking located within the setback area. City Council granted an exception for the setbacks and parking on October 23, 2018. The proposed site plan was prepared with those exceptions in mind.

ANALYSIS

Location
Setbacks (3.07) for the building were approved by the City Council on October 23, 2018, with an exception being granted. The approved setbacks are: 10’2” on the north and 20’10” on the west as measured one foot behind the sidewalk. The City Council also approved three parking spaces to be allowed in the setback. The site plan presented honors the exceptions granted by City Council.

Streets/Traffic
Plans show that visibility within the sight triangle (3.25) is improved with the new site plan. Also improved is access off 100 South, which improves safety associated with the drive-through lanes. The proposed 100 South access is located further east on the property which improves safety and traffic for the intersection of 100 South and Main Street.

Off-Street Parking
City code requires (3.24.030) offices and personal services to have four (4) spaces for every 1,000 sq. ft. based on the square footage of the proposed building (4,166 sq. ft.) 17 off-street parking spaces are required. The proposal exceeds the off-street parking requirements, with plans showing 19 parking stalls plus two (2) ADA stalls for a total of 21 parking stalls.

Screening
“The sides and rear of any off-street parking area that adjoins a residence or residential zone shall be required to be screened by a masonry wall or solid visual barrier fence” (3.24.020). Plans show a 6-foot privacy fence on the east property line which meet these requirements, however **a fence or other solid visual barrier is required for the south property line.**

Landscaping
All areas of a site which are not devoted to buildings or off-street parking are required to be landscaped, with a minimum of twenty (20) percent of the total area to be landscaped (3.07.080). The landscaping plan shows that 12,987 square feet will be landscaped, or 37.2 percent of the total site area. The site plan therefore meets the minimum landscaping area requirements.

Also, worth mention, the landscaping plan appears to adhere to the new tree guidelines recently adopted by the City.

Trash Storage
Plans show an enclosed dumpster located at the southeast corner of the property, which meets Business Commercial and Gateway Historic requirements.

Height of Building
The height of the proposed building meets the requirements of the Business Commercial zone, measuring 25 feet 9.5 inches to the highest point of the building. Maximum height for the zone is 34 feet.

Design

The proposed building is a mostly brick design with a pitched roof. Architectural style appears to be consistent with other buildings in the business district.

REVIEWS

PLANNING AND ZONING DEPARTMENT REVIEW
The analysis section in the body of this report serves as the Planning and Zoning Department review.

ENGINEERING AND PUBLIC WORKS DEPARTMENT REVIEW
Streets
All site plans must adhere to the Off-Street Parking Ordinance (Article 3.24). The applicant has submitted a parking plan which appears to be in compliance with the ordinance. Parking stalls are dimensioned correctly, an all-weather surface of asphalt is proposed, a lighting plan was submitted and approved, and it is graded to retain all storm water onsite. Storm drain calculations and plans were submitted and approved for the re-design of the parking lot.

Utilities
Two buildings exist on the site. The easterly building will be removed and NOT replaced. The existing City utility services (culinary, pressurized irrigation, and sewer) shall be removed and capped as shown on the plans. The bank building will be rebuilt in approximately the same location and will be able to re-use the existing services.

Other
A demolition permit will be required prior to commencement of construction.

A Land Disturbance Permit would be required prior to construction which ensures a Storm Water Pollution Prevention Plan (SWPPP) is followed.

The water policy has been previously met for the site.

LONE PEAK FIRE DEPARTMENT REVIEW
See Exhibit ‘A’ of this staff report for the Lone Peak Fire Department Review of the proposed plat amendment to the recorded Summit Pointe Subdivision.

NOTICING
Notice has been properly issued in the manner outlined in City and State Code

STAFF RECOMMENDATION

Review staff report and findings and make a recommendation to City Council to either approve or deny the proposed site plan. Findings are outlined below.

Findings for a Positive Motion:

A. All proposed construction appears to meet Alpine City Design standards.

Findings for Negative Motion:

A. No screening (visual barrier) for the south property line.

MODEL MOTIONS

SAMPLE MOTION TO APPROVE

I motion to recommend approval of the proposed site plan for the Bank of American Fork with the following conditions:

- The developer obtain a Demolition and Land Disturbance Permit prior to construction.
- Screening be added to the parking lot on the south property line.

SAMPLE MOTION TO DENY

I motion to recommend that the site plan for the Bank of American Fork be denied based on the following:

- No screening for the parking lot provided on the south property line.

January 7, 2019

Jed Muhlestein

Project: ***Bank of American Fork – Alpine Branch***
Re: ***Bank of American Fork – Site Plan Review 105 S Main***

Below please find our response to your posted comments dated January 04, 2019. Please note that our numbering reference system corresponds to your comment numbering system.

1. We have indicated the existing utilities to be used / removed as requested.
2. We have indicated the existing utilities to be used / removed as requested.
3. Noted
4. A sheet for the lighting plan was reserved. The lighting plan to be provided by others.
5. Noted
6. Noted
7. Noted

- A note was added for the 24" storm drain pipe. The Southerly location is not known, so the contractor will need to verify its location & notify if it creates any conflicts.
- There will be a minimum of 3" asphalt paving & 8" compacted road base in all areas.
- The tree at the entryway was changed from an autumn blaze maple to a spring snow crabapple.

We appreciate your review and trust we have changed and/or clarified all of your comments.

Sincerely,
REEVE & ASSOCIATES, INC.

Nate Reeve, P.E.
Principal Engineer
nreeve@reeve-assoc.com

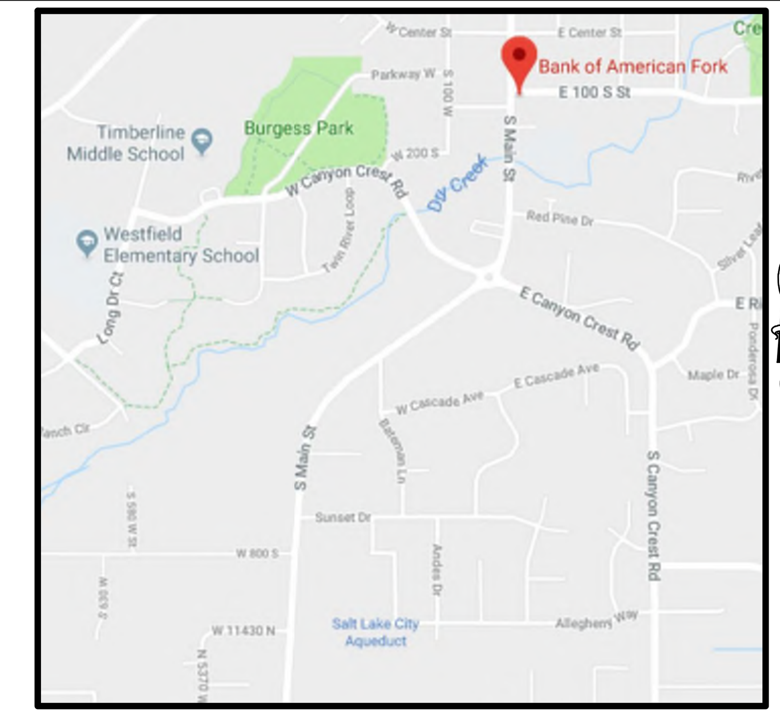
Project Narrative/Notes/Revisions

1. 11/29/18 CK – COMPLETED DESIGN FOR CLIENT & CITY REVIEW.
2. 12/05/18 CK – ADDED TRASH ENCLOSURE DETAILS.
3. 01/02/19 CK – UPDATED PAVEMENT DEPTHS PER GEOTECH REPORT.
4. 01/07/19 CK – CITY COMMENTS.

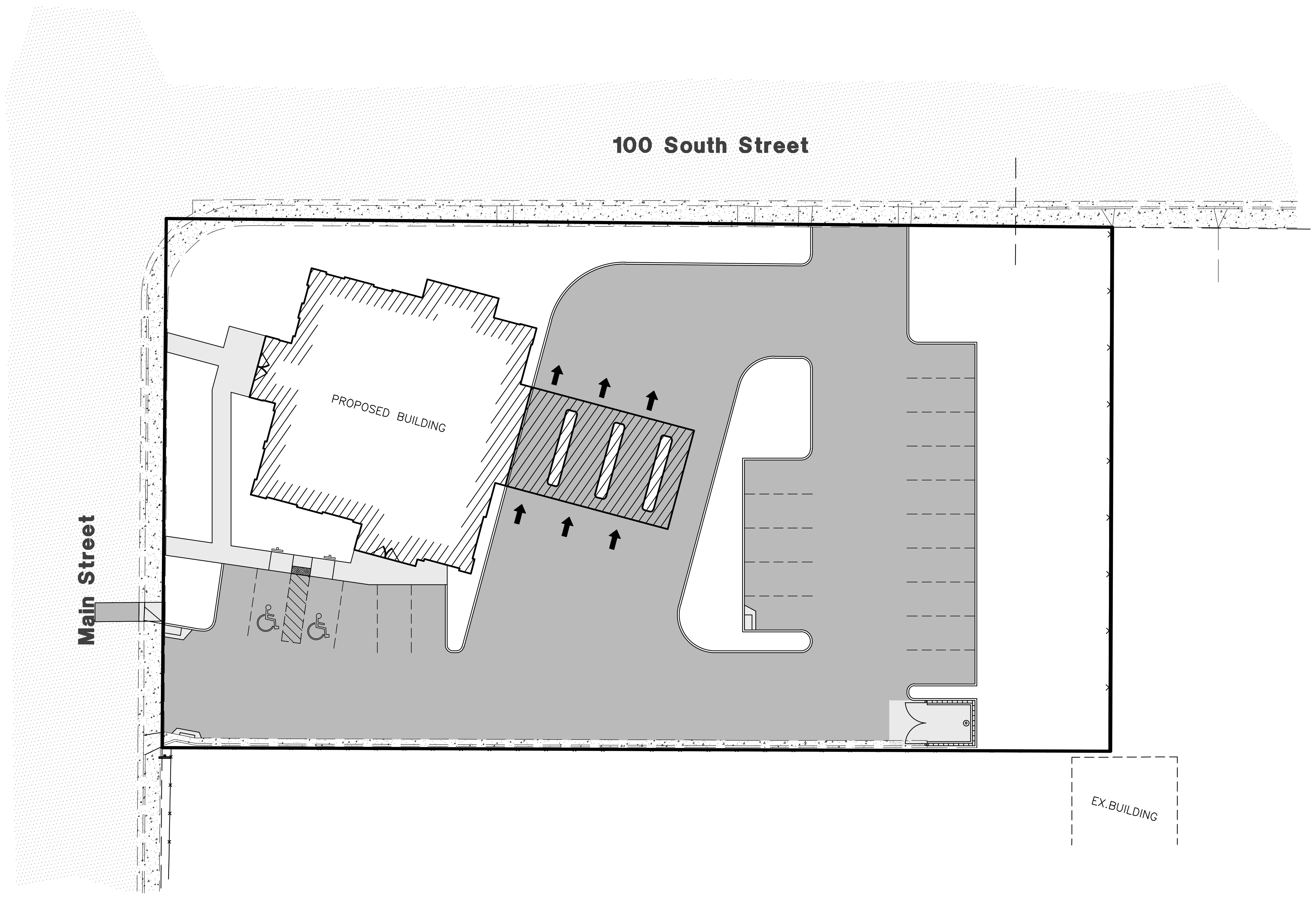
Bank of American Fork - Alpine Branch

Improvement Plans

ALPINE CITY, UTAH COUNTY, UTAH
NOVEMBER 2018



Vicinity Map
NOT TO SCALE



Site Information

PARKING STALLS	19
ADA STALLS	2
TOTAL STALLS	21
TOTAL PARCEL AREA	34,958 s.f.
BUILDING AREA	4,166 s.f. 11.9%
HARD SURFACED AREA	17,805 s.f. 50.9%
LANDSCAPE AREA	12,987 s.f. 37.2%

Sheet Index

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

Engineer's Notice To Contractors

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED FROM AVAILABLE INFORMATION PROVIDED BY OTHERS. THE LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE CONFIRMED IN THE FIELD BY THE CONTRACTOR, SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENT. THE CONTRACTOR IS REQUIRED TO CONTACT THE UTILITY COMPANIES AND TAKE DUE PRECAUTIONARY MEASURE TO PROTECT ANY UTILITY LINES SHOWN, AND ANY OTHER LINES OBTAINED BY THE CONTRACTOR'S RESEARCH, AND OTHERS NOT OF RECORD OR NOT SHOWN ON THESE PLANS.

Developer Contact:
Jason Sandburg
PH: (801) 769-3000

Project Contact:
Project Manager: Jeremy Draper
Project Engineer: Thomas Hunt

Reeve & Associates, Inc.
5160 SOUTH 1500 WEST, RIVERDALE, UTAH 84405
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
12-05-18 CK	Trash Enclosure
01-02-19 CK	Pavement Depths
01-07-19 CK	City Comments

Bank of American Fork - Alpine Branch
ALPINE CITY, UTAH COUNTY, UTAH

Cover/Index Sheet

PROFESSIONAL ENGINEER
THOMAS J. HUNT
01/07/2019
STATE OF UTAH

Project Info.
Engineer: THOMAS J. HUNT, P.E.
Drafter: C. KINGSLEY
Begin Date: NOVEMBER 2018
Name: BANK OF AMERICAN FORK ALPINE BRANCH
Number: 6789-10

Sheet 1 of 10 Sheets

Reeve & Associates, Inc. - Solutions You Can Build On

General Notes:

1. ALL CONSTRUCTION MUST STRICTLY FOLLOW THE STANDARDS AND SPECIFICATIONS SET FORTH BY: GOVERNING UTILITY MUNICIPALITY, GOVERNING CITY OR COUNTY (IF UN–INCORPORATETED), INDIVIDUAL PRODUCT MANUFACTURERS, AMERICAN PUBLIC WORKS ASSOCIATION (APWA), AND THE DESIGN ENGINEER. THE ORDER LISTED ABOVE IS ARRANGED BY SENIORITY. IF A CONSTRUCTION PRACTICE IS NOT SPECIFIED BY ANY OF THE LISTED SOURCES, CONTRACTOR MUST CONTACT DESIGN ENGINEER FOR DIRECTION.
2. CONTRACTOR TO STRICTLY FOLLOW GEOTECHNICAL RECOMMENDATIONS FOR THIS PROJECT. ALL GRADING INCLUDING BUT NOT LIMITED TO CUT, FILL, COMPACTION, ASPHALT SECTION, SUBBASE, TRENCH EXCAVATLON/BACKFILL, SITE GRUBBING, RETAINING WALLS AND FOOTINGS MUST BE COORDINATED DIRECTLY WITH THE PROJECT GEOTECHNICAL ENGINEER.
3. TRAFFIC CONTROL, STRIPING &' SIGNAGE TO CONFORM TO CURRENT GOVERNING AGENCIES TRANSPORTATION ENGINEER'S MANUAL AND MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
4. ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO OWNER.
5. CONSULT ALL OF THE DRAWINGS AND SPECIFICATIONS FOR COORDINATION REQUIREMENTS BEFORE COMMENCING CONSTRUCTION.
6. AT ALL LOCATIONS WHERE EXISTING PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE.
7. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MOST RECENT, ADOPTED EDITION OF ADA ACCESSIBILITY GUIDELINES.
8. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED THOROUGHLY REVIEWED PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
9. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND NOTIFYING ENGINEER OR INSPECTING AUTHORITY 48 HOURS IN ADVANCE OF COVERING UP ANY PHASE OF CONSTRUCTION REQUIRING OBSERVATION.
10. ANY WORK IN THE PUBLIC RIGHT–OF–WAY WILL REQUIRE PERMITS FROM THE APPROPRIATE CITY, COUNTY OR STATE AGENCY CONTROLLING THE ROAD, INCLUDING OBTAINING REQUIRED INSPECTIONS.
11. ALL DIMENSIONS, GRADES & UTILITY DESIGNS SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES.
12. CONTRACTOR MUST VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING AND BRING UP ANY QUESTIONS BEFOREHAND.
13. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH BY THE GEOTECHNICAL ENGINEER.
14. CATCH SLOPES SHALL BE GRADED AS SPECIFIED ON GRADING PLANS.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FLAGGING, CAUTION SIGNS, LIGHTS, BARRICADES, FLAGMEN, AND ALL OTHER DEVICES NECESSARY FOR PUBLIC SAFETY.
16. CONTRACTOR SHALL, AT THE TIME OF BIDDING AND THROUGHOUT THE PERIOD OF THE CONTRACT, BE LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED AND SHALL BE BONDABLE FOR AN AMOUNT EQUAL TO OR GREATER THAN THE AMOUNT BID AND TO DO THE TYPE OF WORK CONTEMPLATED IN THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PLANS AND SPECIFICATIONS.
17. CONTRACTOR SHALL INSPECT THE SITE OF THE WORK PRIOR TO BIDDING TO SATISFY HIMSELF BY PERSONAL EXAMINATION OR BY SUCH OTHER MEANS AS HE MAY PREFER OF THE LOCATIONS OF THE PROPOSED WORK AND OF THE ACTUAL CONDITIONS OF AND AT THE SITE OF WORK. IF, DURING THE COURSE OF HIS EXAMINATION, A BIDDER FINDS FACTS OR CONDITIONS WHICH APPEAR TO HIM TO BE IN CONFLICT WITH THE LETTER OR SPIRIT OF THE PROJECT PLANS AND SPECIFICATIONS, HE SHALL CONTACT THE ENGINEER FOR ADDITIONAL INFORMATION AND EXPLANATION BEFORE SUBMITTING HIS BID. SUBMISSION OF A BID BY THE CONTRACTOR SHALL CONSTITUTE ACKNOWLEDGMENT THAT, IF AWARDED THE CONTRACT, HE HAS RELIED AND IS RELYING ON HIS OWN EXAMINATION OF (1) THE SITE OF THE WORK, (2) ACCESS TO THE SITE, AND (3) ALL OTHER DATA AND MATTERS REQUISITE TO THE FULFILLMENT OF THE WORK AND ON HIS OWN KNOWLEDGE OF EXISTING FACILITIES ON AND IN THE VICINITY OF THE SITE OF THE WORK TO BE CONSTRUCTED UNDER THIS CONTRACT. THE INFORMATION PROVIDED BY THE ENGINEER IS NOT INTENDED TO BE A SUBSTITUTE FOR, OR A SUPPLEMENT TO, THE INDEPENDENT VERIFICATION BY THE CONTRACTOR TO THE EXTENT SUCH INDEPENDENT INVESTIGATION OF SITE CONDITIONS IS DEEMED NECESSARY OR DESIRABLE BY THE CONTRACTOR. CONTRACTOR SHALL ACKNOWLEDGE THAT HE HAS NOT RELIED SOLELY UPON OWNER– OR ENGINEER–FURNISHED INFORMATION REGARDING SITE CONDITIONS IN PREPARING AND SUBMITTING HIS BID.
18. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL WATER, POWER, SANITARY FACILITIES AND TELEPHONE SERVICES AS REQUIRED FOR THE CONTRACTOR'S USE DURING CONSTRUCTION.
19. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE OWNER, ENGINEER, AND/OR GOVERNING AGENCIES.
20. CONTRACTOR SHALL EXERCISE DUE CAUTION AND SHALL CAREFULLY PRESERVE BENCH MARKS, CONTROL POINTS, REFERENCE POINTS AND ALL SURVEY STAKES, AND SHALL BEAR ALL EXPENSES FOR REPLACEMENT AND/OR ERRORS CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE.
21. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOBSITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
22. CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES CONSTRUCTED UNDER THIS CONTRACT. ALL TESTING SHALL CONFORM TO THE REGULATORY AGENCY'S STANDARD SPECIFICATIONS. ALL TESTING AND INSPECTION SHALL BE PAID FOR BY THE OWNER; ALL RE–TESTING AND/OR RE–INSPECTION SHALL BE PAID FOR BY THE CONTRACTOR.
23. IF EXISTING IMPROVEMENTS NEED TO BE DISTURBED AND/OR REMOVED FOR THE PROPER PLACEMENT OF IMPROVEMENTS TO BE CONSTRUCTED BY THESE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE. COST OF REPLACING OR REPAIRING EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS REQUIRING REMOVAL AND/OR REPLACEMENT. THERE WILL BE NO EXTRA COST DUE TO THE CONTRACTOR FOR REPLACING OR REPAIRING EXISTING IMPROVEMENTS.
24. WHENEVER EXISTING FACILITIES ARE REMOVED, DAMAGED, BROKEN, OR CUT IN THE INSTALLATION OF THE WORK COVERED BY THESE PLANS OR SPECIFICATIONS, SAID FACILITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE WITH MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL EXISTING FACILITIES. THE FINISHED PRODUCT SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER, THE ENGINEER, AND THE RESPECTIVE REGULATORY AGENCY.
25. CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL–SIZE AS–BUILT RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL STRUCTURES AND OTHER FACILITIES. AS–BUILT RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOMMODATIONS, AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED. WHERE NECESSARY, SUPPLEMENTAL DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR. PRIOR TO ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL DELIVER TO THE ENGINEER ONE SET OF NEATLY MARKED AS–BUILT RECORD DRAWINGS SHOWING THE INFORMATION REQUIRED ABOVE. AS–BUILT RECORD DRAWINGS SHALL BE REVIEWED AND THE COMPLETE AS–BUILT RECORD DRAWING SET SHALL BE CURRENT WITH ALL CHANGES AND DEVIATIONS REDLINED AS A PRECONDITION TO THE FINAL PROGRESS PAYMENT APPROVAL AND/OR FINAL ACCEPTANCE.
26. WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE HIGHEST QUALITY ARE TO BE USED.
27. CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PROJECT PLANS AND SPECIFICATIONS. THEREFORE, THE OWNER IS RELYING UPON THE EXPERIENCE AND EXPERTISE OF THE CONTRACTOR. PRICES PROVIDED WITHIN THE CONTRACT DOCUMENTS SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THAT THE WORK BE COMPLETED IN ACCORDANCE WITH THE TRUE INTENT AND PURPOSE OF THESE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE COMPETENT, KNOWLEDGEABLE AND HAVE SPECIAL SKILLS IN THE NATURE, EXTENT AND INHERENT CONDITIONS OF THE WORK TO BE PERFORMED. CONTRACTOR SHALL ALSO ACKNOWLEDGE THAT THERE ARE CERTAIN PECULIAR AND INHERENT CONDITIONS EXISTENT IN THE CONSTRUCTION OF THE PARTICULAR FACILITIES WHICH MAY CREATE, DURING THE CONSTRUCTION PROGRAM, UNUSUAL OR UNSAFE CONDITIONS HAZARDOUS TO PERSONS, PROPERTY AND THE ENVIRONMENT. CONTRACTOR SHALL BE AWARE OF SUCH PECULIAR RISKS AND HAVE THE SKILL AND EXPERIENCE TO FORESEE AND TO ADOPT PROTECTIVE MEASURES TO ADEQUATELY AND SAFELY PERFORM THE CONSTRUCTION WORK WITH RESPECT TO SUCH HAZARDS.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL STRIPING AND/OR PAVEMENT MARKINGS NECESSARY TO TIE EXISTING STRIPING INTO FUTURE STRIPING. METHOD OF REMOVAL SHALL BE BY GRINDING OR SANDBLASTING.
29. CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, SLOPING OR OTHER PROVISIONS NECESSARY TO PROTECT WORKMEN FOR ALL AREAS TO BE EXCAVATED TO A DEPTH OF 4 FEET OR MORE. FOR EXCAVATIONS 4 FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL COMPLY WITH LOCAL, STATE AND NATIONAL SAFETY CODES, ORDINANCES. OR REQUIREMENTS FOR EXCAVATION AND TRENCHES.
30. ALL EXISTING GATES AND FENCES TO REMAIN UNLESS OTHERWISE NOTED ON PLANS. PROTECT ALL GATES AND FENCES FROM DAMAGE

Utility Notes:

1. CONTRACTOR SHALL COORDINATE LOCATION OF NEW "DRY UTILITIES" WITH THE APPROPRIATE UTILITY COMPANY, INCLUDING BUT NOT LIMITED TO: TELEPHONE SERVICE, GAS SERVICE, CABLE, POWER, INTERNET.
2. EXISTING UTILITIES HAVE BEEN SHOWN ON THE PLANS USING A COMBINATION OF ON–SITE SURVEYS (BY OTHERS). PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE IN THE FIELD, THEIR MAIN AND SERVICE LINES 48 HOURS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK. THE CONTRACTOR SHALL RECORD THE BLUE STAKES ORDER NUMBER AND FURNISH ORDER NUMBER TO OWNER AND ENGINEER PRIOR TO ANY EXCAVATION. IT WILL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DIRECTLY CONTACT ANY OTHER UTILITY COMPANIES THAT ARE NOT MEMBERS OF BLUE STAKES. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF THIS CONTRACT. ANY REPAIRS NECESSARY TO DAMAGED UTILITIES SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICE TO THE PROJECT.
3. CONTRACTOR SHALL POT HOLE ALL UTILITIES TO DETERMINE IF CONFLICTS EXIST PRIOR TO BEGINNING ANY EXCAVATION. NOTIFY ENGINEER OF ANY CONFLICTS. CONTRACTOR SHALL VERIFY LOCATION AND INVERTS OF EXISTING UTILITIES TO WHICH NEW UTILITIES WILL BE CONNECTED. PRIOR TO COMMENCING ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH THE REQUIRED PROCEDURES.
4. CARE SHOULD BE TAKEN IN ALL EXCAVATIONS DUE TO POSSIBLE EXISTENCE OF UNRECORDED UTILITY LINES. EXCAVATION REQUIRED WITHIN PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT HIS EXPENSE.
5. ALL VALVES AND MANHOLE COVERS SHALL BE RAISED OR LOWERED TO MEET FINISHED GRADE.
6. CONTRACTOR SHALL CUT PIPES OFF FLUSH WITH THE INSIDE WALL OF THE BOX OR MANHOLE.
7. CONTRACTOR SHALL GROUT AT CONNECTION OF PIPE TO BOX WITH NON–SHRINKING GROUT, INCLUDING PIPE VOIDS LEFT BY CUTTING PROCESS, TO A SMOOTH FINISH.
8. CONTRACTOR SHALL GROUT WITH NON–SHRINK GROUT BETWEEN GRADE RINGS AND BETWEEN BOTTOM OF INLET LID FRAME AND TOP OF CONCRETE BOX
9. SILT AND DEBRIS IS TO BE CLEANED OUT OF ALL STORM DRAIN BOXES. CATCH BASINS ARE TO BE MAINTAINED IN A CLEANED CONDITION AS NEEDED UNTIL AFTER THE FINAL BOND RELEASE INSPECTION.
10. CONTRACTOR SHALL CLEAN ASPHALT, TAR OR OTHER ADHESIVES OFF OF ALL MANHOLE LIDS AND INLET GRATES TO ALLOW ACCESS.
11. EACH TRENCH SHALL BE EXCAVATED SO THAT THE PIPE CAN BE LAID TO THE ALIGNMENT AND GRADE AS REQUIRED. THE TRENCH WALL SHALL BE SO BRACED THAT THE WORKMEN MAY WORK SAFELY AND EFFICIENTLY. ALL TRENCHES SHALL BE DRAINED SO THE PIPE LAYING MAY TAKE PLACE IN DE–WATERED CONDITIONS.
12. CONTRACTOR SHALL PROVIDE AND MAINTAIN AT ALL TIMES AMPLE MEANS AND DEVICES WITH WHICH TO REMOVE PROMPTLY AND TO PROPERLY DISPOSE OF ALL WATER ENTERING THE TRENCH EXCAVATION.
13. MAINTAIN A MINIMUM 18" VERTICAL SEPARATION DISTANCE BETWEEN ALL UTILITY CROSSINGS.
14. CONTRACTOR SHALL START INSTALLATION AT LOW POINT OF ALL NEW GRAVITY UTILITY LINES.
15. ALL BOLTED FITTINGS MUST BE GREASED AND WRAPPED.
16. UNLESS SPECIFICALLY NOTED OTHERWISE, MAINTAIN AT LEAST 2 FEET OF COVER OVER ALL STORM DRAIN LINES AT ALL TIMES (INCLUDING DURING CONSTRUCTION).
17. ALL WATER LINES SHALL BE INSTALLED A MINIMUM OF 60" BELOW FINISHED GRADE.
18. ALL SEWER LINES AND SEWER SERVICES SHALL HAVE A MINIMUM SEPARATION OF 10 FEET, PIPE EDGE TO PIPE EDGE, FROM THE WATER LINES. IF A 10 FOOT SEPARATION CAN NOT BE MAINTAINED, THE SEWER LINE AND WATER LINE SHALL BE LAID IN SEPARATE TRENCHES AND THE BOTTOM OF THE WATER LINE SHALL BE AT LEAST 18" ABOVE THE TOP OF THE SEWER LINE.
19. CONTRACTOR SHALL INSTALL THRUST BLOCKING AT ALL WATERLINE ANGLE POINTS AND TEES.
20. ALL UNDERGROUND UTILITIES SHALL BE IN PLACE PRIOR TO INSTALLATION OF CURB, GUTTER, SIDEWALK AND STREET PAVING.
21. CONTRACTOR SHALL INSTALL MAGNETIC LOCATING TAPE CONTINUOUSLY OVER ALL NONMETALLIC PIPE.

Erosion Control General Notes:

THE CONTRACTOR TO USE BEST MANAGEMENT PRACTICES FOR PROVIDING EROSION CONTROL FOR CONSTRUCTION OF THIS PROJECT. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO GOVERNING AGENCIES ORDINANCES AND ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE COUNTIES. ALSO, INSPECTORS WILL HAVE THE RIGHT TO CHANGE THE FACILITIES AS NEEDED.

CONTRACTOR SHALL KEEP THE SITE WATERED TO CONTROL DUST. CONTRACTOR TO LOCATE A NEARBY HYDRANT FOR USE AND TO INSTALL TEMPORARY METER. CONSTRUCTION WATER COST TO BE INCLUDED IN BID.

WHEN GRADING OPERATIONS ARE COMPLETED AND THE DISTURBED GROUND IS LEFT OPEN FOR 14 DAYS OR MORE, THE AREA SHALL BE FURROWED PARALLEL TO THE CONTOURS.

THE CONTRACTOR SHALL MODIFY EROSION CONTROL MEASURES TO ACCOMMODATE PROJECT PLANNING.

ALL ACCESS TO PROPERTY WILL BE FROM PUBLIC RIGHT–OF–WAYS.
THE CONTRACTOR IS REQUIRED BY STATE AND FEDERAL REGULATIONS TO PREPARE A STORM WATER POLLUTION PREVENTION PLAN AND FILE A "NOTICE OF INTENT" WITH THE GOVERNING AGENCIES.

Maintenance:

ALL BEST MANAGEMENT PRACTICES (BMP'S) SHOWN ON THIS PLAN MUST BE MAINTAINED AT ALL TIMES UNTIL PROJECT CLOSE–OUT.

THE CONTRACTOR'S RESPONSIBILITY SHALL INCLUDE MAKING BI–WEEKLY CHECKS ON ALL EROSION CONTROL MEASURES TO DETERMINE IF REPAIR OR SEDIMENT REMOVAL IS NECESSARY. CHECKS SHALL BE DOCUMENTED AND COPIES OF THE INSPECTIONS KEPT ON SITE.

SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE–HALF THE HEIGHT OF BARRIER.

SEDIMENT TRACKED ONTO PAVED ROADS MUST BE CLEANED UP AS SOON AS PRACTICAL, BUT IN NO CASE LATER THAN THE END OF THE NORMAL WORK DAY. THE CLEAN UP WILL INCLUDE SWEEPING OF THE TRACKED MATERIAL, PICKING IT UP, AND DEPOSITING IT TO A CONTAINED AREA.

EXPOSED SLOPES:

ANY EXPOSED SLOPE THAT WILL REMAIN UNTOUCHED FOR LONGER THAN 14 DAYS MUST BE STABILIZED BY ONE OR MORE OF THE FOLLOWING METHODS:
- A) SPRAYING DISTURBED AREAS WITH A TACKIFIER VIA HYDROSEED
- B) TRACKING STRAW PERPENDICULAR TO SLOPES
- C) INSTALLING A LIGHT–WEIGHT, TEMPORARY EROSION CONTROL BLANKET

Notice to Contractor:

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS ARE BASED UPON RECORDS OF THE VARIOUS UTILITY COMPANIES AND/OR MUNICIPALITIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.

THE CONTRACTOR AGREES THAT THEY SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER AND THE ENGINEERS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.

Survey Control Note:

THE CONTRACTOR OR SURVEYOR SHALL BE RESPONSIBLE FOR FOLLOWING THE NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS (NSPS) MODEL STANDARDS FOR ANY SURVEYING OR CONSTRUCTION LAYOUT TO BE COMPLETED USING REEVE & ASSOCIATES, INC. SURVEY DATA OR CONSTRUCTION IMPROVEMENT PLANS. PRIOR TO PROCEEDING WITH CONSTRUCTION STAKING, THE SURVEYOR SHALL BE RESPONSIBLE FOR VERIFYING HORIZONTAL CONTROL FROM THE SURVEY MONUMENTS AND FOR VERIFYING ANY ADDITIONAL CONTROL POINTS SHOWN ON AN ALTA SURVEY, IMPROVEMENT PLAN, OR ANY ELECTRONIC DATA PROVIDED. THE SURVEYOR SHALL ALSO USE THE BENCHMARKS AS SHOWN ON THE PLAN, AND VERIFY THEM AGAINST NO LESS THAN FIVE (5) EXISTING HARD IMPROVEMENT ELEVATIONS INCLUDED ON THESE PLANS OR ON ELECTRONIC DATA PROVIDED. IF ANY DISCREPANCIES ARE ENCOUNTERED, THE SURVEYOR SHALL IMMEDIATELY NOTIFY REEVE & ASSOCIATES, INC. AND RESOLVE THE DISCREPANCIES BEFORE PROCEEDING WITH ANY CONSTRUCTION STAKING.

Legend

—W—	= PROPOSED CULINARY WATER LINE	FC	= FENCE CORNER
— —EX.W — — —	= EXISTING CULINARY WATER LINE	FF	= FINISH FLOOR
—SS—	= PROPOSED SANITARY SEWER LINE	FFE	= FINISH FLOOR ELEVATION
— —EX.SS — —	= EXISTING SANITARY SEWER LINE	FG	= FINISHED GRADE
—SD—	= PROPOSED STORM DRAIN LINE	FH	= FIRE HYDRANT
— —EX.SD — —	= EXISTING STORM DRAIN LINE	FL	= FLOW LINE
—×—×	= FENCE LINE	GB	= GRADE BREAK
	= PROPOSED FIRE HYDRANT	INV	= INVERT
	= EXISTING FIRE HYDRANT	L.F.	= LINEAR FEET
	= PROPOSED MANHOLE	NG	= NATURAL GRADE
	= EXISTING MANHOLE	PP	= POWER/UTILITY POLE
	= PROPOSED SEWER CLEAN-OUT	P.U.E.	= PUBLIC UTILITY EASEMENT
	= PROPOSED GATE VALVE	RCP	= REINFORCED CONCRETE PIPE
	= EXISTING GATE VALVE	RIM	= RIM OF MANHOLE
	= PROPOSED WATER METER	R.O.W.	= RIGHT-OF-WAY
	= EXISTING WATER METER	SD	= STORM DRAIN
	= PROPOSED CATCH BASIN	SS	= SANITARY SEWER
	= EXISTING CATCH BASIN	TBC	= TOP BACK OF CURB
	= PLUG W/ 2" BLOW-OFF	TOA	= TOP OF ASPHALT
	= PLUG & BLOCK	TOC	= TOP OF CONCRETE
	= STREET LIGHT	TOFF	= TOP OF FINISHED FLOOR
	= SIGN	TOI	= TOP OF PUMP ISLAND
BLDG	= BUILDING	TSW	= TOP OF SIDEWALK
C&G	= CURB & GUTTER	W	= CULINARY WATER
CB	= CATCH BASIN	WM	= WATER METER
C.F.	= CUBIC FEET		= EXISTING ASPHALT PAVEMENT
C.F.S.	= CUBIC FEET PER SECOND		= EXISTING CONCRETE
			= PROPOSED ASPHALT PAVEMENT
			= PROPOSED CONCRETE

Reeve & Associates, Inc.
5160 SOUTH 1500 WEST, RIVERDALE, UTAH 84405
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS * CIVIL ENGINEERS * LAND SURVEYORS
TRAFFIC ENGINEERS * STRUCTURAL ENGINEERS * LANDSCAPE ARCHITECTS

REVISIONS

DATE		DESCRIPTION
12–05–18	CK	Trash Enclosure
01–02–19	CK	Pavement Depths
01–07–19	CK	City Comments

Bank of American Fork - Alpine Branch

ALPINE CITY, UTAH COUNTY, UTAH

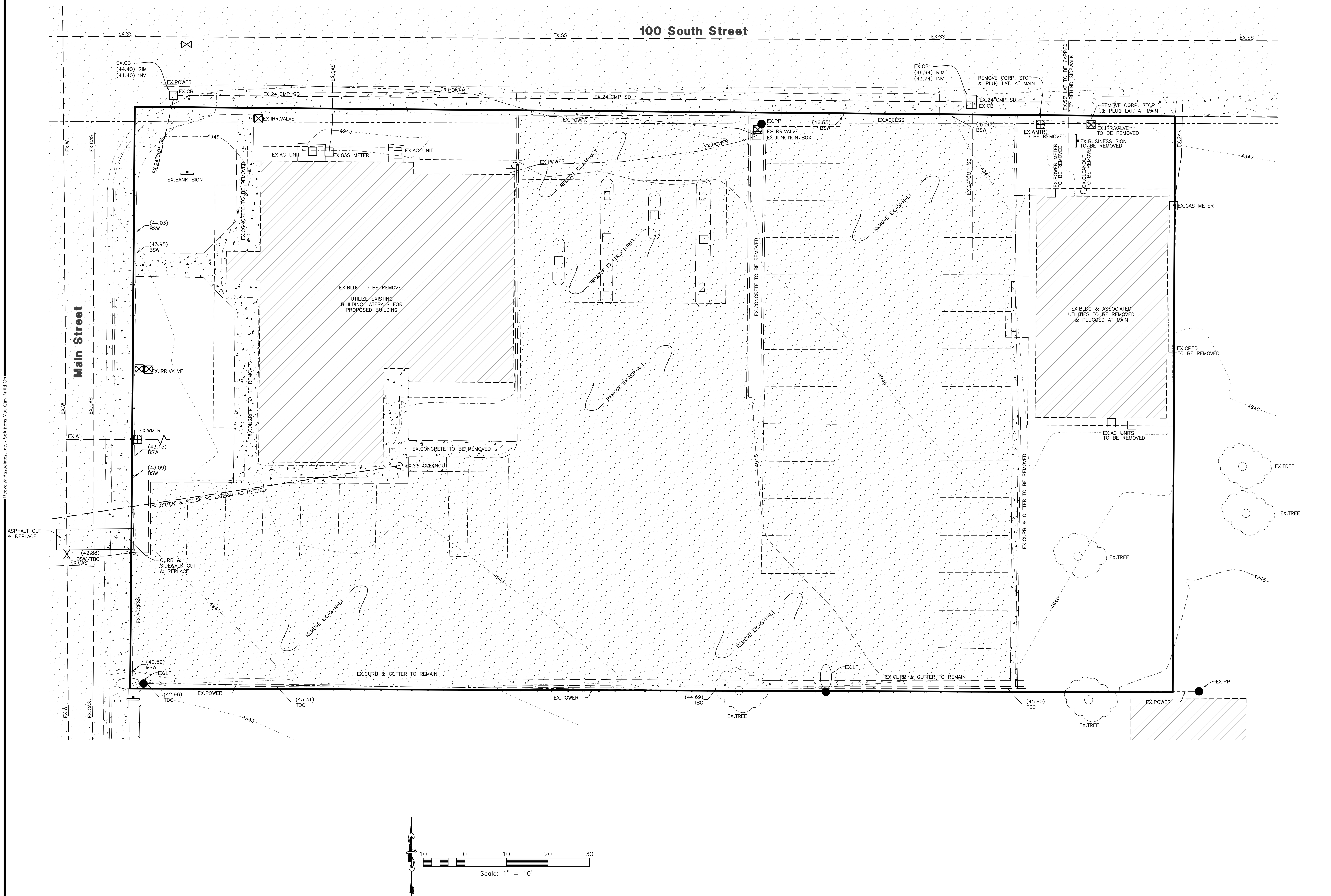
Notes/Legend/ Street Cross-Section

PROFESSIONAL ENGINEER
THOMAS J. HUNT
01/07/2019
STATE OF UTAH

Project Info.

Engineer: THOMAS J. HUNT, P.E.
Drafter: C. KINGSLEY
Begin Date: NOVEMBER 2018
Name: BANK OF AMERICAN FORK ALPINE BRANCH
Number: 6789–10

Sheet 2 / 10 Sheets



Reeve & Associates, Inc.

5160 SOUTH 1500 WEST, RIVERDALE, UTAH 84405
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS * CIVIL ENGINEERS * LAND SURVEYORS
TRAFFIC ENGINEERS * STRUCTURAL ENGINEERS * LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
12-05-18 CK	Trash Enclosure
01-02-19 CK	Pavement Depths
01-07-19 CK	City Comments

Bank of American Fork - Alpine Branch

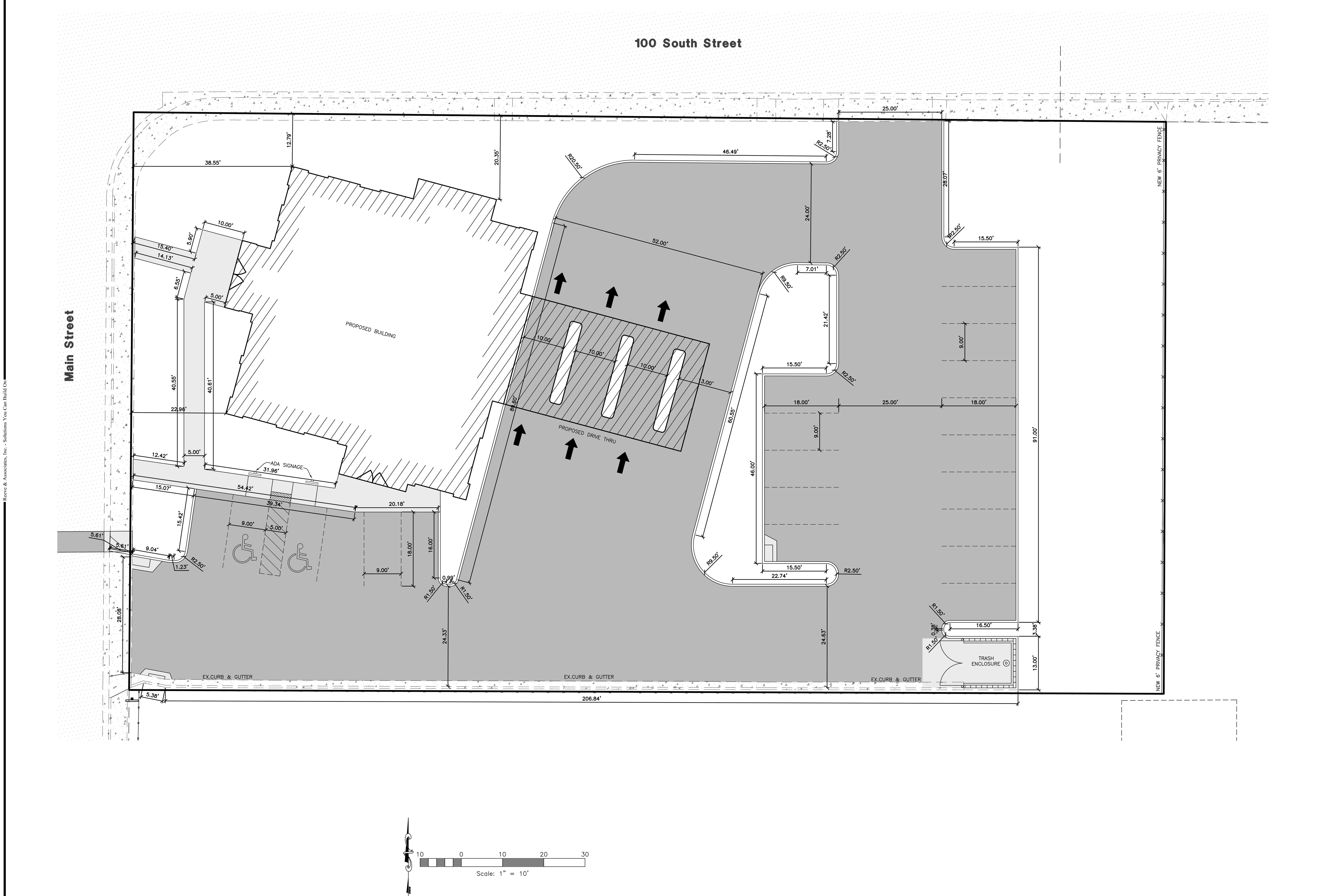
ALPINE CITY, UTAH COUNTY, UTAH

Existing Site & Demolition Plan

PROFESSIONAL ENGINEER
THOMAS J. HUNT
01/07/2019
STATE OF UTAH

Project Info.
Engineer: THOMAS J. HUNT, P.E.
Drafter: C. KINGSLEY
Begin Date: NOVEMBER 2018
Name: BANK OF AMERICAN FORK ALPINE BRANCH
Number: 6789-10

Sheet 3 of 10 Sheets



Reeve & Associates, Inc.
5160 SOUTH 1500 WEST, RIVERDALE, UTAH 84405
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS * CIVIL ENGINEERS * LAND SURVEYORS
TRAFFIC ENGINEERS * STRUCTURAL ENGINEERS * LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
12-05-18 CK	Trash Enclosure
01-02-19 CK	Pavement Depths
01-07-19 CK	City Comments

Bank of American Fork - Alpine Branch

ALPINE CITY, UTAH COUNTY, UTAH

Proposed Site Plan

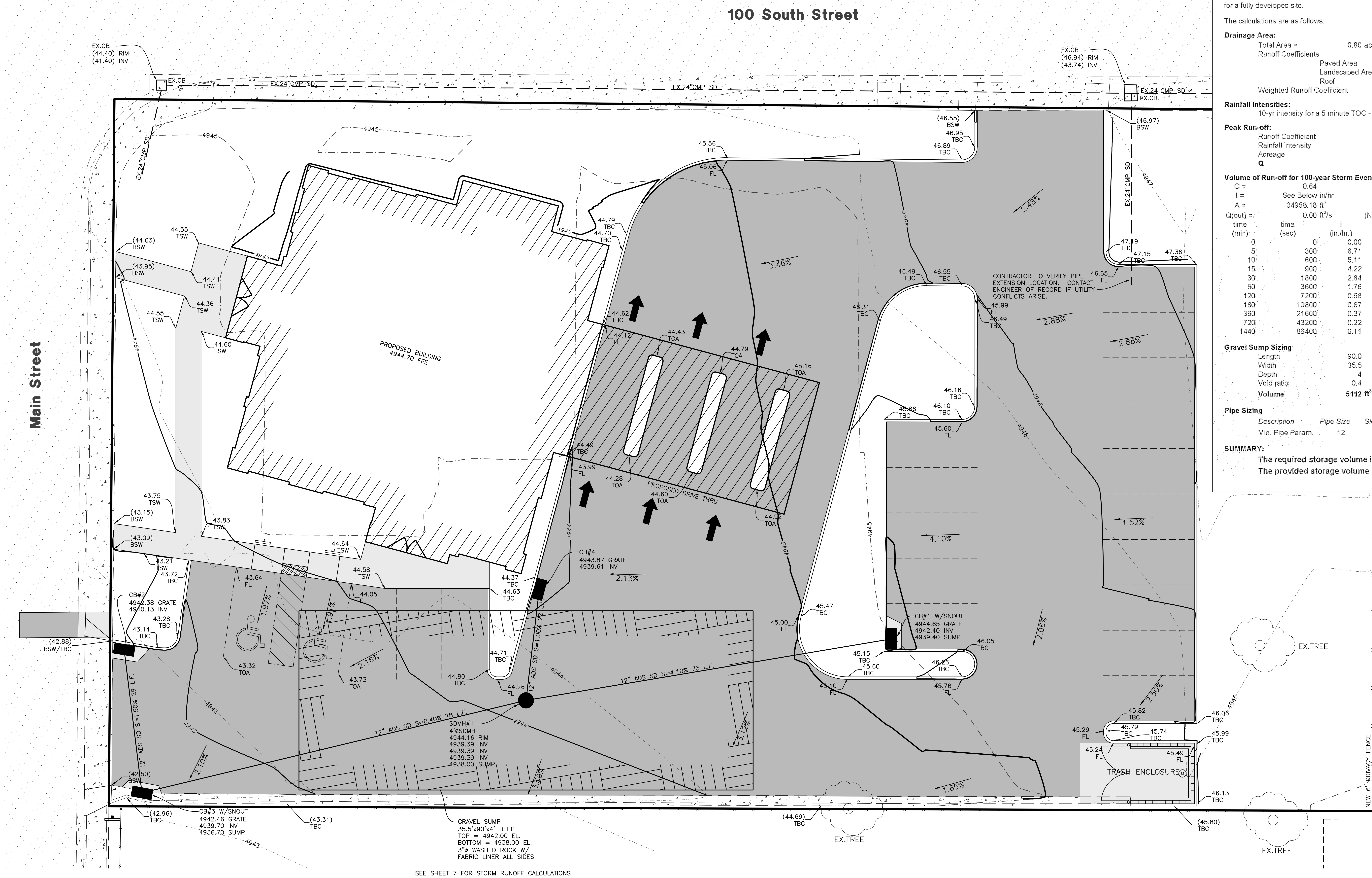
PROFESSIONAL ENGINEER
THOMAS J. HUNT
01/07/2019
STATE OF UTAH

Project Info.

Engineer: THOMAS J. HUNT, P.E.
Drafter: C. KINGSLEY
Begin Date: NOVEMBER 2018
Name: BANK OF AMERICAN FORK ALPINE BRANCH
Number: 6789-10

Sheet 4 | 10 Sheets

Reeve & Associates, Inc. - Solutions You Can Build On



SEE SHEET 7 FOR STORM RUNOFF CALCULATIONS

Scale: 1" = 10'

Storm Runoff Calculations

Bank of American Fork - Alpine Branch

11/27/2018 KHH

The following runoff calculations are based on the Rainfall - Intensity - Duration Frequency Curve for the Alpine, Utah area taken from the NOAA Atlas 14, Volume 1, Version 5 database on 11/21/18, using a 100 year storm for retention, and a 10 year storm for pipe conveyance. Storm water runoff has been calculated for a fully developed site.

The calculations are as follows:

Drainage Area:

Total Area =	0.80 acre or	34,958 ft^2	
Runoff Coefficients			
Paved Area		17,805	C = 0.9
Landscaped Area		12,987	C = 0.2
Roof		4,166	C = 0.9
Weighted Runoff Coefficient			C = 0.64

Rainfall Intensities:

10-yr intensity for a 5 minute TOC - Pipe Capacity 3.46 in/hr

Peak Run-off:

Runoff Coefficient	C =	0.64
Rainfall Intensity	i =	3.46 IN./HR.
Acreage	A =	0.80 ACRES
Q	**Q =**	**1.78 cfs**

Volume of Run-off for 100-year Storm Event:

C = 0.64
I = See Below in/hr
A = 34958.18 ft^2
Q(out) = 0.00 ft^3/s (No reduction due to percolation)

time (min)	time (sec)	i (in./hr.)	Q (cfs)	Vol. in (cf)	Vol. out (cf)	Difference (cf)
0	0	0.00	0.00	0	0	0
5	300	6.71	3.47	1042	0	1042
10	600	5.11	2.65	1588	0	1588
15	900	4.22	2.19	1967	0	1967
30	1800	2.84	1.47	2647	0	2647
60	3600	1.76	0.91	3281	0	3281
120	7200	0.98	0.51	3639	0	3639
180	10800	0.67	0.35	3730	0	3730
360	21600	0.37	0.19	4139	0	4139
720	43200	0.22	0.12	4989	0	4989
1440	86400	0.11	0.06	5056	0	5056

Gravel Sump Sizing

Length	90.0
Width	35.5
Depth	4
Void ratio	0.4
Volume	**5112 ft^3**

Pipe Sizing

Description	*Pipe Size*	*Slope*	*Cap. (cfs)*	*Req. Cap.*
Min. Pipe Param.	12	0.40%	2.27	1.78 MAX

SUMMARY:

The required storage volume is 5,056 cubic feet
The provided storage volume is 5,112 cubic feet

Reeve & Associates, Inc.
5160 SOUTH 1500 WEST, RIVERDALE, UTAH 84405
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE		DESCRIPTION
12-05-18	CK	Trash Enclosure
01-02-19	CK	Pavement Depths
01-07-19	CK	City Comments

Bank of American Fork - Alpine Branch

ALPINE CITY, UTAH COUNTY, UTAH

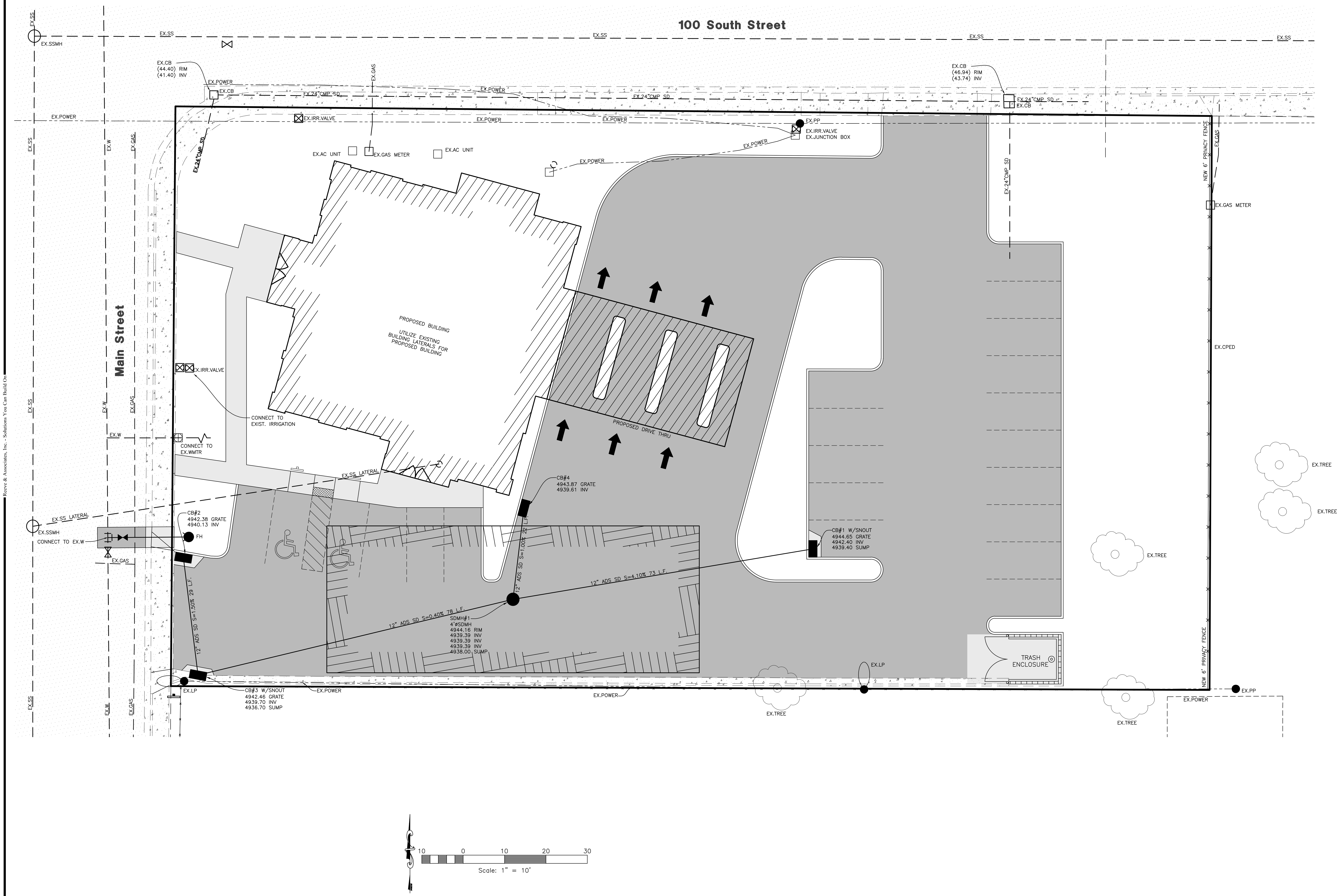
Grading & Drainage Plan

PROFESSIONAL ENGINEER
THOMAS J. HUNT
01/07/2019
STATE OF UTAH

Project Info.
Engineer: THOMAS J. HUNT, P.E.
Drafter: C. KINGSLEY
Begin Date: NOVEMBER 2018
Name: BANK OF AMERICAN FORK ALPINE BRANCH
Number: 6789-10

Sheet 5 of 10 Sheets

Reeve & Associates, Inc. - Solutions You Can Build On



Reeve & Associates, Inc.
5160 SOUTH 1500 WEST, RIVERDALE, UTAH 84405
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
12-05-18 CK	Trash Enclosure
01-02-19 CK	Pavement Depths
01-07-19 CK	City Comments

Bank of American Fork - Alpine Branch

ALPINE CITY, UTAH COUNTY, UTAH

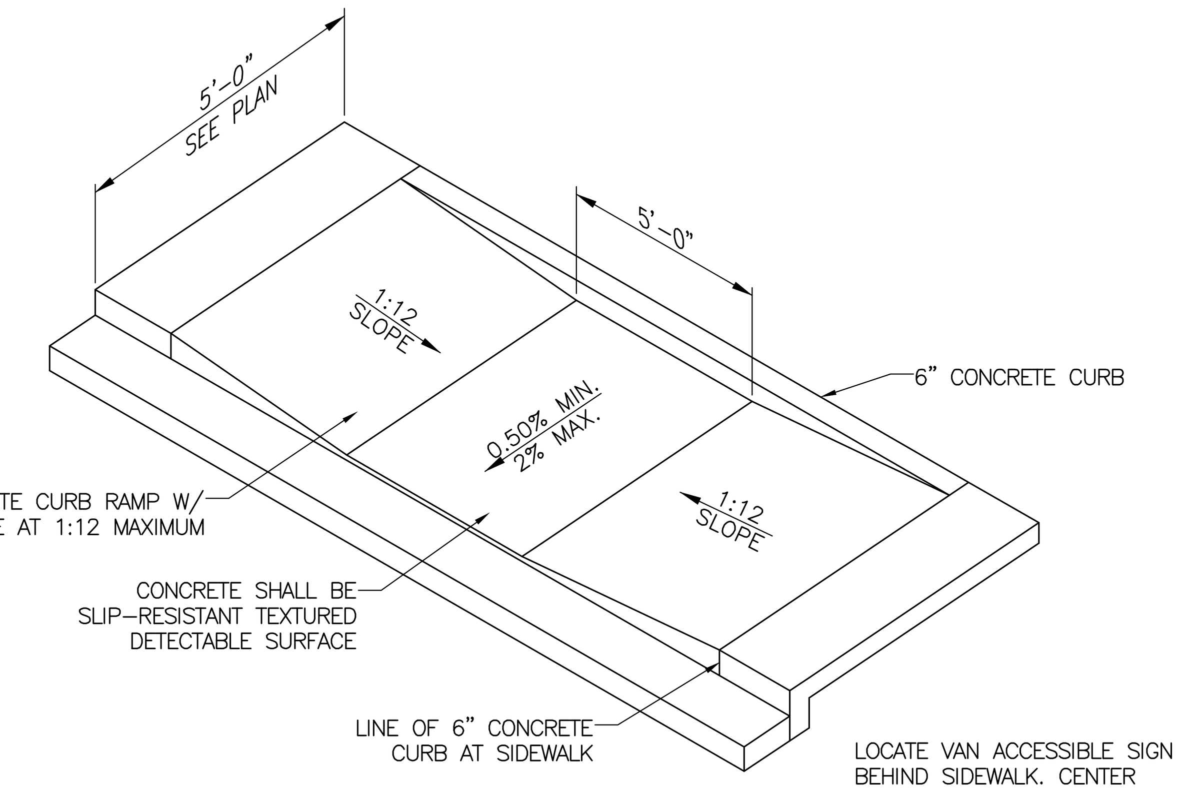
Utility Plan

PROFESSIONAL ENGINEER
THOMAS J. HUNT
01/07/2019
STATE OF UTAH

Project Info.

Engineer: THOMAS J. HUNT, P.E.
Drafter: C. KINGSLEY
Begin Date: NOVEMBER 2018
Name: BANK OF AMERICAN FORK ALPINE BRANCH
Number: 6789-10

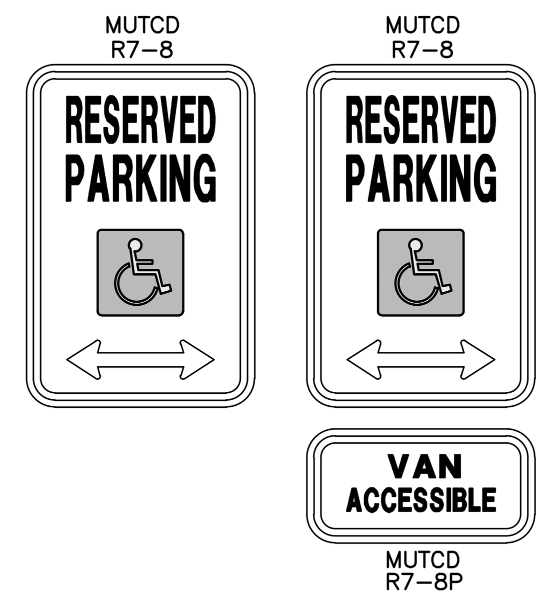
Sheet 6 of 10 Sheets



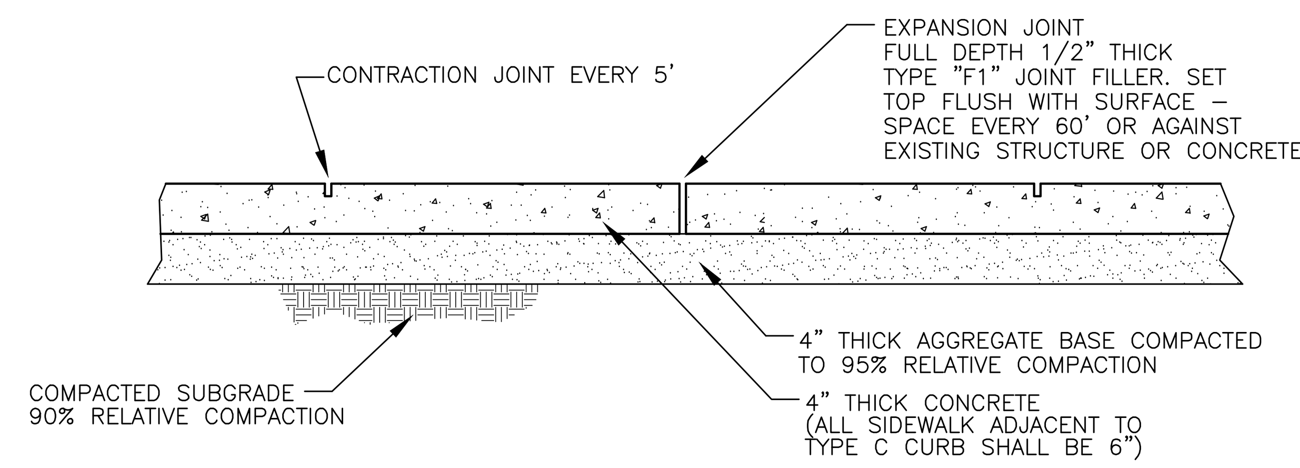
LOCATE VAN ACCESSIBLE SIGN BEHIND SIDEWALK. CENTER APPROX. 48" ABOVE WALK.

Handicap Ramp Detail

SCALE: NONE
REFERENCE APWA STANDARD PLAN NO. 236

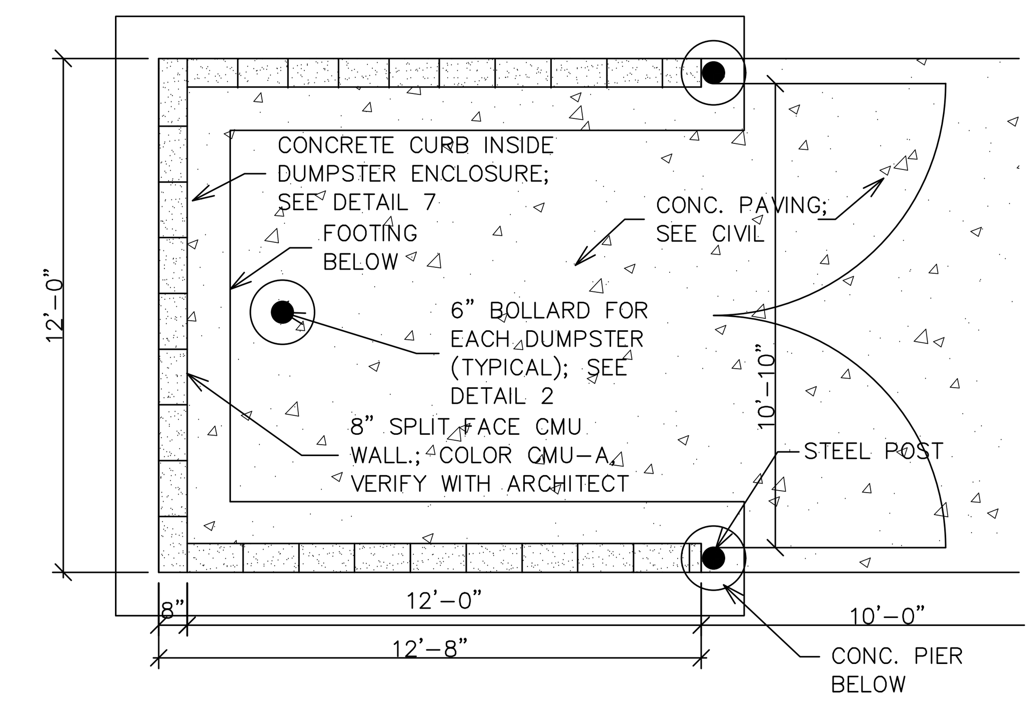


ADA Parking Signage



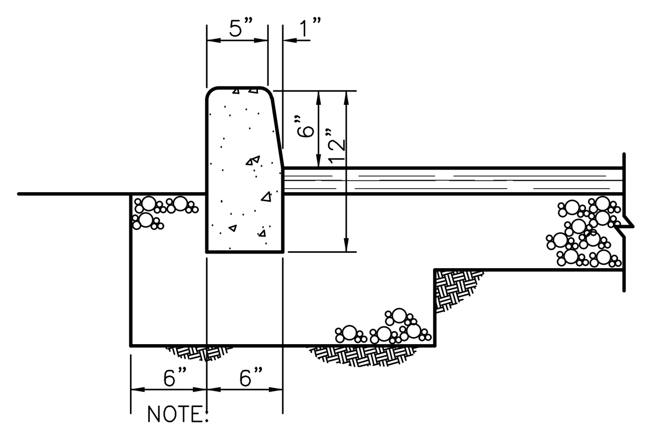
5' On-Site Concrete Sidewalk Section

SCALE: NONE



Single Trash Enclosure Detail

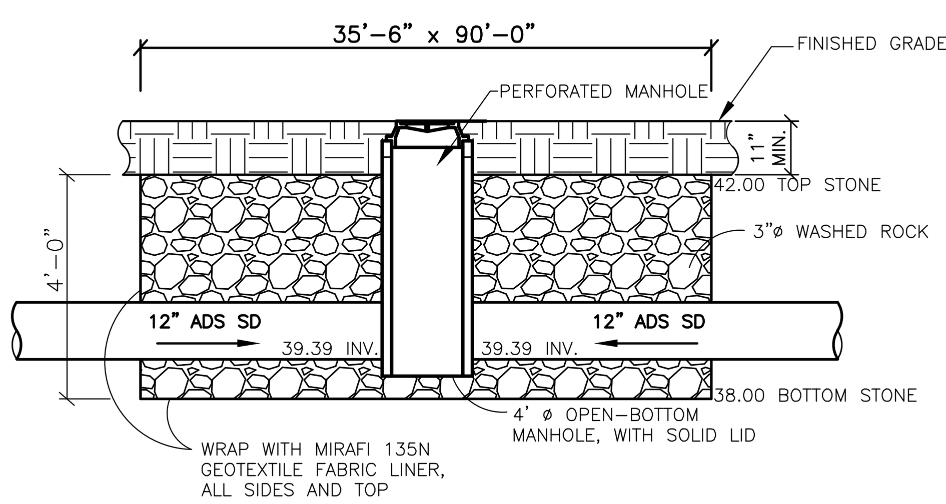
SCALE: NONE



PROVIDE 1/8" x 1" DEEP CONTROL JOINTS AT 8" O.C. MAX. JOINTS TO CONTINUE THROUGH CONC. OR CURB & GUTTER. PROVIDE 1/2" EXPANSION JOINTS AT 30' O.C.

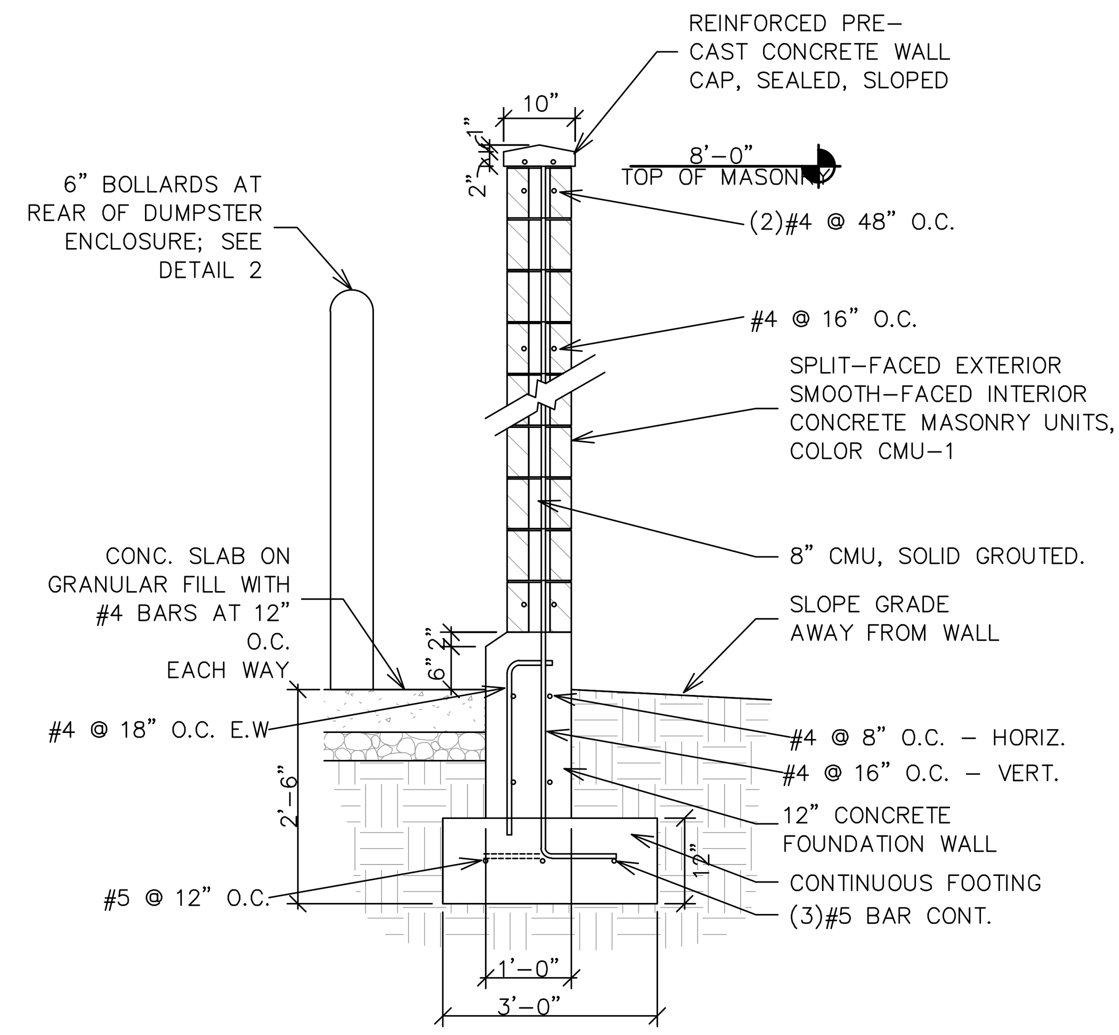
On-Site 'A' Type Curb Detail

SCALE: NONE



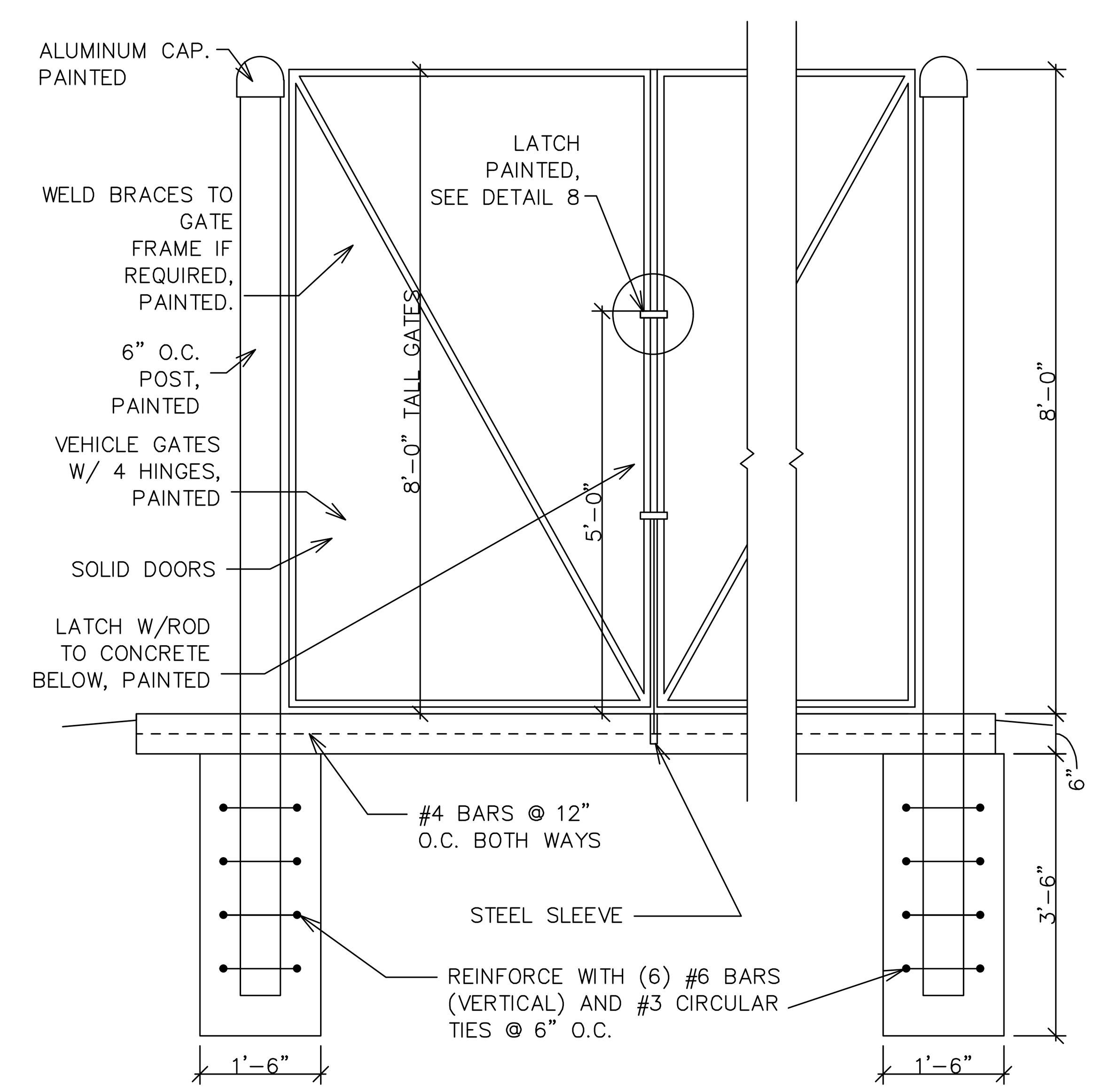
35.5'x90' Gravel Sump Detail

SCALE: NONE



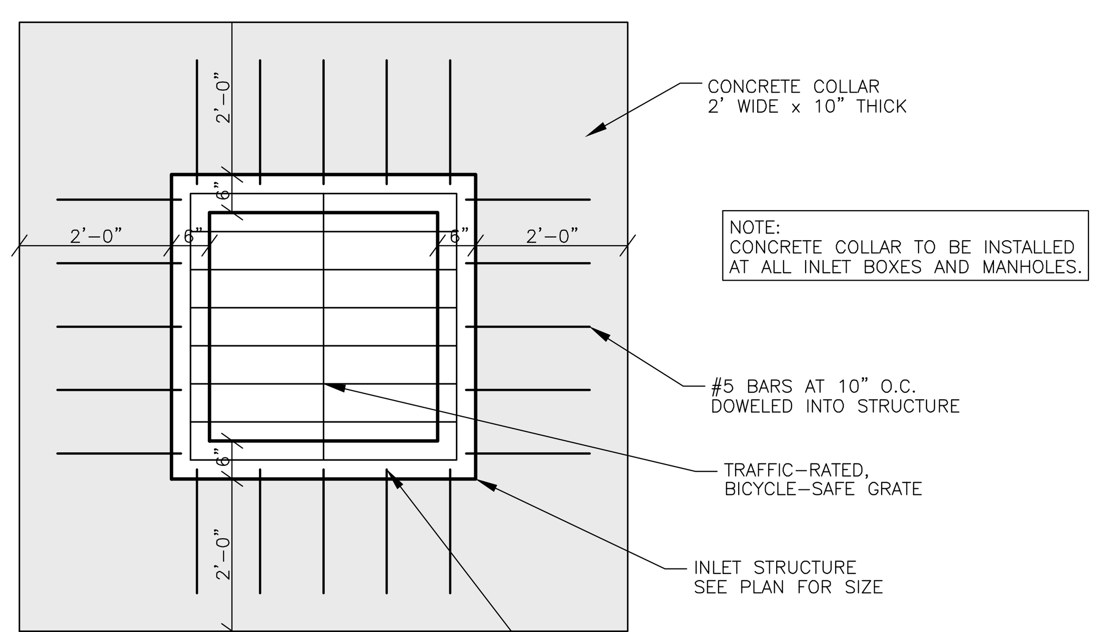
Trash Enclosure Wall Section

SCALE: NONE



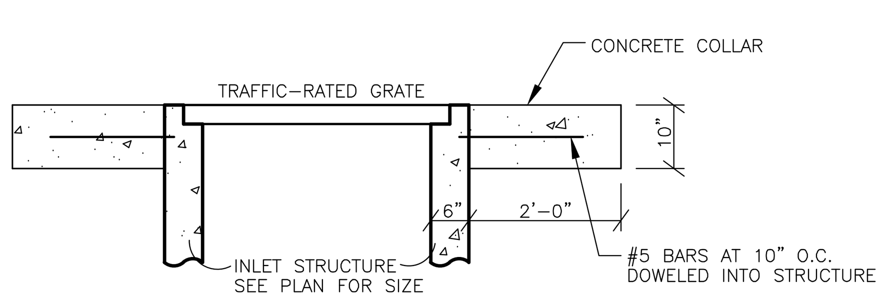
Trash Enclosure Gate Detail

SCALE: NONE



NOTE:
CONCRETE COLLAR TO BE INSTALLED AT ALL INLET BOXES AND MANHOLES.

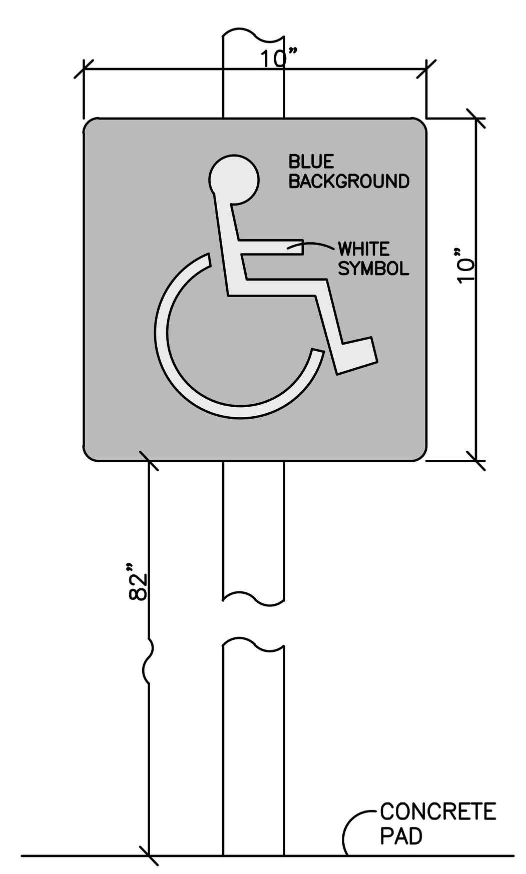
Plan



Section

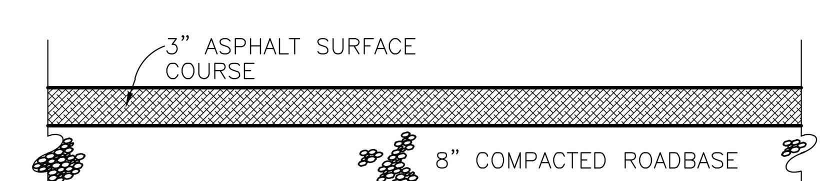
Concrete Collar Detail

SCALE: NONE



NOTES:
1) WHERE PARKING SPACES THAT ARE RESERVED FOR PERSONS WITH DISABILITIES ARE DESIGNATED TO ACCOMMODATE WHEELCHAIR VANS, A "VAN ACCESSIBLE" (R7-8P) PLAQUE SHALL BE MOUNTED BELOW THE R7-8 SIGN.
2) SIGNS SHALL BE MOUNTED A MINIMUM OF 60" FROM BOTTOM OF SIGN TO TOP OF SIDEWALK.
3) SIGNS TO MEET ALL STATE AND LOCAL REGULATIONS.
4) ALL UTILITY DIGGING OR OTHER EXCAVATION SHALL TAKE IN CONSIDERATION EXISTING SIDEWALKS, CURB & GUTTERS, AND OTHER STRUCTURES THAT MAY NEED TO BE REMOVED AND/OR REPLACED AS PART OF THE G.C. BID.

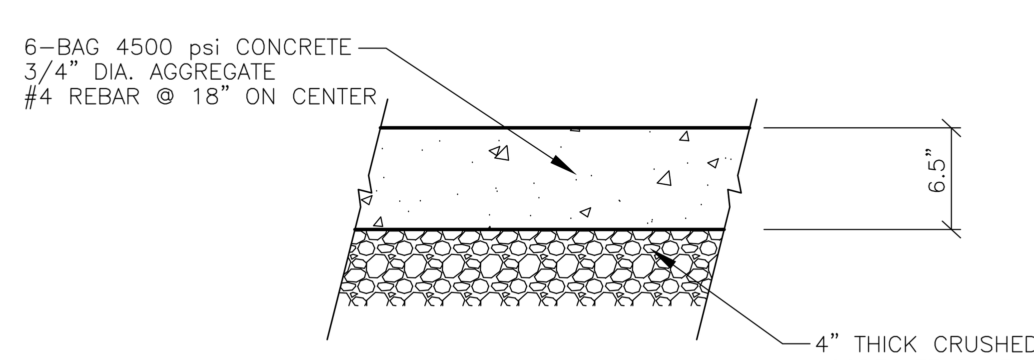
ADA Stall Signage



(REFER TO THE SITE SPECIFIC GEOTECHNICAL REPORT; GEOTECHNICAL REPORT TO GOVERN & CONTROL.)
SEE AGEC APPLIED GEOTECH REPORT #1180952 DATED DEC. 28, 2018

Typical On-Site Asphalt Paving

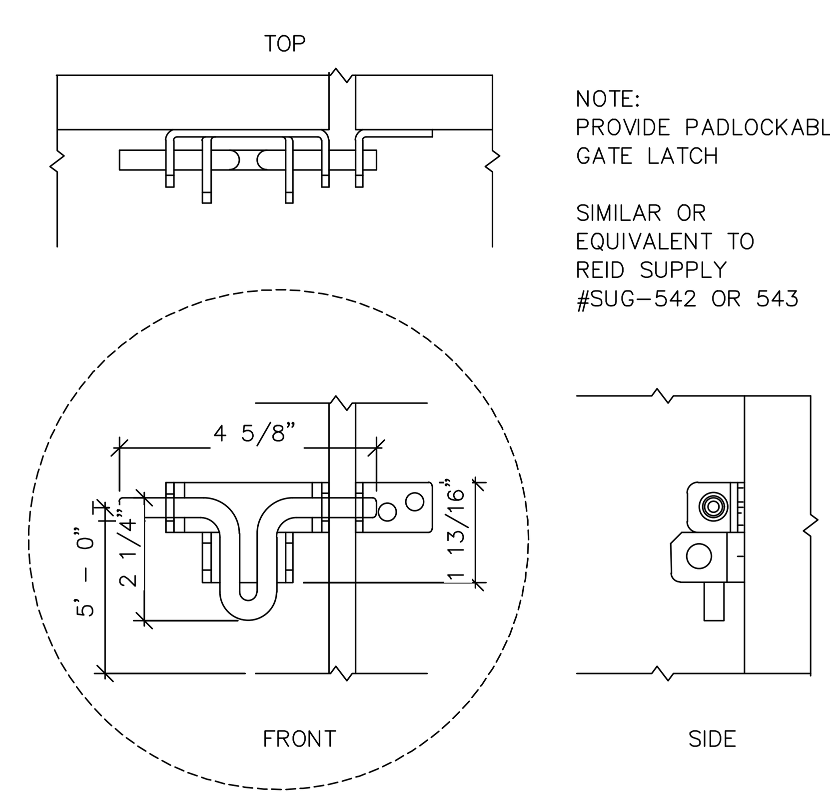
SCALE: NONE



(REFER TO THE SITE SPECIFIC GEOTECHNICAL REPORT; GEOTECHNICAL REPORT TO GOVERN & CONTROL.)

Trash Enclosure Concrete Pad

SCALE: NONE



NOTE:
PROVIDE PADLOCKABLE GATE LATCH

SIMILAR OR EQUIVALENT TO REID SUPPLY #SUG-542 OR 543

Trash Enclosure Gate Latch Detail

SCALE: NONE

Reeve & Associates, Inc.
5160 SOUTH 1500 WEST, RIVERDALE, UTAH 84405
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS * CIVIL ENGINEERS * LAND SURVEYORS
TRAFFIC ENGINEERS * STRUCTURAL ENGINEERS * LANDSCAPE ARCHITECTS

REVISIONS

DATE		DESCRIPTION
12-05-18	CK	Trash Enclosure
01-02-19	CK	Pavement Depths
01-07-19	CK	City Comments

Bank of American Fork - Alpine Branch
ALPINE CITY, UTAH COUNTY, UTAH

Civil Details

PROFESSIONAL ENGINEER
THOMAS J. HUNT
01/07/2019
STATE OF UTAH

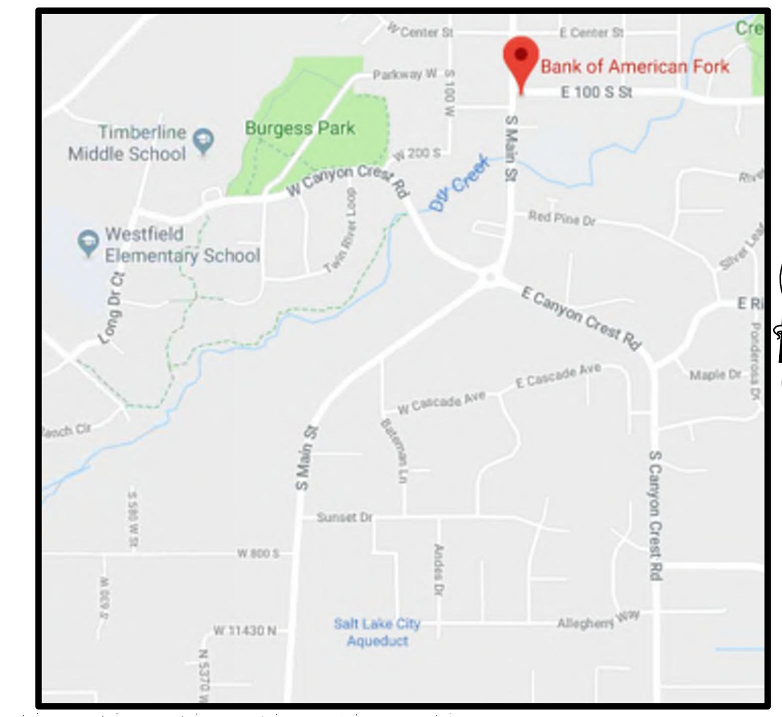
Project Info.
Engineer: THOMAS J. HUNT, P.E.
Drafter: C. KINGSLEY
Begin Date: NOVEMBER 2018
Name: BANK OF AMERICAN FORK ALPINE BRANCH
Number: 6789-10

Sheet 7 of 10 Sheets

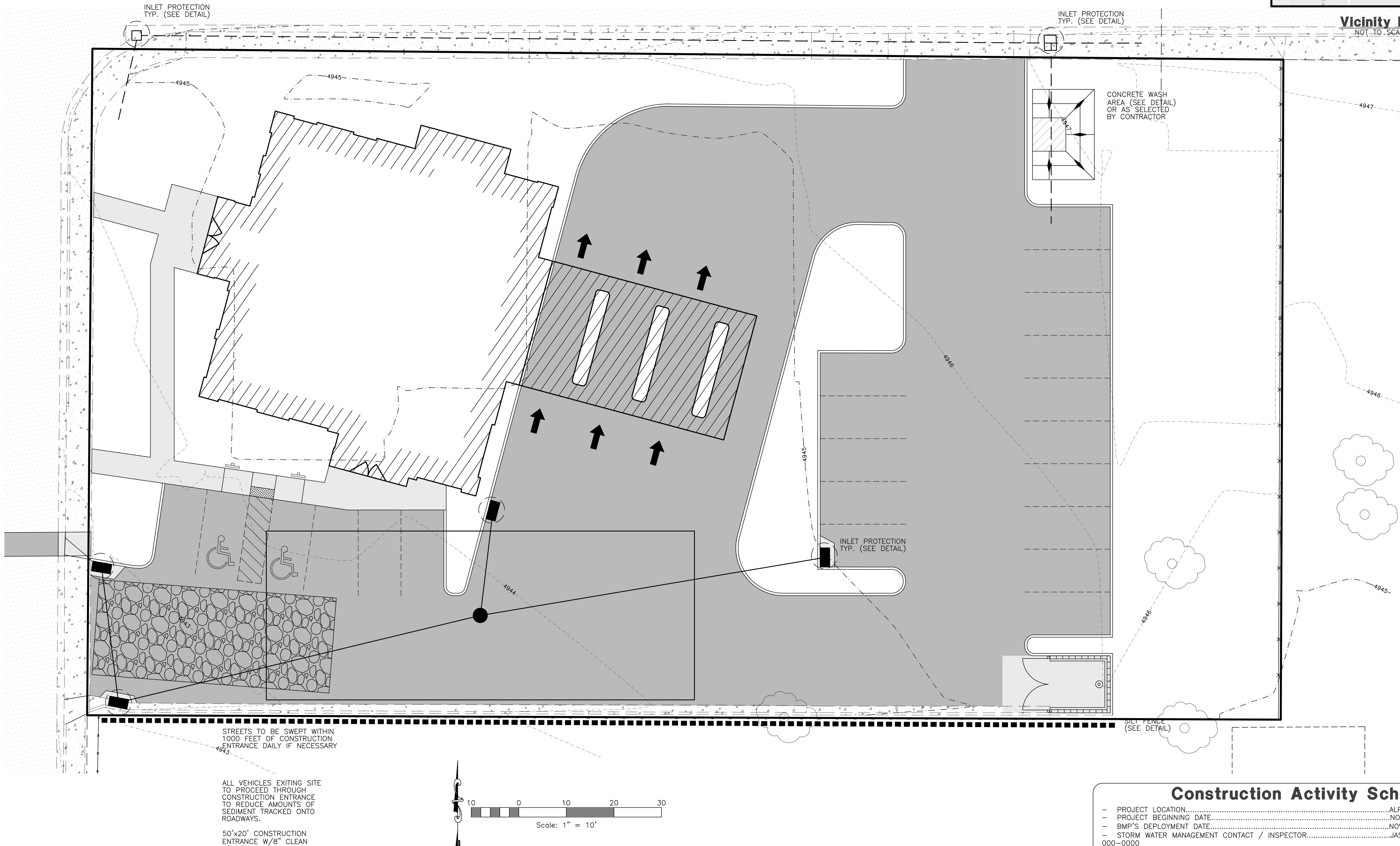
Bank of American Fork - Alpine Branch

Improvement Plans

ALPINE CITY, UTAH COUNTY, UTAH
NOVEMBER 2018



Vicinity Map
NOT TO SCALE



Construction Activity Schedule

- PROJECT LOCATION.......ALPINE CITY, UTAH COUNTY, UTAH
- PROJECT BEGINNING DATE.......NOVEMBER 2018
- BMP'S DEPLOYMENT DATE.......NOVEMBER 2018
- STORM WATER MANAGEMENT CONTACT / INSPECTOR.......JASON SANDBURG (801) 769-3000 000-0000
- SPECIFIC CONSTRUCTION SCHEDULE INCLUDING BMP CONSTRUCTION SCHEDULE TO BE INCLUDED WITH SWPPP BY OWNER/DEVELOPER

Reeve & Associates, Inc.
5160 SOUTH 1500 WEST, RIVERDALE, UTAH 84405
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS * CIVIL ENGINEERS * LAND SURVEYORS
TRAFFIC ENGINEERS * STRUCTURAL ENGINEERS * LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
12-05-18 CK	Trash Enclosure
01-02-19 CK	Pavement Depths
01-07-19 CK	City Comments

Bank of American Fork - Alpine Branch
ALPINE CITY, UTAH COUNTY, UTAH

Storm Water Pollution Prevention Plan Exhibit

PROFESSIONAL ENGINEER
THOMAS J. HUNT
01/07/2019
STATE OF UTAH

Project Info.
Engineer: THOMAS J. HUNT, P.E.
Drafter: C. KINGSLEY
Begin Date: NOVEMBER 2018
Name: BANK OF AMERICAN FORK ALPINE BRANCH
Number: 6789-10

Sheet 8 of 10 Sheets

Notes:

1. Describe all BMP's to protect storm water inlets:
All storm water inlets to be protected by straw wattle barriers, or gravel bags (see detail).

2. Describe BMP's to eliminate/reduce contamination of storm water from:
   a. Equipment / building / concrete wash areas:
   To be performed in designated areas only and surrounded with silt fence barriers.
   b. Soil contaminated by soil amendments:
   If any contaminates are found or generated, contact environmental engineer and contacts listed.
   c. Areas of contaminated soil:
   If any contaminates are found or generated, contact environmental engineer and contacts listed.
   d. Fueling area:
   To be performed in designated areas only and surrounded with silt fence.
   e. Vehicle maintenance areas:
   To be performed in designated areas only and surrounded with silt fence.
   f. Vehicle parking areas:
   To be performed in designated areas only and surrounded with silt fence.
   g. Equipment storage areas:
   To be performed in designated areas only and surrounded with silt fence.
   h. Materials storage areas:
   To be performed in designated areas only and surrounded with silt fence.
   i. Waste containment areas:
   To be performed in designated areas only and surrounded with silt fence.
   j. Service areas:
   To be performed in designated areas only and surrounded with silt fence.

3. BMP's for wind erosion:
Stockpiles and site as needed to be watered regularly to eliminate / control wind erosion

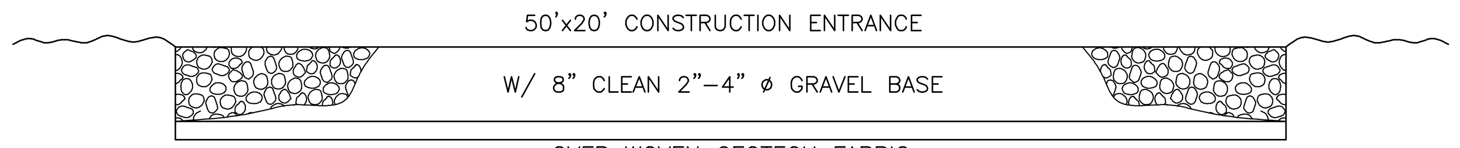
4. Construction Vehicles and Equipment:
   a. Maintenance
      - Maintain all construction equipment to prevent oil or other fluid leaks.
      - Keep vehicles and equipment clean, prevent excessive build-up of oil and grease.
      - Regularly inspect on-site vehicles and equipment for leaks, and repair immediately.
      - Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment on-site.
      - Segregate and recycle wastes, such as greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic, and transmission fluids.
   b. Fueling
      - If fueling must occur on-site, use designated areas away from drainage.
      - Locate on-site fuel storage tanks within a bermed area designed to hold the tank volume.
      - Cover retention area with an impervious material and install in in a manner to ensure that any spills will be contained in the retention area. To catch spills or leaks when removing or changing fluids.
      - Use drip pans for any oil or fluid changes.
   c. Washing
      - Use as little water as possible to avoid installing erosion and sediment controls for the wash area.
      - If washing must occur on-site, use designated, bermed wash areas to prevent waste water discharge into storm water, creeks, rivers, and other water bodies.
      - Use phosphate-free, biodegradable soaps.
      - Do not permit steam cleaning on-site.

5. Spill Prevention and Control
   a. Minor Spills:
   Minor spills are those which are likely to be controlled by on-site personnel. After contacting local emergency response agencies, the following actions should occur upon discovery of a minor spill:
      - Contain the spread of the spill.
      - If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (i.e. absorbent materials, cat litter, and / or rags).
      - If the spill occurs in dirt areas, immediately contain the spill by constructing an earth dike. Dig up and properly dispose of contaminated soil.
      - If the spill occurs during rain, cover the impacted area to avoid runoff.
      - Record all steps taken to report and contain spill.
   b. Major Spills:
   On-site personnel should not attempt to control major spills until the appropriate and qualified emergency response staff have arrived at the site. For spills of federal reportable quantities, also notify the National Response Center at (800) 424-8802. A written report should be sent to all notified authorities. Failure to report major spills can result in significant fines and penalties.

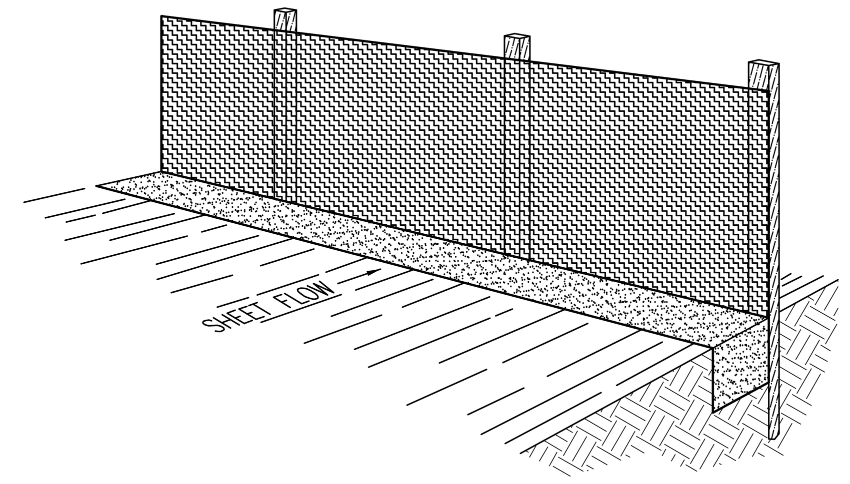
6. Post Roadway / Utility Construction
   a. Maintain good housekeeping practices.
   b. Enclose or cover building material storage areas.
   c. Properly store materials such as paints and solvents.
   d. Store dry and wet materials under cover, away from drainage areas.
   e. Avoid mixing excess amounts of fresh concrete or cement on-site.
   f. Perform washout of concrete trucks offsite or in designated areas only.
   g. Do not wash out concrete trucks into storm drains, open ditches, streets or streams.
   h. Do not place material or debris into streams, gutters or catch basins that stop or reduce the flow of runoff water.
   i. All public streets and storm drain facilities shall be maintained free of building materials, mud and debris caused by grading or construction operations. Roads will be swept within 1000' of construction entrance daily, if necessary.
   j. Install straw wattle around all inlets contained within the development and all others that receive runoff from the development.

7. Erosion Control Plan Notes
   a. The contractor will designate an emergency contact that can be reached 24 hours a day 7 days a week.
   b. A stand-by crew for emergency work shall be available at all times during potential rain or snow runoff events. Necessary materials shall be available on site and stockpiled at convenient locations to facilitate rapid construction of emergency devices when rain or runoff is eminent.
   c. Erosion control devices shown on the plans and approved for the project may not be removed without approval of the engineer of record. If devices are removed, no work may continue that have the potential of erosion without consulting the engineer of record. If deemed necessary erosion control should be reestablished before this work begins.
   d. Graded areas adjacent to fill slopes located at the site perimeter must drain away from the top of the slope at the conclusion of each working day. this should be confirmed by survey or other means acceptable to the engineer of record.
   e. All silt and debris shall be removed from all devices within 24 hours after each rain or runoff event.
   f. Except as otherwise approved by the inspector, all removable protective devices shown shall be in place at the end of each working day and through weekends until removal of the system is approved.
   g. All loose soil and debris, which may create a potential hazard to offsite property, shall be removed from the site as directed by the engineer of record of the governing agency.
   h. The placement of additional devices to reduce erosion damage within the site is left to the discretion of the engineer of record.
   i. Desilting basins may not be removed or made inoperable without the approval of the engineer of record and the governing agency.
   j. Erosion control devices will be modified as need as the project progresses and plans of these changes submitted for approval by the engineer of record and the governing agency.

8. Conduct a minimum of one inspection of the erosion and sediment controls every two weeks. Maintain documentation on site.
   a. Part III.D.4 of general permit UTR300000 identifies the minimum inspection requirements.
   b. Part II.D.4.C identifies the minimum inspection report requirements.
   c. Failure to complete and/or document storm water inspections is a violation of part III.D.4 of Utah General Permit UTR 300000.

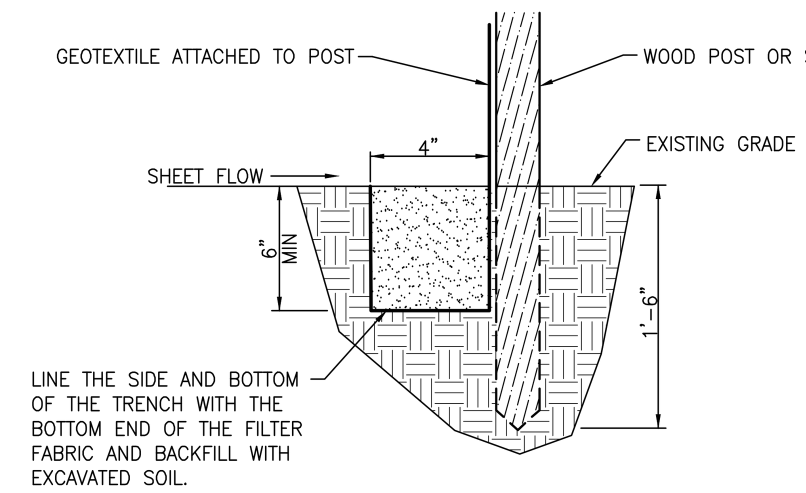


Cross Section 50' x 20' Construction Entrance



Perspective View

Figure 2



Section

INSTALLATION
The silt fence should be installed prior to major soil disturbances in the drainage area. The fence should be placed across the slope along a line of uniform elevation wherever flow of sediment is anticipated. Table 1 shows generally-recommended maximum slope lengths (slope spacing between fences) at various site grades for most silt fence applications.

TABLE 1:
Recommended Maximum Slope Lengths for Silt Fence
(Richardson & Middlebrooks, 1991)

Slope Steepness (%)	Max. Slope Length m (ft)
<2%	30.5m (100ft)
2-5%	22.9m (75ft)
5-10%	15.2m (50ft)
10-20%	7.6m (25ft)
>20%	4.5m (15ft)

PREFABRICATED SILT FENCE ROLLS
*Excavate a minimum 15.2cm x 15.2cm (6"x6") trench at the desired location.
*Unroll the silt fence, positioning the post against the downstream wall of the trench.
*Adjacent rolls of silt fence should be joined be nesting the end post of one fence into the other. Before nesting the end posts, rotate each post until the geotextile is wrapped completely around the post, then abut the end posts to create a tight seal as shown in Figure 1.
*Drive posts into the ground until the required fence height and/or anchorage depth is obtained.
*Bury the loose geotextile at the bottom of the fence in the upstream trench and backfill with natural soil, tamping the backfill to provide good compaction and anchorage. Figure 2 illustrates a typical silt fence installation and anchor trench placement.

FIELD ASSEMBLY:
*Excavate a minimum 15.2cm x 15.2cm (6"x6") trench at the desired location.
*Drive wooden posts, or steel posts with fastening projections, against the downstream wall of the trench. Maximum post spacing should be 2.4-3.0m (8-10ft). Post spacing should generally be less than three (3) times the height of the fence.
*If a steel or plastic mesh is required to reinforce the geotextile, it shall have a minimum mesh opening of 15.2cm (6").
*Fasten the mesh to the upslope side of the posts using heavy duty wire staples, tie wires or hog strings. Extend the mesh into the bottom of the trench.
*The geotextile shall then be stapled or wired to the posts. An extra 20-50cm (8-20") of geotextile shall extend into the trench.

INSPECTION
*Inspect the silt fence daily during periods of rainfall, immediately after significant rainfall event and weekly during periods of no rainfall. Make any repairs immediately.
*When sediment deposits behind the silt fence are one-third of the fence height, remove and properly dispose of the silt accumulations. Avoid damage to the fabric during cleanout.

REMOVAL
*Silt fence should not be removed until construction ceases and the upslope area has been properly stablized and/or revegetated.

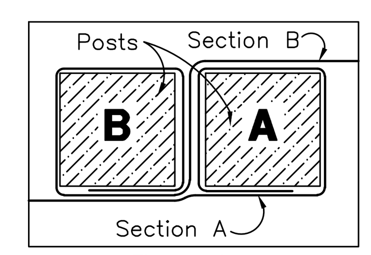
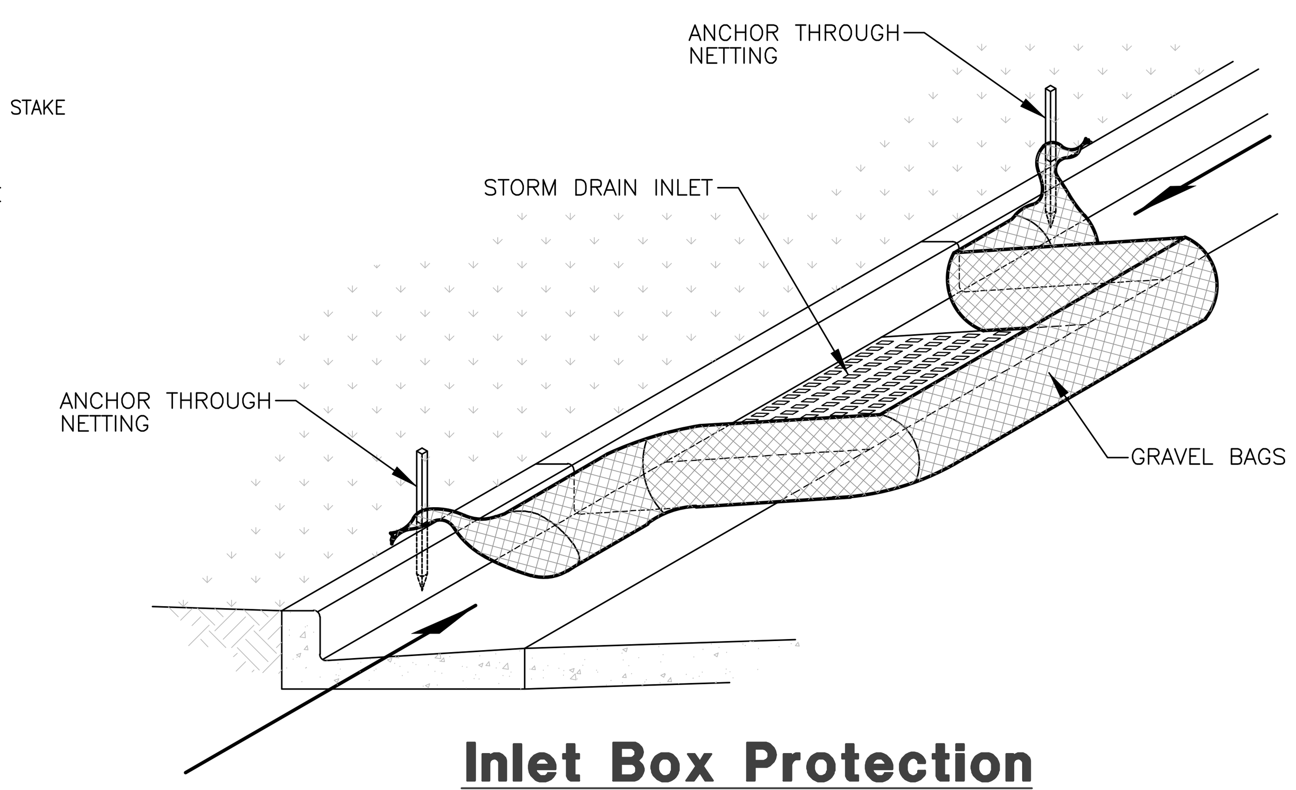


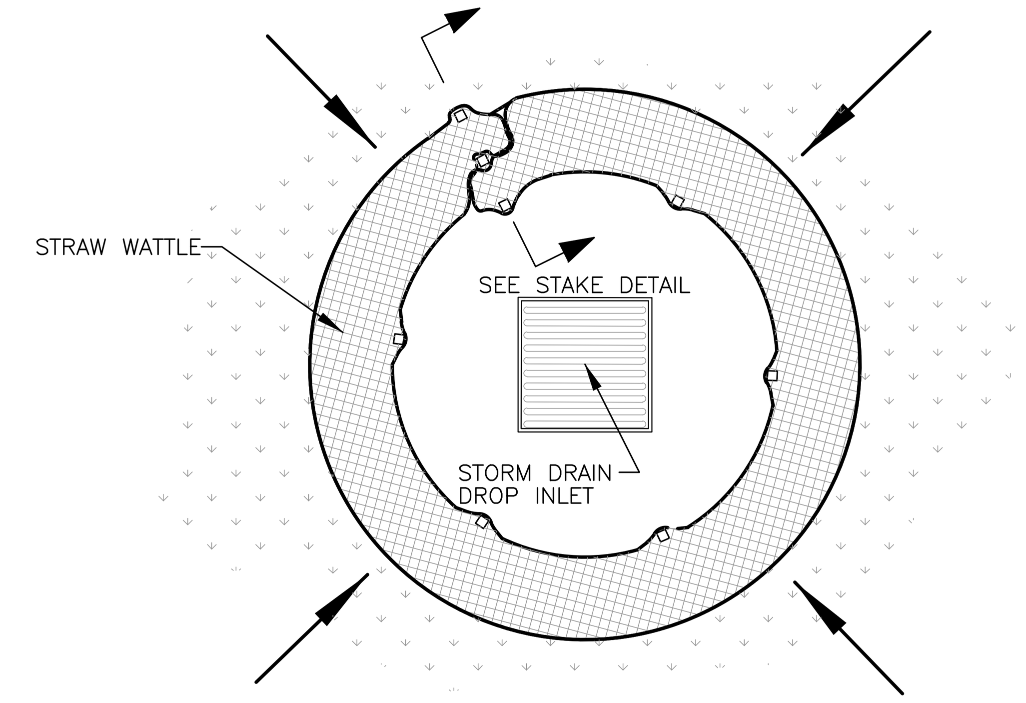
Figure 1:
Top View of
Roll-to-Roll Connection

Silt Fence Detail

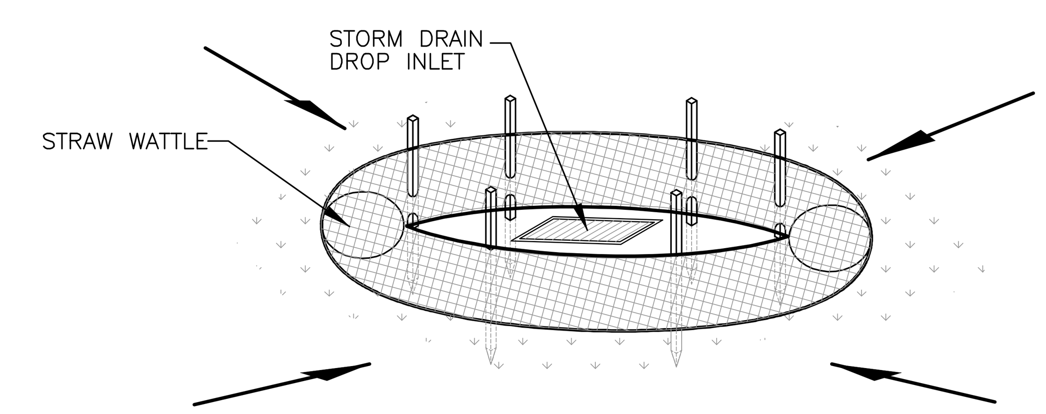
SCALE: NONE



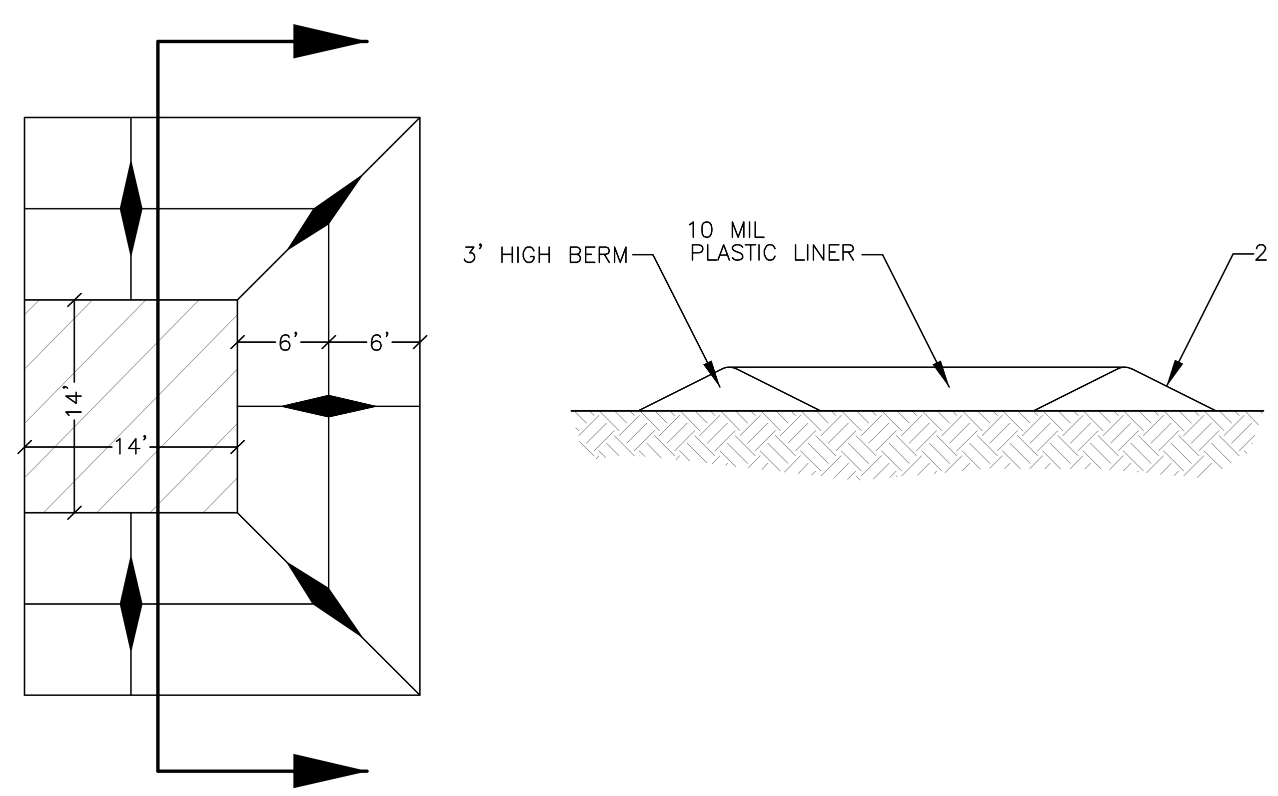
Inlet Box Protection



Plan View

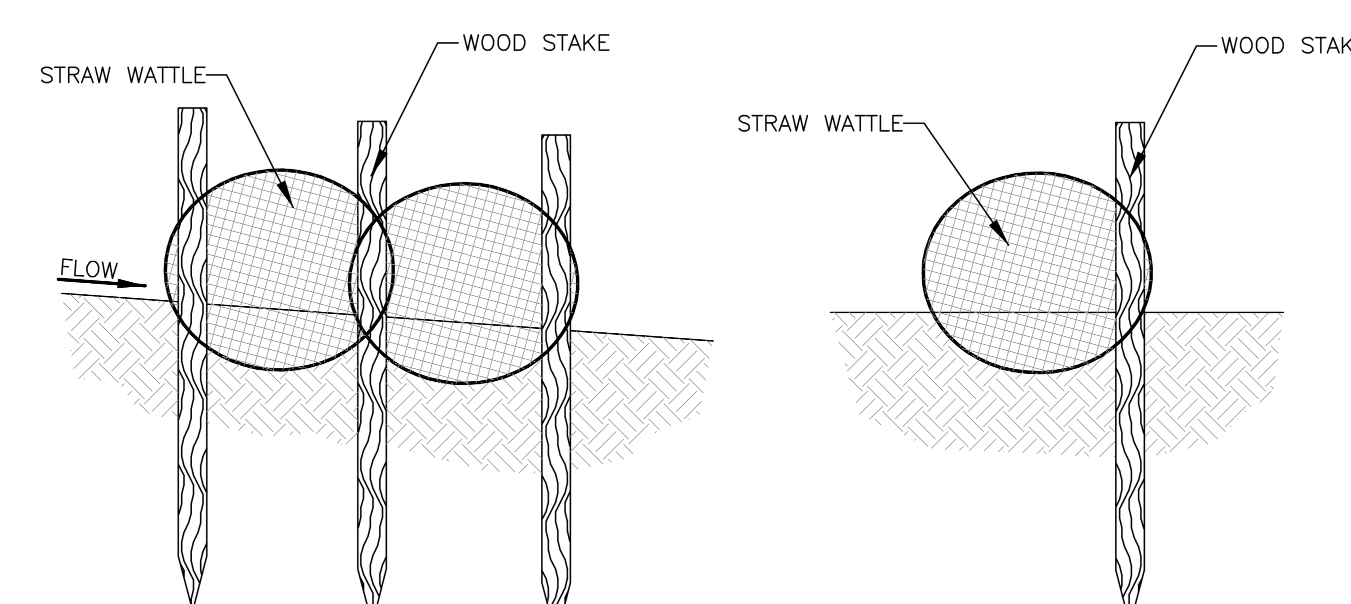


Drop Inlet Protection



Concrete Washout Area w/ 10 mil Plastic Liner

SCALE: NONE



Stake Detail

Reeve & Associates, Inc.
5160 SOUTH 1500 WEST, RIVERDALE, UTAH 84405
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
12-05-18 CK	Trash Enclosure
01-02-19 CK	Pavement Depths
01-07-19 CK	City Comments

Bank of American Fork - Alpine Branch
ALPINE CITY, UTAH COUNTY, UTAH

Storm Water Pollution Prevention Plan Details

PROFESSIONAL ENGINEER
THOMAS J. HUNT
01/07/2019
STATE OF UTAH

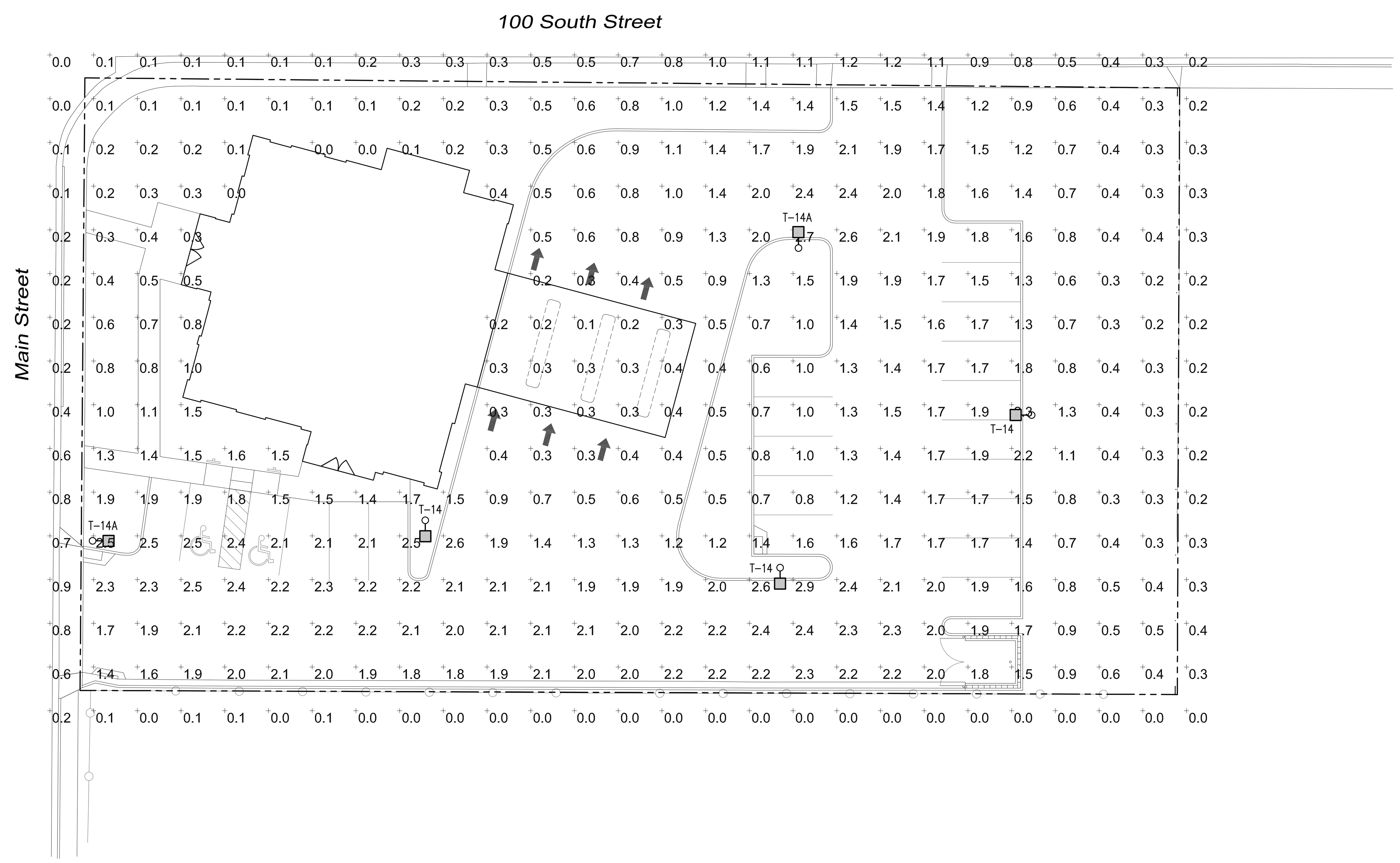
Project Info.
Engineer: THOMAS J. HUNT, P.E.
Drafter: C. KINGSLEY
Begin Date: NOVEMBER 2018
Name: BANK OF AMERICAN FORK ALPINE BRANCH
Number: 6789-10

Sheet 9 of 10 Sheets

MASTER LUMINAIRE SCHEDULE								
TYPE	MANUFACTURER	CATALOG NUMBER	VOLTS	MOUNTING	LAMPS	BALLAST	WATTS	IMAGE
DESCRIPT.	POLE MOUNTED, CUTOFF LUMINAIRE SINGLE HEAD, LED, 16,000 LUMENS, 20FT SQUARE POLE (4", 11 GA.), 4K							
T-14	LITHONIA	DSX1 LED P3 40K T3M MVOLT SPA DDBXD/SSS 25 4C DM19 DDB	208	20'-0" POLE	INCLUDED		102	
T-14A	SAME AS T-14 EXCEPT WITH TYPE IV DISTRIBUTION (FORWARD THROW)						102	

*LUMINAIRES ARE PROVIDED BY OWNER, INSTALLED BY E.C.

CALCULATION SUMMARY								
AREA NAME	GRID / TYPE	SPAC	GROUP	AVE	MAX	MIN	MAX/MIN	AVE/MIN
NEW DRIVE	0'-0" / H-H	10.00	<+>	1.0	2.9	0.00	N/A	N/A



1 E-1.2 **PHOTOMETRIC SITE PLAN**
SCALE: 1"=20'-0"

revised

REGISTERED PROFESSIONAL ENGINEER MICHAEL E. ASKEEP No.5931691-2202 State of Utah 3/31/2019

Nielson Engineering, Inc.
Consulting Engineers
156 North Twelfth Avenue Pocatello, Idaho 83201
phone: (208) 232-2577 Fax: (208) 234-0918
E-Mail: nei@nielsoneng.com

sheet title: PHOTOMETRIC SITE PLAN

project: BANK OF AMERICAN FORK ALPINE BRANCH ALPINE CITY, UTAH

save stamp

G:\REVIT\2019\Bank of American Fork (Alpine Branch) ~ 1901\Elec\BOA (ALPINE) E-1.2.dwg January 07 2019 5:20pm By: jill

file name: BOA (ALPINE)
job no.: 1901
date: JANUARY 8, 2019
drawn by: MJE
sheet: E-1.2

FOR REVIEW AND PERMIT • FOR REVIEW AND PERMIT • FOR REVIEW AND PERMIT • FOR REVIEW AND PERMIT

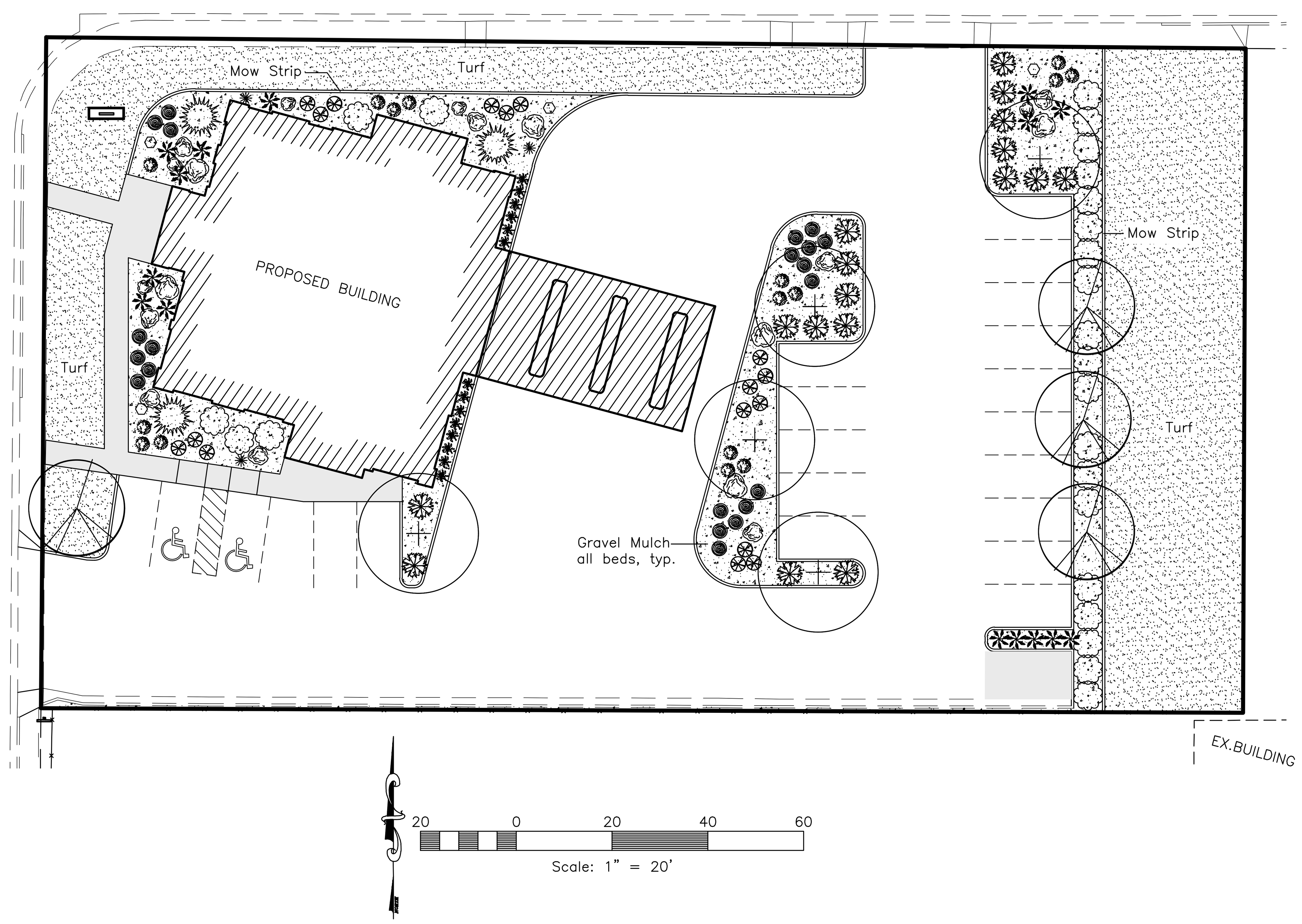
Bank of American Fork - Alpine Branch

Landscape Plan

ALPINE CITY, UTAH COUNTY, UTAH
NOVEMBER 2018

Site Information

PARKING STALLS	19
ADA STALLS	2
TOTAL STALLS	21
TOTAL PARCEL AREA	34,958 s.f.
BUILDING AREA	4,166 s.f. 11.9%
HARD SURFACED AREA	17,805 s.f. 50.9%
LANDSCAPE AREA	12,987 s.f. 37.2%



Plant Table

TREES

Quantity	Symbol	Scientific Name	Common Name	Planting Size
5		Acer freemanii 'Jeffersred'	Autumn Blaze Maple	2" cal.
4		Malus 'Spring Snow'	Spring Snow Crabapple	2" cal.
3		Picea glauca 'Pendula'	Weeping White Spruce	6' B&B

SHRUBS

Quantity	Symbol	Scientific Name	Common Name	Planting Size
24		Euonymus alatas 'Compacta'	Dwarf Burning Bush	5 gal.
17		Juniperus sabina 'Buffalo'	Buffalo Juniper	5 gal.
17		Potentilla frut. 'Gold Drop' or equal	Gold Drop Potentilla or equal	5 gal.
16		Rosa x noatrum	Flower Carpet Rose	5 gal.
21		Spiraea japonica 'Magic Carpet'	Magic Carpet Spirea	5 gal.

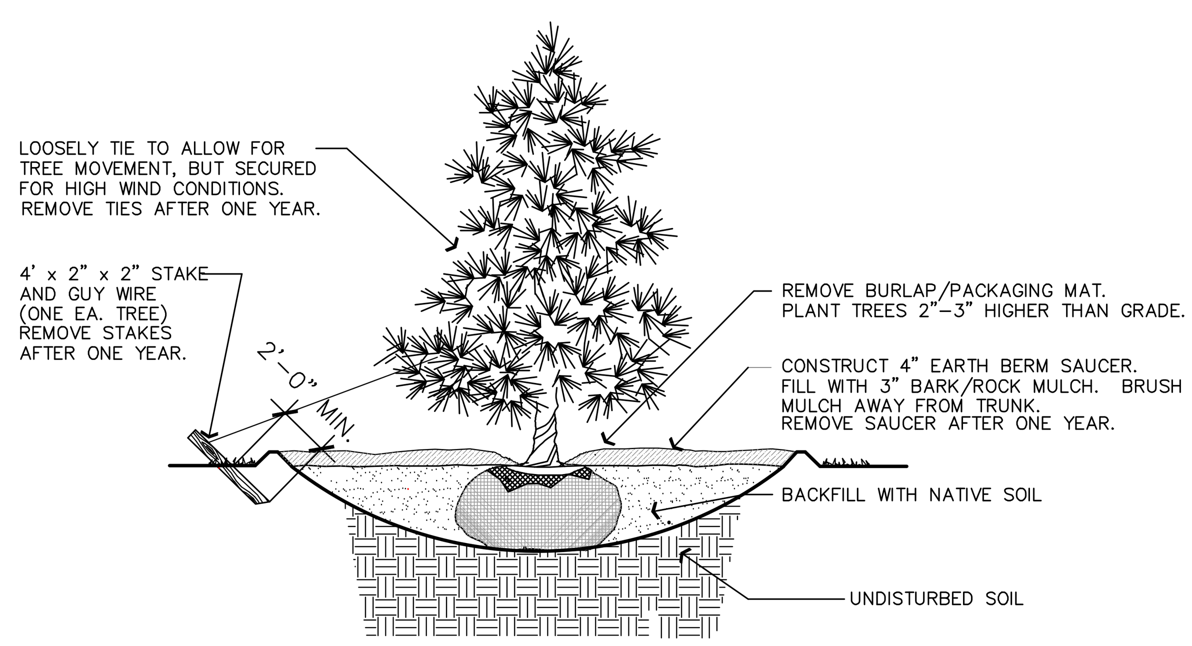
PERENNIALS

Quantity	Symbol	Scientific Name	Common Name	Planting Size
15		Calamagrostis 'Karl Foerster'	Karl Foerster Grass	5 gal.
14		Hemerocallis 'Stella de Oro'	Stella de Oro Daylily	1 gal.
4		Iberis sempervirens	Candytuft	1 gal.
3		Salvia 'May Night'	May Night Salvia	1 gal.

Decorative Boulders

Turf Grass – To be sodded.

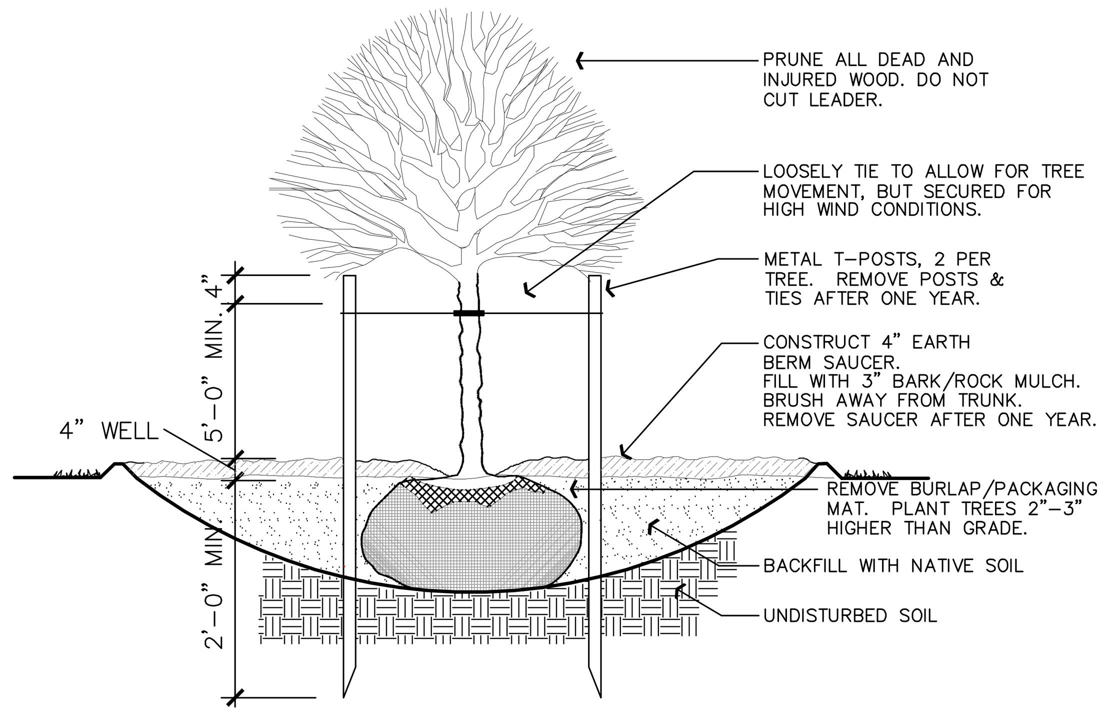
A 3" layer of 2" minus, crushed gravel mulch over Dewitt Pro 5 Weed Barrier Cloth, or equal.



NOTE: DIG HOLE THREE TIMES THE WIDTH AND AS DEEP AS ROOTBALL, EXCEPT WHERE NOTED.

CONIFEROUS TREE PLANTING

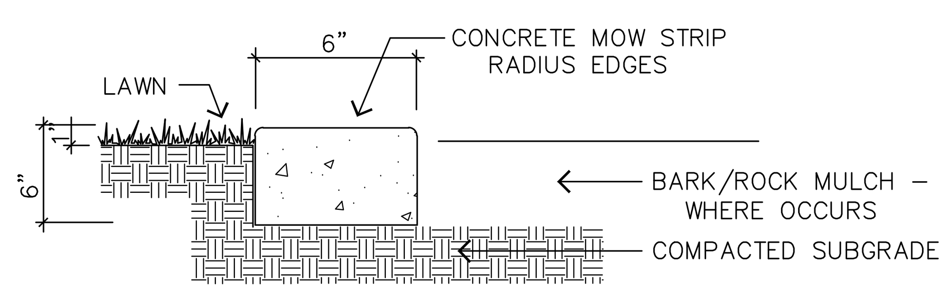
SCALE: NOT TO SCALE



NOTE: DIG HOLE THREE TIMES THE WIDTH AND AS DEEP AS ROOTBALL, EXCEPT WHERE NOTED.

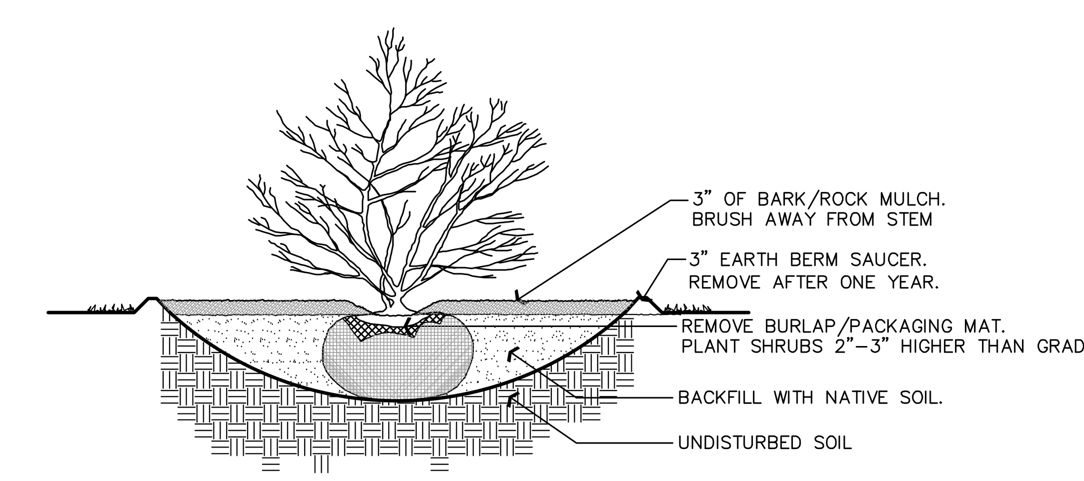
DECIDUOUS TREE PLANTING

SCALE: NOT TO SCALE



CONCRETE MOW STRIP

SCALE: NOT TO SCALE



NOTE: DIG HOLE THREE TIMES THE WIDTH AND AS DEEP AS ROOTBALL, EXCEPT WHERE NOTED.

SHRUB PLANTING

SCALE: NOT TO SCALE

Reeve & Associates, Inc.
5160 SOUTH 1500 WEST, RIVERDALE, UTAH 84405
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
01-07-19 CK	City Comments

Bank of American Fork - Alpine Branch
ALPINE CITY, UTAH COUNTY, UTAH

Landscape Plan

PROFESSIONAL ENGINEER
THOMAS J. HUNT
01/07/2019
STATE OF UTAH

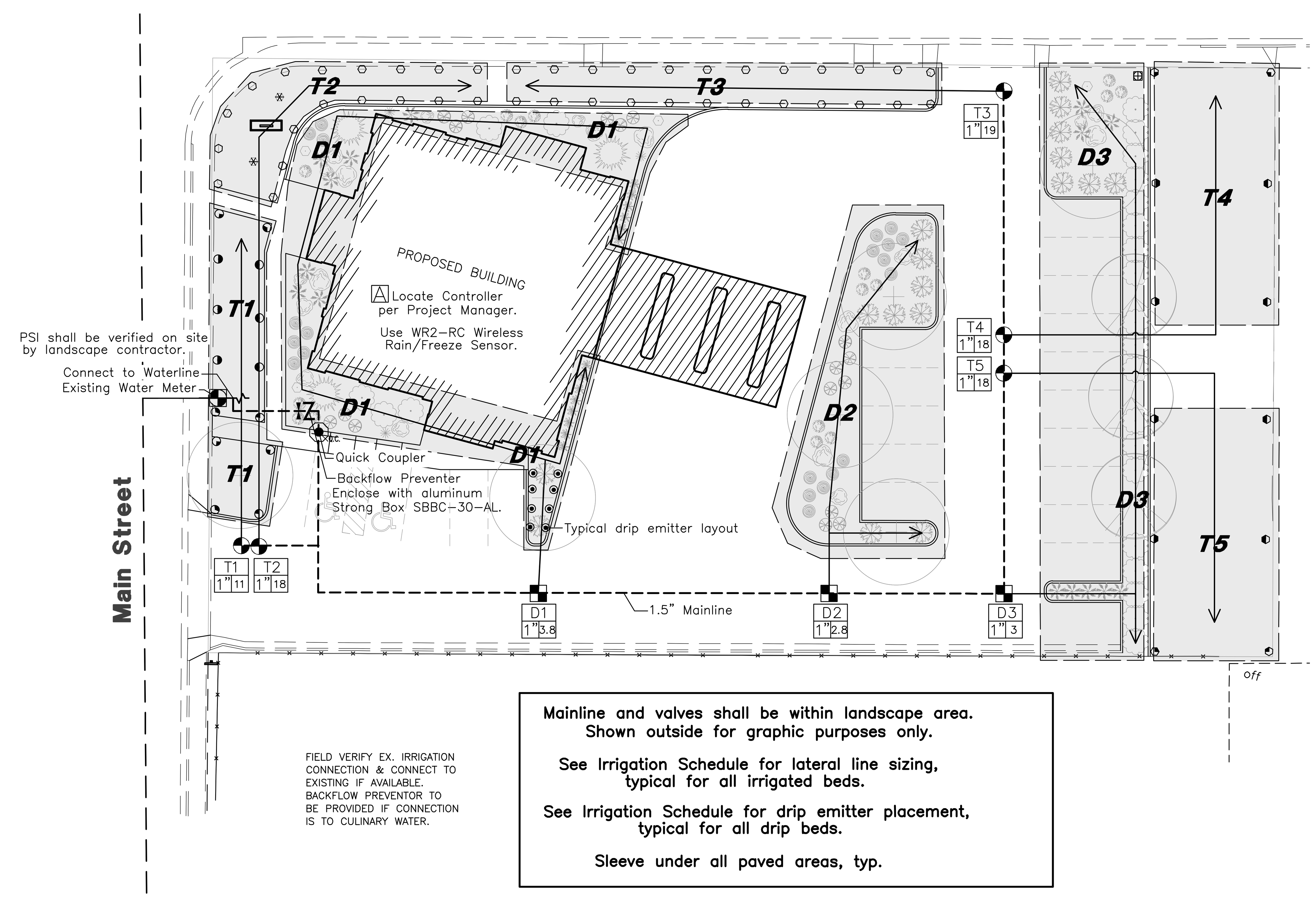
Project Info.
Engineer: THOMAS J. HUNT, P.E.
Drafter: C. KINGSLEY
Begin Date: NOVEMBER 2018
Name: BANK OF AMERICAN FORK ALPINE BRANCH
Number: 6789-10

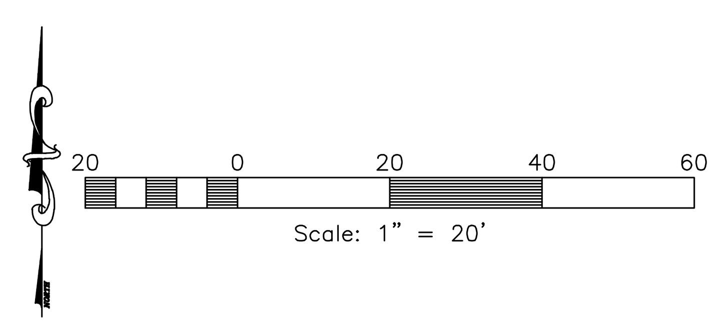
Sheet L1 — 3 Sheets

Bank of American Fork - Alpine Branch

Irrigation Plan

ALPINE CITY, UTAH COUNTY, UTAH
NOVEMBER 2018





IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER	CATALOG NUMBER	DESCRIPTION
	RAINBIRD	RD-1800-SAM-PRS-SERIES U13-18 SERIES	1800 SERIES SPRAY BODY 13'R-18'R PLASTIC ROTARY NOZZLE
	RAINBIRD	RD-1800-SAM-PRS-SERIES U10 SERIES	1800 SERIES SPRAY BODY 10'R PLASTIC NOZZLE
	RAINBIRD	5004-PL-SAM-MPR-30	BODY AND RAIN CURTAIN ROTOR NOZZLE UNIT, 30'R
	RAINBIRD	XB-T-20-PC	XERIBUG THREADED DRIP EMITTERS, 2 GAL/HOUR 1 EMITTER/1 GAL. PLANT 2 EMITTERS/5 GAL. PLANT 4 EMITTERS/TREE
	RAINBIRD	XCZ-100-PRB-COM	COMMERCIAL CONTROL ZONE KIT DRIP VALVE
	RAINBIRD	PEB SERIES	PRESSURE REGULATING PLASTIC VALVE
VALVE NO & CONTROLLER / SIZE / GPM			VALVE ID BOX
			1-1/2" MAINLINE - SCHEDULE 40 PVC
			DRIP LATERAL LINE - POLY PIPE MAY BE USED TURF LATERAL LINE - CLASS 200 PVC, SIZED AS FOLLOWS 3/4" (0-10 gpm), 1" (10-16 gpm), 1 1/4" (16-26 gpm), 1 1/2" (26-35 gpm) , 2" (35-55 gpm)
A	RAINBIRD	ESP 12 LXME:120 VAC	INDOOR/OUTDOOR MOUNT BASE CONTROLLER.
			SLEEVING - SCHEDULE 40 PVC, 2 SIZES GREATER THAN INTERIOR PIPE SLEEVING USED WHENEVER IRRIGATION IS PLACED UNDER PAVED AREAS.
			GATE VALVE - SIZE PER PIPE - PLACE SLEEVE OVER VALVE
	WILKENS	MODEL 375 OR EQUAL	BACKFLOW PREVENTION, SIZE AS PER CITY/COUNTY REGULATIONS.
Q.C.	RAINBIRD	MODEL 44LRC	1" QUICK COUPLING VALVE
			IRRIGATION ZONES

NOTE: USE RAINBIRD HE-VAN SERIES VARIABLE ARC NOZZLES WHERE NECESSARY, FOR AREAS LESS THAN 15' RADIUS, TO MAINTAIN PROPER COVERAGE. USE R-VAN ROTARY NOZZLES FOR AREAS UP TO 24' RADIUS. DO NOT USE BOTH HE-VAN AND R-VAN NOZZLES IN THE SAME IRRIGATION ZONE.

NOTE: USE STRONG BOX SBBC 30 AL ALUMINUM BOX TO ENCLOSE BACKFLOW PREVENTER.

NOTE: USE WR2-RC WIRELESS RAIN/FREEZE SENSOR.

NOTE: FIELD VERIFY EXISTING IRRIGATION AND IF POSSIBLE CONNECT TO EXISTING MAINLINE, BACKFLOW (IF NEEDED) AND CONTROLLER.

Reeve & Associates, Inc.
5160 SOUTH 1500 WEST, RIVERDALE, UTAH 84405
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
01-07-19 CK	City Comments

Bank of American Fork - Alpine Branch
ALPINE CITY, UTAH COUNTY, UTAH
Irrigation Plan

PROFESSIONAL ENGINEER
THOMAS J. HUNT
01/07/2019
STATE OF UTAH

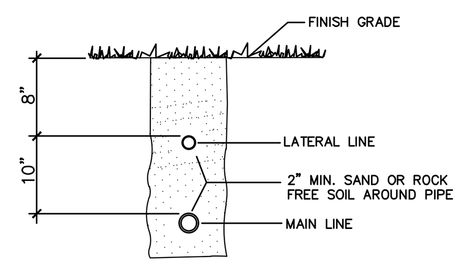
Project Info.
Engineer: THOMAS J. HUNT, P.E.
Drafter: C. KINGSLEY
Begin Date: NOVEMBER 2018
Name: BANK OF AMERICAN FORK ALPINE BRANCH
Number: 6789-10

Sheet L2
3 Sheets

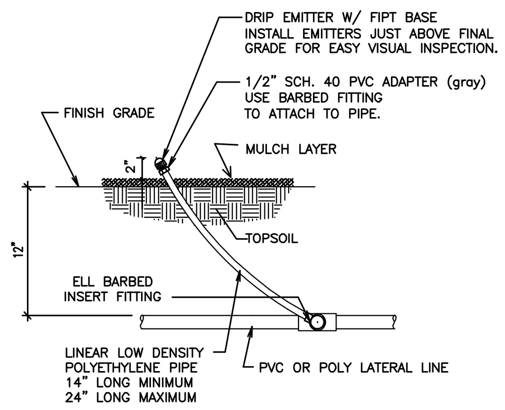
Bank of American Fork - Alpine Branch

Irrigation Details

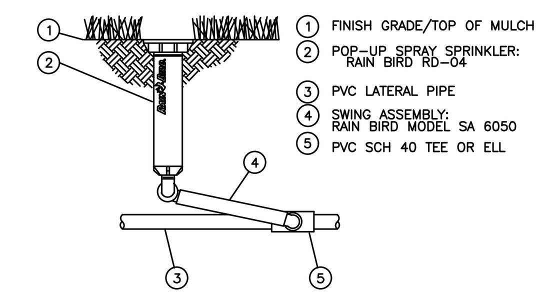
ALPINE CITY, UTAH COUNTY, UTAH
NOVEMBER 2018



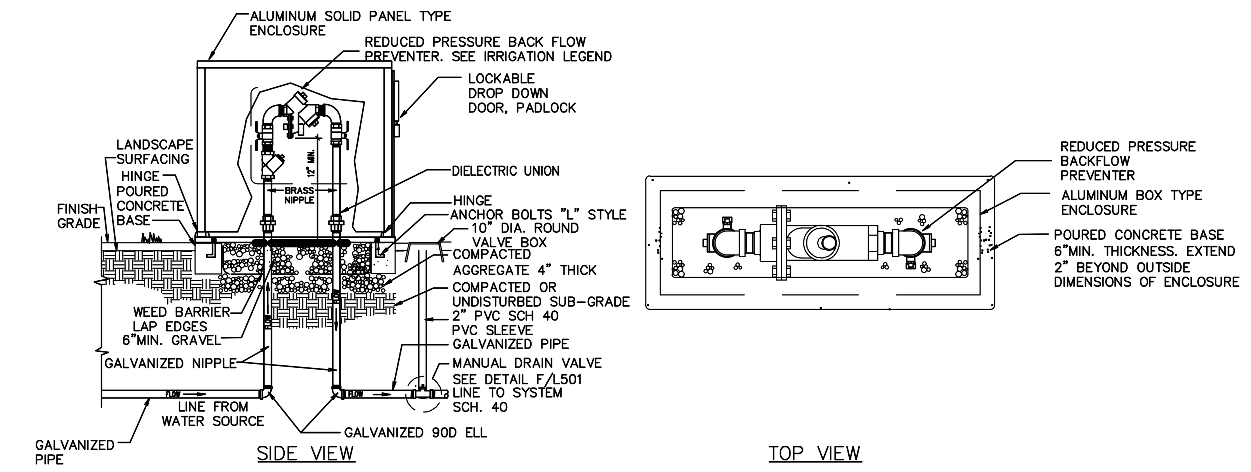
TRENCH SECTION
N.T.S.



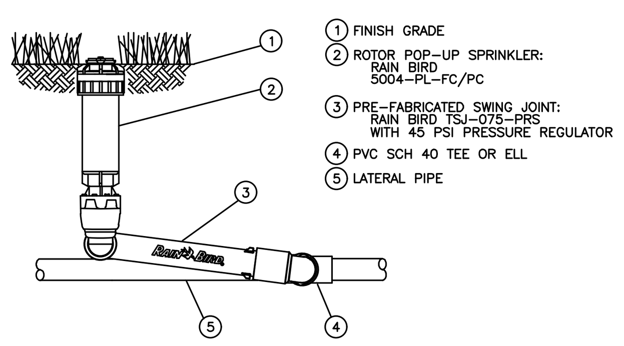
DRIP EMITTER
N.T.S.



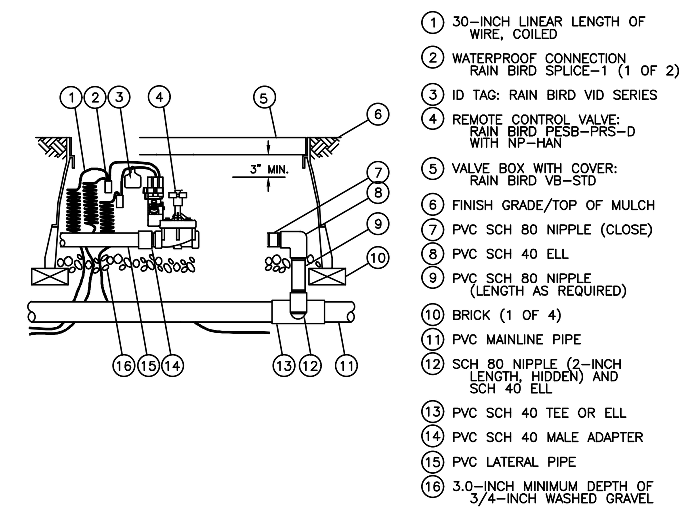
POP-UP SPRAY HEAD
N.T.S. RD-04 WITH SWING PIPE



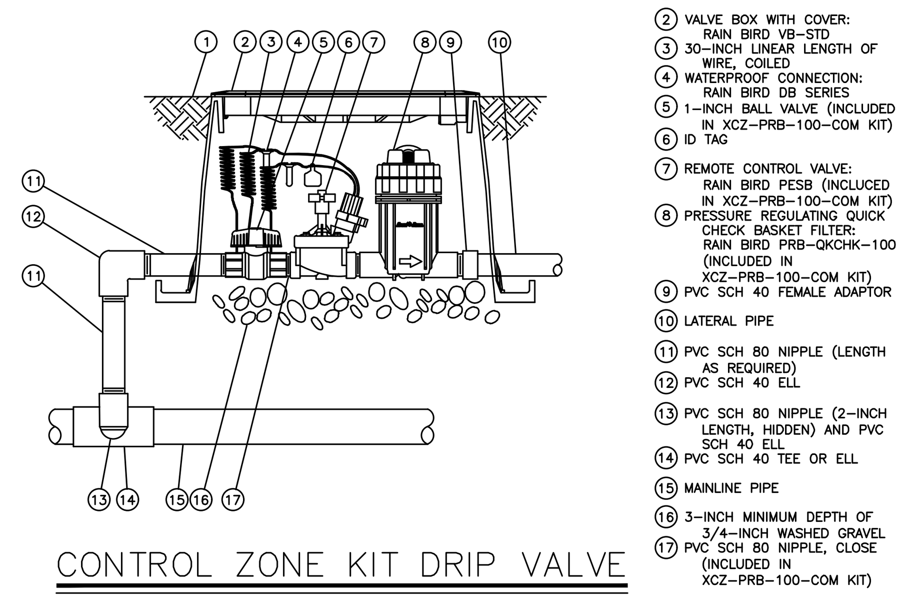
BACKFLOW PREVENTER WITH ALUMINUM ENCLOSURE
N.T.S.



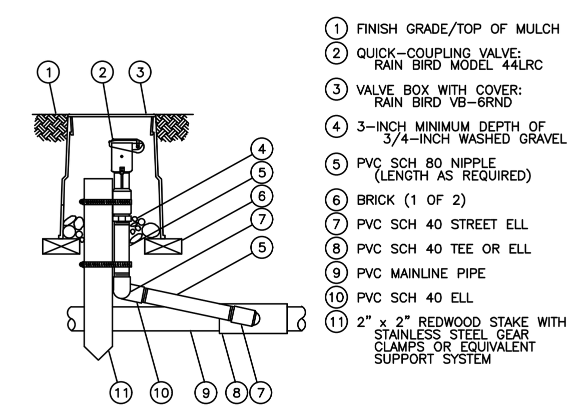
ROTOR POP-UP HEAD
N.T.S. 5004 PLUS



ELECTRIC REMOTE CONTROL VALVE
N.T.S. PEB OR PEB SERIES

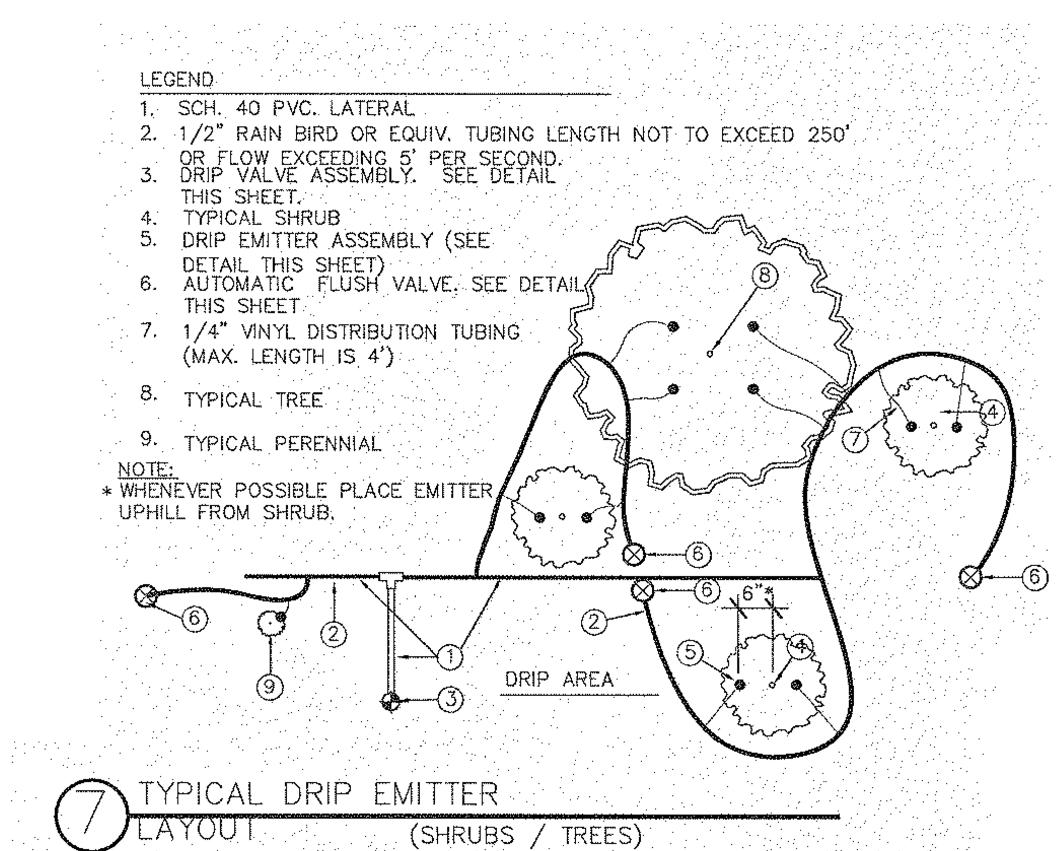


CONTROL ZONE KIT DRIP VALVE
N.T.S. XCZ-PRB100-COM

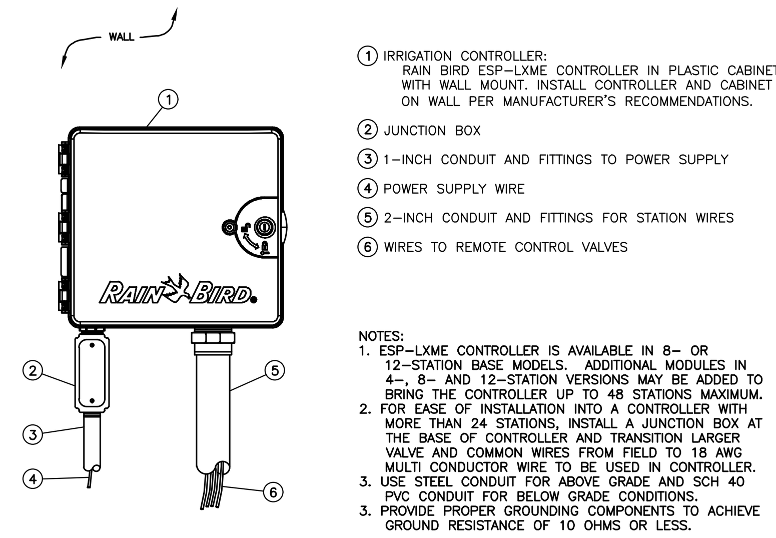


NOTE:
FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

QUICK COUPLING VALVE
N.T.S. MODEL 44RC SERIES

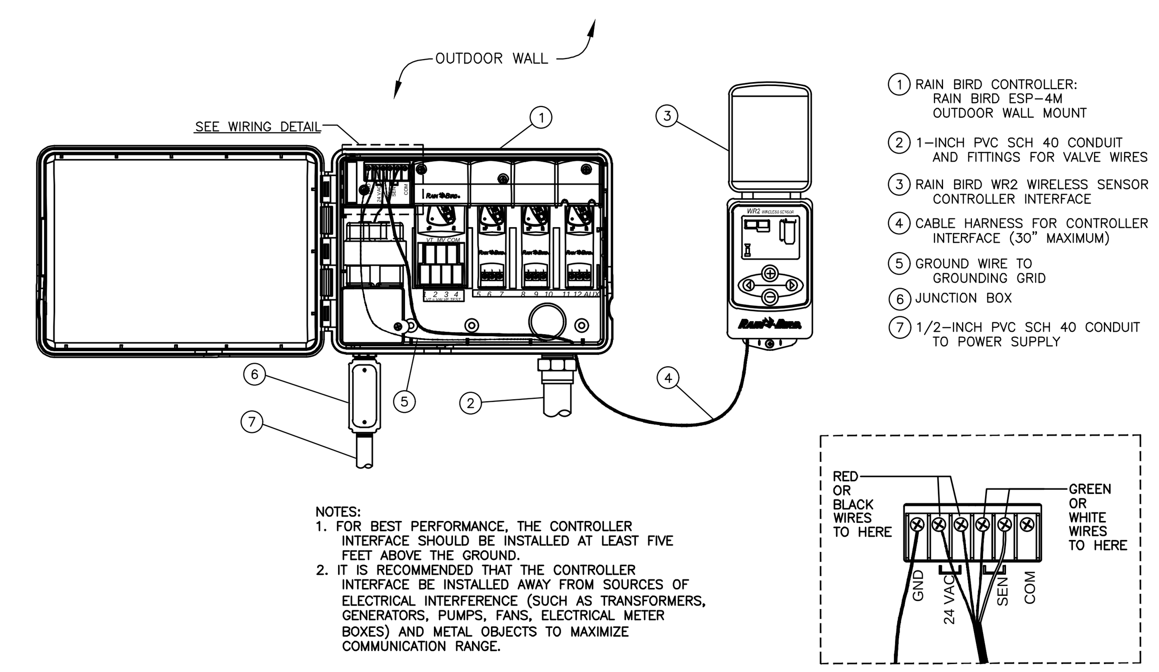


7 TYPICAL DRIP EMITTER LAYOUT (SHRUBS / TREES)



NOTES:
1. ESP-LXME CONTROLLER IS AVAILABLE IN 8- OR 12-STATION BASE MODELS. ADDITIONAL MODULES IN 4-, 8- AND 12-STATION VERSIONS MAY BE ADDED TO BRING THE CONTROLLER UP TO 48 STATIONS MAXIMUM.
2. FOR EASE OF INSTALLATION INTO A CONTROLLER WITH MORE THAN 24 STATIONS, INSTALL A JUNCTION BOX AT THE BASE OF CONTROLLER AND TRANSITION LARGER VALVE AND COMMON WIRES FROM FIELD TO 18 AWG MULTI CONDUCTOR WIRE TO BE USED IN CONTROLLER.
3. USE STEEL CONDUIT FOR ABOVE GRADE AND SCH 40 PVC CONDUIT FOR BELOW GRADE CONDITIONS.
3. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS.

ESP-LXME CONTROLLER
N.T.S. IN PLASTIC CABINET FOR OUTSIDE MOUNT



NOTES:
1. FOR BEST PERFORMANCE, THE CONTROLLER INTERFACE SHOULD BE INSTALLED AT LEAST FIVE FEET ABOVE THE GROUND.
2. IT IS RECOMMENDED THAT THE CONTROLLER INTERFACE BE INSTALLED AWAY FROM SOURCES OF ELECTRICAL INTERFERENCE (SUCH AS TRANSFORMERS, GENERATORS, POWER PUMPS, FANS, ELECTRICAL METER BOXES) AND METAL OBJECTS TO MAXIMIZE COMMUNICATION RANGE.

WIRELESS RAIN SENSOR-OUTDOOR
N.T.S. WR2 SERIES CONTROLLER INTERFACE

Reeve & Associates, Inc.
5160 SOUTH 1500 WEST, RIVERDALE, UTAH 84405
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
01-07-19 CK	City Comments

Bank of American Fork - Alpine Branch
ALPINE CITY, UTAH COUNTY, UTAH

Irrigation Details

PROFESSIONAL ENGINEER
THOMAS J. HUNT
01/07/2019
STATE OF UTAH

Project Info.
Engineer: THOMAS J. HUNT, P.E.
Drafter: C. KINGSLEY
Begin Date: NOVEMBER 2018
Name: BANK OF AMERICAN FORK ALPINE BRANCH
Number: 6789-10

Sheet L3 3 Sheets


Bank of
American Fork
CLOSED
ATM


Bank of American Fork
Bank of
American Fork


Bank of American Fork
BIG CITY BANKING - SMALL TOWN SERVICE


Bank of
American Fork
OPEN
OPEN
CLOSED
ATM

ALPINE PLANNING COMMISSION AGENDA

SUBJECT: Plat Amendment – Summit Pointe Subdivision

FOR CONSIDERATION ON: 15 January 2019

PETITIONER: Jake Satterfield, representing Six Blue Bison LLC

ACTION REQUESTED BY PETITIONER: Approve Plat Amendment

BACKGROUND INFORMATION:
The developer, Six Blue Bison LLC, is seeking to amend the recorded plat for the Summit Pointe Subdivision. The existing recorded plat is a 4-lot subdivision with lots ranging in size from 3.96 acres to 12.73 acres. The proposed plat amendment is for an 8-lot subdivision with lots ranging in size from 0.95 acres to 5.44 acres. Access to the existing lots on the recorded plat is through an approved private shared driveway. The plat amendment seeks to do away with the private shared driveway and proposes access to the 8-lots via public street through an extension of Lakeview Drive (west end of Lakeview Drive). The proposed extension of Lakeview Drive would stub into the neighboring municipality of Draper.

ALPINE CITY
STAFF REPORT
January 9, 2019

To: Alpine City Planning Commission
Business Date: January 15, 2019

From: Staff

Prepared By: Austin Roy, City Planner
Planning & Zoning Department

Jed Muhlestein, City Engineer
Engineering & Public Works Department

Re: **Summit Pointe Subdivision Plat Amendment**

Applicant:	Jake Satterfield, representing Six Blue Bison, LLC
Project Location:	North of the intersection of Hog Hollow and Matterhorn Drive
Zoning:	CR-40,000 Zone
Acreage:	Approximately 32.94 Acres
Lot Size:	Lots range from 0.95 acres to 5.44 acres
Request:	Recommend approval of the plat amendment

SUMMARY

Developer, Six Blue Bison LLC, is seeking to amend the recorded plat for the Summit Pointe Subdivision. The existing recorded plat is a 4-lot subdivision with lots ranging in size from 3.96 acres to 12.73 acres. The proposed plat amendment is for an 8-lot subdivision with lots ranging in size from 0.95 acres to 5.44 acres. Access to the existing lots on the recorded plat is through an approved private shared driveway. The plat amendment seeks to do away with the private shared driveway and proposes access to the 8-lots via public street through an extension of Lakeview Drive (west end of Lakeview Drive). The proposed extension of Lakeview Drive would stub into the neighboring municipality of Draper.

BACKGROUND

In late 2017 the Summit Pointe Subdivision changed ownership, with the developer, Six Blue Bison LLC acquiring the land. The land acquired included a recorded 4-lot subdivision with a shared private driveway, and frontage off Hog Hollow Road.

In February of 2018, the developer presented a proposed plat amendment for the Summit Pointe Subdivision which showed 15 lots and a road extending Lakeview Drive and stubbing into Draper City. Some of the lots included in this plan were above the elevation of 5350, which could not be serviced by the City's water system. These plans were not approved.

The developer is now returning with reworked plans that include 8-lots and the area above the elevation of 5350 would be preserved as a parcel for potential future development. These are the plans covered in this report.

ANALYSIS

General Plan

The proposed plat amendment seeks to create a new connection or "gateway" into a neighboring municipality. The Alpine City General Plan shows no planned connection to Draper City. The Alpine City General Plan specifically states the City "…is interested in preserving the three gateways into the City – Canyon Crest, Westfield Road, and Alpine Highway…", with Westfield Road being the only planned connection to a neighboring municipality on the western boundary of the City.

The proposed plat amendment extends Lakeview Drive to the westerly subdivision property boundary, which is also the westerly boundary of the City. In alignment with the General Plan, the Alpine City Transportation Master Plan (TMP) does not show a connection to the adjoining property as proposed. It should be noted that State Law does not allow for a municipality to grant the construction of any new street that does not conform with the City's General Plan. **Approval of the application would be dependent upon an amendment of the General Plan and Street Transportation Master Plan**.

State Law 10-9a-406 reads as follows:

"After the legislative body has adopted a general plan, no street, park, or other public way, ground, place, or space, no publicly owned building or structure, and no public utility, whether publicly or privately owned, may be constructed or authorized until and unless it conforms to the current general plan."

Location

Summit Pointe is located within the CR-40,000 zone. The Development Code requires all lots within this zone to be at least 40,000 sq. ft. in size. The smallest lot on the proposed plat amendment is 0.95 acres (41,382 sq. ft.), which meets the minimum requirement for the zone.

Frontage

Each lot meets the City's frontage requirements, plat does not show any lot with less than 110 feet of frontage on a public street.

Use

Single-unit detached dwellings, which is the proposed use for lots as shown on the plat amendment, are a permitted use in the zone. The developer has not proposed any other uses.

Street System
As proposed the street system for the Summit Pointe Subdivision would be a single publicly owned through street, with the east end being an extension of Lakeview Drive and the west end stubbing into Draper City.

The developer, Six Blue Bison LLC, also owns and plans to develop the land on the Draper side of the border that connects to the above-mentioned stub street. Proposed plans for the land in Draper show this road serving as the primary access road to the Draper development and connection to Suncrest Drive, which is the main road connecting Highland and Draper City. The proposed development on the Draper side of the border would be a Master Planned Community known as the Sequoias Subdivision and consists of 415 dwelling units (mix of townhomes and single-family dwellings). A study has been done to address the traffic impacts associated with the proposed Blue Bison developments in both Alpine and Draper City.

The traffic study included both Blue Bison developments, Sequoias Subdivision (Draper City) and Summit Pointe Subdivision (Alpine City). The analysis looked at key intersections and roadways near the site and measured existing traffic at these locations and then projects traffic during the project and after (2024). The evening peak hour level of service (LOS) was computed for each study intersection. LOS is rated on a scale from A to F. On the one extreme LOS A being free flowing traffic and on the other extreme LOS F being forced flow and excessive delays. **All studied Alpine City intersections and are projected to be at LOS A before, during, and after development of the proposed subdivisions.** The traffic impact study is attached for reference.

In the event no working access/road were approved by Draper City, the proposed stub street would essentially be a dead-end street and therefore considered a cul-de-sac. The Development Code limits the length of cul-de-sacs, to 450 feet in length. The proposed road is over 1,400 feet in length and thus would not meet ordinance if it ended up being a dead-end street. In its current state, Lakeview Drive already is approximately 650 feet, which exceeds ordinance, but was previously approved as such.

Sensitive Lands (Wildland Urban Interface)
The Summit Pointe Subdivision is located within the Wildland Urban Interface (wildland interface), which is part of the sensitive lands. Being located in the wildland interface, all lots in the proposed amendment would be required to meet the standards required by code, which includes: fire-sprinklers throughout the home for all homes, appropriate roof coverings, and minimum vegetative clearance around the homes.

All developments in the wildland interface require more than one point of access (point of ingress and egress) for emergencies. Both ends of the proposed road would need to be a working access to meet this requirement.

Parcel A
It should be noted that the developer has opted to retain ‘Parcel A’ (10.44 acres of land) for potential future development. This land lies above the 5350’ elevation and is thus not serviceable

through the City's current infrastructure (City has no means to get water to a point above that elevation).

Trails
The Trail Master Plan shows a proposed trail which runs from north to south on the eastern edge of Lot 1 of the proposed plat amendment, and then continues westward along Hog Hollow Road. As currently recorded, there exists a 10-foot public utility easement to allow for this trail on the plat. The proposed plat does not show an easement. **Planning and Zoning recommends that the developer add a 10-foot trail and public utility easement to the plat amendment in order to accommodate the proposed trail on the Trail Master Plan.**

REVIEWS

PLANNING AND ZONING DEPARTMENT REVIEW
The analysis section in the body of this report serves as the Planning and Zoning Department review.

ENGINEERING AND PUBLIC WORKS DEPARTMENT REVIEW
Streets
The applicant submitted a Traffic Impact Study (TIS) for the proposed development. The TIS modeled future traffic volumes from the proposed lots in this development, as well as proposed lots within Draper City limits that would connect to this development. The results are attached herewith. In general, the results show traffic volumes on all studied Alpine City streets to be currently operating at a Level of Service A and would continue to operate at a Level of Service A in the future.

The worst-case scenario shown in the model was the intersection of International Way and Eagle View, but the results show it would still be operating at a Level of Service A with an average 4.5 second wait time at the intersection. With this information, Engineering would not recommend/require any street improvements beyond what is shown on the plans for the development.

As with any development, frontage improvements are required. The property has frontage along 600 North that currently is not improved with sidewalk. The plans show a five-foot wide sidewalk to be built along the frontage of 600 North which is consistent with existing improvements.

Grading for roads appear to adhere to ordinance which limits grading to 50 feet from the right-of-way. Road grades and curvature also appear to meet ordinance. Retaining walls are shown to help keep the grading within those limits. All walls appear to meet ordinance which limits the exposed height of any single wall to 9 feet. **Redirock retaining walls are proposed and will require a separate building permit prior to construction.**

Culinary and Pressurized Irrigation
Plans are provided for the proposed new roadway and infrastructure which show new culinary

and secondary water services to each new lot. The culinary system shows connection of a new 14” main to the existing 12” main in Lakeview Drive. A small portion of existing 8” main would need removed for this connection to take place. The buildable areas of each lot are below the 5350-foot elevation line, the elevation at which the current system can provide the minimum pressures and adequate fire flows.

The currently recorded subdivision (Summit Pointe Plat A) has a 1-acre watering restriction for each lot. **Engineering recommends the same water restriction of 1-acre of irrigable area be included with this plat amendment. Engineering also recommends that only xeriscape or drip irrigation be allowed above the elevation of 5350** due to the water systems not being able to provide adequate pressure for any other type of outdoor water usage above that elevation. It needs to be clear that drip irrigation areas count as part of the irrigable area calculations.

The pressurized irrigation system shows a new 6” main connecting to an existing 6” main in Lakeview Drive. We know from previous modeling for the property that these line sizes are adequate to provide the minimum pressures required by ordinance. Having said that, the pressurized irrigation lines would remain dry until offsite system improvements are made to the high zone to help with current pressure problems occurring in the high zone.

Sewer and Storm Drain

The sewer main is shown to connect to the existing system in 600 North/Hog Hollow providing gravity sewer flow to the development. New 4-inch sewer services are shown for each lot.

The storm drain system collects water near the east side of the development and will convey it to a detention pond on the south east side of Lot 2, near Hog Hollow. It will drain into the existing system on Hog Hollow where a connection to the existing system would be made. Several changes were made to the storm drain system design from a previous submittal. A new storm drain report was turned in to reflect those changes. The report notes that the detention pond was sized for the 10-yr storm event. The Alpine City Strom Water Design Manual requires detention ponds to be sized for the 100-yr storm event. **The storm drain calculations and detention pond size needs adjusted for the 100-yr storm event.**

Hazard Studies

The property is situated within the Urban/Wildland Interface and includes areas classified by city hazard maps to be evaluated for several things including rockfall, slide, and debris flow. A geotechnical report and hazards report have been turned in with the application. There were two items that need further attention.

> (1) There is a comment regarding the slope stability of the site. It mentions that slope cuts steeper than 3:1 could affect the overall stability of the site. The storm drain detention basin proposes a 2:1 cut that runs 80 feet up the hillside on Lot 2. Per the reports, **Engineering is recommending the 2:1 cut slope of the detention basin to be evaluated more closely prior to approval of the plat amendment.**
>
> (2) The hazard report discusses debris flows. Debris flow events are common shortly after fires, as the City has experienced in the past. The report recommends that flows

from such an event should be accounted for in the storm drain calculations for the proposed culvert that passes water under Lakeview Drive and the detention basin below. **These calculations are not reflected in the storm drain report and should be prior to approval.** Another item of concern is the potential flood path of these waters. The flood path is directly in line with the proposed Lot 1 and the existing Lot 2 of Falcon Ridge Plat A. **The plans need to show how to mitigate the flooding potential of those lots from a debris flow event.**

Other
A bond would be required for the proposed infrastructure. **The developer needs to submit an engineering cost estimate for the proposed public improvements** so one can be created.

The City water policy needs to be met prior to construction and recordation of the plat.

A Land Disturbance Permit would be required prior to construction which ensures a Storm Water Pollution Prevention Plan (SWPPP) is followed. All disturbed areas of the site are required to be revegetated after construction.

There are redlines for both the plat and plans that would need corrected prior to construction or recordation of the plat.

LONE PEAK FIRE DEPARTMENT REVIEW
See Exhibit 'A' of this staff report for the Lone Peak Fire Department Review of the proposed plat amendment to the recorded Summit Pointe Subdivision.

NOTICING
Notice has been properly issued in the manner outlined in City and State Code

STAFF RECOMMENDATION

Review staff report and findings and make a recommendation to City Council to either approve or deny the proposed plat amendment. Findings are outlined below.

Findings for a Positive Motion:

A. Lots comply with area, minimum frontage, use, and slope requirements for the CR-40,000 zone.
B. According to the traffic study, impact of traffic on Alpine City streets and intersections is projected to be at Level of Service A.
C. Proposed roadway construction appears to meet Alpine City design standards.
D. Frontage improvements are shown throughout the development.
E. A geological hazards assessment and geological soils report have been submitted

Findings for Negative Motion:

A. The Alpine City General Plan shows no connection to Draper, and no connection has ever been planned.

B. The proposed amended subdivision is in the wild land interface area and does not have two points of access and will not have two unless the City's General Plan is amended, and the proposed Draper City Road is actually constructed and opened.
C. The plat amendment does not provide an easement for proposed trails from the Trail Master Plan.
D. The Geological Hazards report (Pg. 2) requires slope stability analysis of slopes steeper than 3:1 on/near the site. The proposed storm drain design shows a significant 2:1 cut slope that has not been analyzed.
E. The Geological Hazards report (Pg. 3) suggests incorporating debris flow volumes in the storm water calculations, they are not.
F. Flows from a debris flow event need to be analyzed and mitigated. Mitigation efforts for Lot 1 and the existing Lot 2 of Falcon Ridge Plat A should be shown on the plans.
G. The Storm water design is not sized appropriately for the 100-yr storm event.

MODEL MOTIONS

SAMPLE MOTION TO APPROVE

I motion to recommend approval of the proposed Summit Pointe Amended Plat "B" with the following conditions:

- The City's General Plan be amended to show the proposed connection to Draper;
- The Draper City road be constructed and open for use to provide the required second access;
- The Developer obtain a retaining wall permit prior to construction;
- The Developer place a note on the plat regarding the 1-acre irrigable area watering restriction and that only Xeriscape or drip irrigation be allowed above the 5350 elevation;
- The Developer adjust the storm drain design and calculations to be in alignment with the Alpine City Storm Water Drainage Design Manual;
- The Developer provide and engineer's cost estimate;
- The Developer address redlines on the plat and plans;
- The Developer meet the water policy.

SAMPLE MOTION TO DENY

I motion to recommend that the plat amendment Summit Pointe Amended Plat "B" be denied based on the following:

- The City's General Plan does not show a connection to Draper;
- Only one access currently exists, which does not meet the Wildland Urban Interface ordinance;
- The Storm drain report for the current design does not incorporate debris flow into the design and calculations, nor is the detention pond sized for the 100-yr storm event;
- The developer needs to show how the potential flooding of Lot 1 and Falcon Ridge Lot 2 would be mitigated.

LONE PEAK FIRE DISTRICT
5582 PARKWAY WEST DRIVE
HIGHLAND, UTAH 84003
(801) 763-5365
WWW.LONEPEAKFIRE.COM

REED M. THOMPSON, FIRE CHIEF

MEMORANDUM

DATE: 9 January 2019

TO: Jed Muhlestein, City Engineer, Alpine City
CC: Austin Roy, City Planner, Alpine City

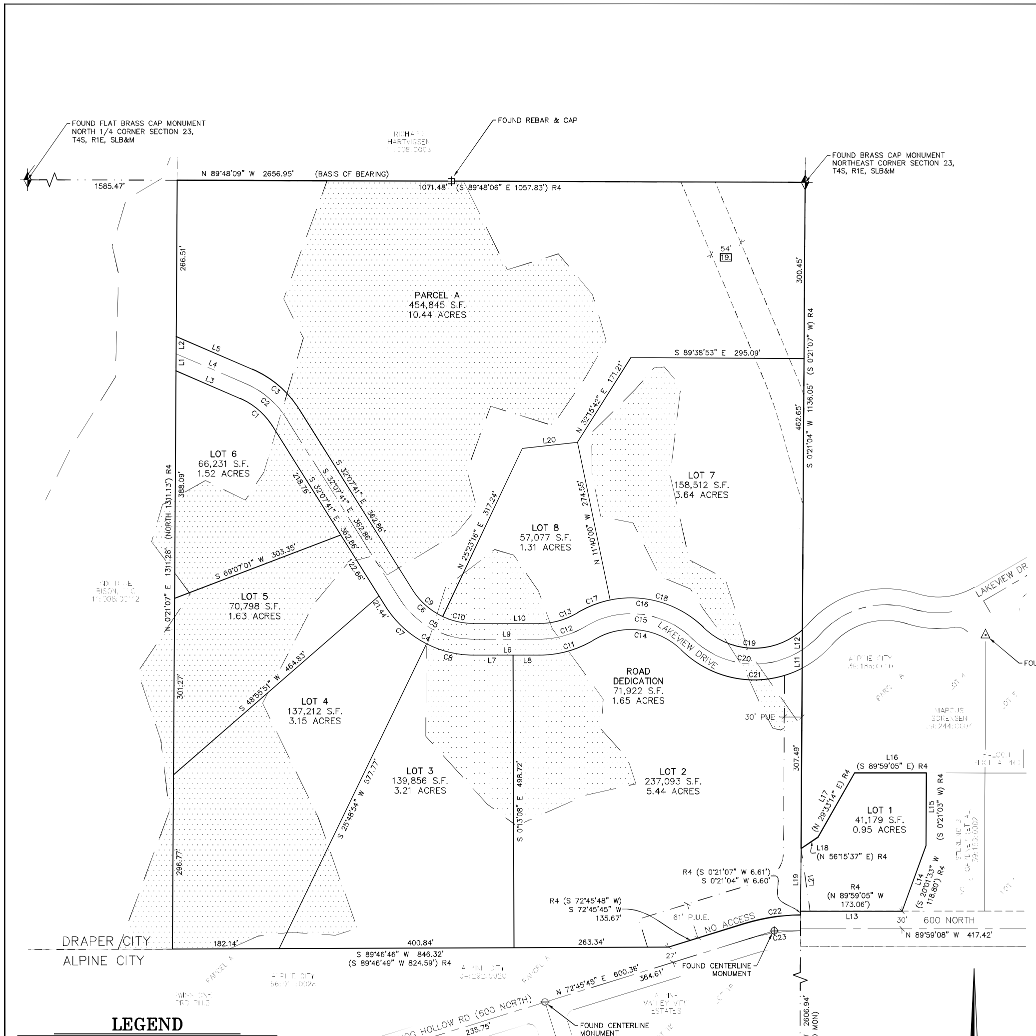
FROM: Reed M. Thompson, Fire Chief

SUBJECT: SUMMIT POINTE AMENDED SUBDIVISION

In review of the proposed site development construction drawings for "Summit Pointe Amended Subdivision", dated 16 November 2018, please note:

- In the cover page or construction notes on Sheet C000 language needs to identify that this project is within the Wildland Urban Interface Boundary and as such is subject to compliance with the Alpine City Sensitive Land Ordinance.
- The access road and turnaround for lot 4 shall be an all-weather access road capable of sustaining the weight limits of fire apparatus as required in the International Fire Code.
- It is assumed the proposed westerly end on the plans will make a connection to a road in Draper City. In order to approve these lots, a road connection is required due to the length of the road with relationship to the existing length of Lakeview Drive.

If you have further questions regarding this information, please contact me directly.



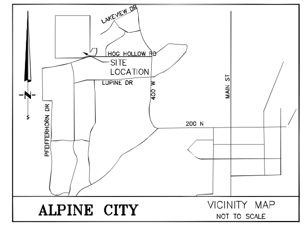
ADDRESS TABLE	
LOT	ADDRESS
1	754 W 600 N
2	823 W LAKEVIEW DR
3	891 W LAKEVIEW DR
4	915 W LAKEVIEW DR
5	931 W LAKEVIEW DR
6	957 W LAKEVIEW DR
7	812 W LAKEVIEW DR
8	872 W LAKEVIEW DR
PARCEL A	950 W LAKEVIEW DR

Parcel Line Table

Line #	Direction	Length
L1	N0° 21' 07"E	29.31
L2	N0° 21' 07"E	29.31
L3	S66° 43' 43"E	118.98
L4	S66° 43' 43"E	130.39
L5	S66° 43' 43"E	141.81
L6	N90° 00' 00"E	113.05
L7	N90° 00' 00"E	67.28
L8	N90° 00' 00"E	45.77
L9	N90° 00' 00"E	113.05
L10	N90° 00' 00"E	113.05
L11	N0° 25' 46"E	31.38
L12	N0° 16' 44"E	34.07
L13	N89° 58' 57"W	173.05
L14	S20° 01' 30"W	118.81
L15	S0° 21' 00"W	124.12
L16	S89° 59' 08"E	122.64
L17	N29° 33' 11"E	125.60
L18	N56° 15' 34"E	35.18
L19	S0° 21' 04"W	106.93
L20	N83° 45' 20"E	94.71
L21	S8° 10' 47"E	108.02

PARCEL CURVE DATA

SEGMENT	LENGTH	RADIUS	DELTA	TANGENT
C1	74.28	123.00	34°36'02"	38.31
C2	90.58	150.00	34°36'02"	46.72
C3	106.89	177.00	34°36'02"	55.13
C4	178.78	177.00	57°52'19"	97.85
C5	151.51	150.00	57°52'19"	82.93
C6	124.24	123.00	57°52'19"	68.00
C7	95.59	177.00	30°56'39"	48.99
C8	83.19	177.00	26°55'40"	42.38
C9	69.74	123.00	32°29'03"	35.83
C10	54.50	123.00	25°23'16"	27.71
C11	96.58	177.00	31°15'44"	49.52
C12	81.84	150.00	31°15'44"	41.97
C13	67.11	123.00	31°15'44"	34.41
C14	162.58	123.00	75°44'00"	95.64
C15	198.27	150.00	75°44'00"	116.63
C16	233.96	177.00	75°44'00"	137.63
C17	60.54	177.00	19°35'44"	30.57
C18	173.42	177.00	56°08'16"	94.39
C19	185.44	123.00	86°22'47"	115.46
C20	203.12	150.00	77°35'10"	120.57
C21	222.36	177.00	71°58'51"	128.55
C22	97.45	324.00	17°13'56"	49.09
C23	89.16	297.00	17°11'59"	44.92



VICINITY MAP
NOT TO SCALE

GRAPHIC SCALE

100 0 50 100 200

(IN FEET)
1 inch = 100 ft.

LEGEND

- SECTIONAL MONUMENTATION (TYPE, LOCATION ETC. AS NOTED ON THE PLAT).
- SPECIFIES FOUND SURVEY CONTROL MONUMENT (CLASS 1, RING & LID).
- SPECIFIES FOUND SURVEY CONTROL MONUMENT (CLASS II, REBAR & ALUM. CAP).
- SET 5/8" REBAR AND PLASTIC CAP (STAMPED BUSH & GUDGELL), UNLESS OTHERWISE NOTED ON THE PLAT.
- SPECIFIES FOUND SURVEY CONTROL MONUMENT (RIVET).
- BUILDABLE AREA

BUSH & GUDGELL, INC.
Engineers - Planners - Surveyors
655 East 4500 South
Salt Lake City, Utah 84107
Phone (801) 685-6194 / Fax (801) 685-6195
www.bushandgudgell.com

DATE: 12-6-18
FILE: 172177 FINAL
SHEET 1 OF 1

PLANNING COMMISSION APPROVAL

APPROVED THIS __________ DAY OF _____________, A.D. 20___, BY THE ALPINE CITY PLANNING COMMISSION.

DIRECTOR - SECRETARY

CHAIRMAN, PLANNING COMMISSION

APPROVAL AS TO FORM

APPROVED AS TO FORM THIS __________ DAY OF _____________, A.D. 20___,

CITY ATTORNEY

ACCEPTANCE BY LEGISLATIVE BODY

THE ____________ OF ___________________, COUNTY OF UTAH, APPROVES THIS SUBDIVISION AND HEREBY ACCEPTS THE DEDICATION OF ___________________ ALL STREETS, EASEMENTS, AND OTHER PARCELS OF LAND INTENDED FOR PUBLIC PURPOSES FOR THE PERPETUAL USE OF THE PUBLIC THIS __________ DAY _____________, A.D. 20___

APPROVED
ENGINEER (SEE SEAL BELOW)

ATTEST
CLERK - RECORDER (SEE SEAL BELOW)

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT THE UNDERSIGNED OWNERS OF ALL OF THE ABOVE DESCRIBED TRACT OF LAND, HAVING CAUSED THE SAME TO BE SUBDIVIDED INTO EIGHT (8) LOTS, PARCEL A AND ROAD DEDICATION TO BE HEREAFTER KNOWS AS THE SUMMIT POINTE AMENDED, DO HEREBY DEDICATED FOR PERPETUAL USE OF ALL THE PUBLIC ALL PARCELS OF LAND SHOW ON THIS PLAT AS INTENDED FOR PUBLIC USE

IN WITNESS WHEREOF _______ HAVE HEREUNTO SET ____________ THIS _______ DAY OF _________ A.D., 20___.

BY:
____

ACKNOWLEDGMENT

STATE OF _________________ }
COUNTY OF _________________ } S.S.

ON THE ____ DAY OF ___________________ 20___, PERSONALLY APPEARED BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC IN AND FOR SAID STATE AND COUNTY, ____________ WHO BEING BY ME DULY SWORN, DID SAY THAT HE IS THE ____________ OF ___________________, AND THAT HE EXECUTED THE FOREGOING OWNER'S DEDICATION IN BEHALF OF SAID _________________ BEING AUTHORIZED AND EMPOWERED TO DO SO BY THE OPERATING AGREEMENT OF COMPANY, LLC, AND HE DID DULY ACKNOWLEDGE TO ME THAT SUCH LIMITED LIABILITY COMPANY EXECUTED THE SAME FOR THE USES AND PURPOSES STATED THEREIN.

MY COMMISSION EXPIRES:

NOTARY PUBLIC
RESIDES IN:

SURVEYOR'S CERTIFICATE

I, D. GREGG MEYERS, DO HEREBY CERTIFY THAT I AM A REGISTERED LAND SURVEYOR, AND THAT I HOLD LICENSE NO. 312770 AS PRESCRIBED UNDER THE LAWS OF THE STATE OF UTAH. I FURTHER CERTIFY THAT BY AUTHORITY OF THE OWNER, I HAVE MADE A SURVEY OF THE TRACT OF LAND SHOWN ON THIS PLAT AND DESCRIBED BELOW, AND HAVE SUBDIVIDED SAID TRACT OF LAND INTO LOTS, HEREAFTER TO BE KNOWN AS THE SUMMIT POINTE AMENDED AND THAT THE SAME HAS BEEN CORRECTLY SURVEYED AND STAKED ON THE GROUND AS SHOWN ON THIS PLAT.

12/6/2018
DATE:
BUSH AND GUDGELL INC.

PROFESSIONAL LAND SURVEYOR
LICENSE
#312770
D. GREGG
MEYERS
12/6/2018
STATE OF UTAH

D. Gregg Meyers
D. GREGG MEYERS REGISTERED LAND SURVEYOR UTAH LICENSE NUMBER 312770

BOUNDARY DESCRIPTION

LOTS 1, 2, 3 AND 4, PLAT "A" SUMMIT POINTE, INCLUDING A VACATION OF LOT 3 OF FALCON RIDGE SUBDIVISION PLAT "A", ACCORDING TO THE OFFICIAL PLAT THEREOF, AS RECORDED IN OFFICE OF THE COUNTY RECORDER, UTAH COUNTY, STATE OF UTAH, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SECTION 23, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN, AND RUNNING THENCE SOUTH 00°21'04" WEST ALONG THE EAST LINE OF SAID SECTION 23 1136.05 FEET; THENCE NORTH 56°15'34" EAST 35.18 FEET; THENCE NORTH 29°33'11" EAST 125.60 FEET; THENCE SOUTH 89°59'08" EAST 122.64 FEET; THENCE SOUTH 00°21'00" WEST 124.12 FEET; THENCE SOUTH 20°01'30" WEST 118.81 FEET TO A POINT ON THE NORTH RIGHT-OF-WAY OF HOG HOLLOW ROAD; THENCE ALONG SAID RIGHT-OF-WAY THE FOLLOWING FOUR (4) COURSES; 1) NORTH 89°58'57" WEST 173.05 FEET; 2) SOUTH 00°21'04" WEST 6.60 FEET; 3) WESTERLY ALONG A 324.00 FOOT RADIUS NON-TANGENT CURVE TO THE LEFT, (LONG CHORD BEARS SOUTH 81°22'43" WEST A DISTANCE OF 97.08 FEET, CENTER POINT LIES SOUTH 00°00'19" EAST), THROUGH A CENTRAL ANGLE OF 17°13'56", A DISTANCE OF 97.45 FEET; 4) SOUTH 72°45'45" WEST 135.67 FEET; THENCE SOUTH 89°46'46" WEST ALONG THE NORTH BOUNDARIES OF ALPINE VALLEY VIEW ESTATES SUBDIVISION AND SWISS ONE PLANNED RESIDENTIAL DEVELOPMENT PHASE 3, OFFICIAL RECORDS, UTAH COUNTY, UTAH, 846.32 FEET; THENCE NORTH 00°21'07" EAST 1311.28 FEET; THENCE SOUTH 89°48'09" EAST 1071.48 FEET; TO THE POINT OF BEGINNING.

CONTAINS 1,434,724 SQ FT, 32.94 ACRES, MORE OR LESS

NOTES

1. NO ATTEMPT HAS BEEN MADE AS A PART OF THIS PRELIMINARY PLAT TO OBTAIN OR SHOW DATA CONCERNING EXISTENCE, SIZE, DEPTH, CONDITION, CAPACITY, OR LOCATION OF ANY UTILITY OR MUNICIPAL/PUBLIC SERVICE FACILITY. FOR INFORMATION REGARDING THESE UTILITIES OR FACILITIES, PLEASE CONTACT THE APPROPRIATE AGENCIES OR OTHER.

2. SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP, TITLE EVIDENCE, OR ANY OTHER FACTS WHICH AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.

3. ALL COURSES SHOWN IN PARENTHESIS ARE RECORD INFORMATION TAKEN FROM DEED DESCRIPTION OR OFFICIAL MAPS OR PLATS OF RECORD. ALL OTHER COURSES ARE THE RESULT OF ACTUAL FIELD MEASUREMENTS.

4. ALL CURVES ARE TANGENT CURVES UNLESS OTHERWISE STATED. IF NEEDED A CENTER BEARING WILL BE SHOWN.

NARRATIVE

THE PURPOSE OF THIS SURVEY IS TO COMBINE FOUR EXISTING PARCELS TO CREATE A 8 LOT AND A PARCEL "A" RESIDENTIAL DEVELOPMENT. THE SURVEY WAS PERFORMED AT THE REQUEST OF OUR CLIENT. THE BASIS OF BEARING FOR THIS SURVEY IS N 89°48'09" E ALONG THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 23, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE & MERIDIAN; BETWEEN TWO SECTIONAL MONUMENTS, TYPE AND LOCATIONS OF WHICH ARE SHOWN ON THIS PLAT.

WITH THAT SAID THIS SURVEY BY NO MEANS STATES OR IMPLIES THAT WE HAVE RESOLVED ANY CURRENT OR FUTURE BOUNDARY LINE ISSUES WITH THIS SUBJECT PROPERTIES BOUNDARY. IF THE OWNERS WOULD LIKE TO RESOLVE THESE ISSUES WE SUGGESTS THAT AN EXTENSIVE TITLE REPORT AND ALONG WITH AN ABSTRACT TITLE SEARCH WITH A SURVEY COVERING ALL EFFECTED PARCELS BE COMPLETED IN ORDER TO START THIS PROCESS.

THE FOLLOWING MAPS WERE USED AS REFERENCES TO PRODUCE THIS INFORMATION ALL OF WHICH ARE RECORDED AND ON FILE AT THE UTAH COUNTY RECORDERS OFFICE, STATE OF UTAH.

R1 ALPINE VALLEY VIEW ESTATES SUBDIVISION, MAP FILING # 8128, RECORDED JULY 01, 1999.

R2 FALCON RIDGE A PRD SUBDIVISIONS, MAP FILING # 10623, RECORDED AUGUST 10, 2004.

R3 LONE PEAK ESTATES, MAP FILING # 5609, RECORDED JULY 11, 1994.

R4 SUMMIT POINTE INCLUDING A VACATION OF LOT 3 OF FALCON RIDGE SUBDIVISION PLAT "A", MAP FILING # 15620, RECORDED JULY 13, 2017.

R5 SUNRISE POINT SUBDIVISION PHASE II, MAP FILING # 6580, RECORDED MAY 7, 1996.

R6 SWISS ONE PLANNED RESIDENTIAL DEVELOPMENT PHASE 3, MAP FILING # 10399, RECORDED MARCH 23, 2004.

EASEMENT NOTES

$\boxed{18.}$ ANY AND ALL MATTERS DISCLOSED ON THE OFFICIAL RECORDED PLAT OF SAID SUBDIVISION, INCLUDING, BUT NOT LIMITED TO, PUBLIC UTILITIES AND DRAINAGE EASEMENTS, SEWER EASEMENTS, BUILDING SET-BACK LINES AND/OR BUILDABLE AREA LIMIT LINES, NOTES AND RECITALS, PRIVATE DRIVEWAY, CROSS ACCESS AND UTILITY EASEMENT, SEWER EASEMENT, AND THE TERMS AND CONDITIONS THEREOF, RECORDED: JULY 10, 2017, ENTRY NO.: 67625:2017. **(TO BE VACATED UPON RECORDATION OF THIS PLAT)**

$\boxed{19.}$ EASEMENT, AND THE TERMS AND CONDITIONS GRANTEE: ALPINE CITY FOR THE PURPOSE OF A PERMANENT EASEMENT FOR THE LOCATION, CONSTRUCTION AND MAINTENANCE OF A PUBLIC ROAD RIGHT OF WAY AND RELATED FACILITIES RECORDED: JULY 10, 2017 ENTRY NO.: 66480:2017 **(AS SHOWN)**

$\boxed{20.}$ EASEMENT, AND THE TERMS AND CONDITIONS THEREOF: GRANTEE: RICHARD HARTVIGSEN PURPOSE: ACCESS RECORDED: JULY 28, 2017, ENTRY NO.: 72701:2017 **(TO BE VACATED UPON RECORDATION OF THIS PLAT)**

PLAT VACATION NOTICE

THE CITY OF ALPINE IS SATISFIED THAT NEITHER THE PUBLIC NOR ANY PERSON WILL BE MATERIALLY INJURED BY THE VACATION OF SUMMIT POINTE, PLAT "A" AND THAT THERE IS GOOD CAUSE FOR THE VACATION. SUMMIT POINTE, PLAT "A" IS HEREBY VACATED.

PLAT "B"

SUMMIT POINTE AMENDED

INCLUDING A VACATION OF SUMMIT POINTE, PLAT "A"

LOCATED IN

NORTHEAST 1/4 OF SECTION 23,
TOWNSHIP 4 SOUTH, RANGE 1 EAST,
SALT LAKE BASE AND MERIDIAN

PREPARED FOR:

SIX BLUE BISON, LLC

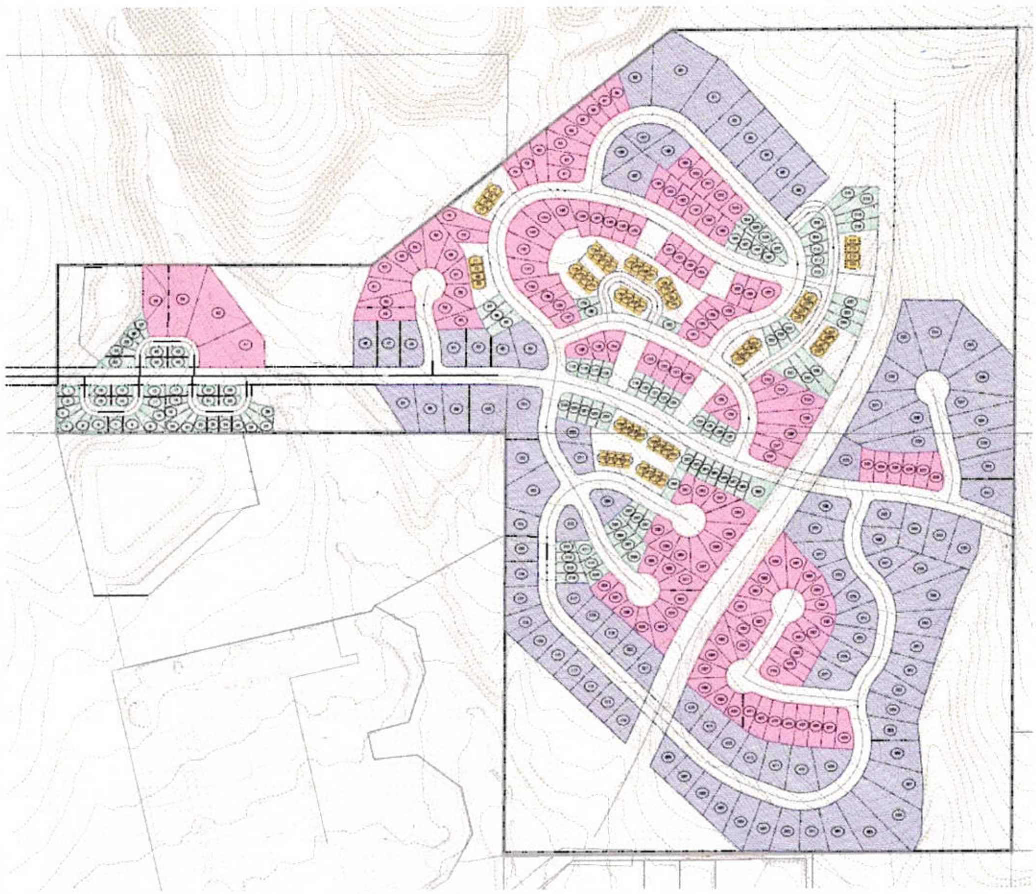
SHEET 1 OF 1

SURVEYOR'S SEAL	NOTARY PUBLIC SEAL	CITY ENGINEERS SEAL	CLERK-RECORDER SEAL

HALES ENGINEERING
innovative transportation solutions

Blue Bison Development

Traffic Impact Study



Alpine/Draper, Utah

August 28, 2018

UT18-1304

LICENSED PROFESSIONAL ENGINEER
8/28/18
No. 10453788
E. SCOTT
JOHNSON
STATE OF UTAH

1220 North 500 West, Ste. 202 Lehi, UT 84043 p 801.766.4343
www.halesengineering.com

EXECUTIVE SUMMARY

This study addresses the traffic impacts associated with the proposed Blue Bison development located in Alpine and Draper, Utah. This development will consist of two subdivisions, the Sequoias Subdivision (located within the Draper city limits) and the Summit Pointe Subdivision (located in the Alpine city limits). The proposed project is located on the border between the two cities and will have accesses at the west end of Lakeview Drive and the north side of Suncrest Drive approximately 1,200 feet east of the Mercer Hollow Cove / Suncrest Drive intersection.

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways near the site. Future 2024 conditions were also analyzed.

The evening peak hour level of service (LOS) was computed for each study intersection. The results of this analysis are shown in Table ES-1. Recommended storage lengths are shown in Table ES-2.

TABLE ES-1 LOS Analysis - Evening Peak Hour Saratoga Springs - Wildflower TIS				
Intersection	Level of Service (Sec/Veh)[1]			
	Existing (2018) Background	Existing (2018) Plus Project	Future (2024) Background	Future (2024) Plus Project
Mercer Hollow Cove / Suncrest Drive	A (9.1) / EB	A (9.1) / EB	A (9.3) / EB	A (9.3) / EB
Lakeview Drive / Treeline Drive	A (0.7) / WB	A (3.7) / WB	A (4.1) / WB	A (4.1) / WB
Treeline Drive / Eagle View Drive	A (2.3) / EB	A (2.4) / EB	A (2.5) / EB	A (2.5) / EB
International Way / Eagle View Drive	A (4.0) / WB	A (4.3) / WB	A (3.9) / WB	A (4.5) / WB
Hillside Circle / Eagle View Drive	A (4.2) / WB	A (4.3) / WB	A (3.7) / WB	A (4.1) / WB
600 North / Eagle View Drive	A (2.6) / EB	A (2.6) / EB	A (2.8) / EB	A (2.9) / EB
Lupine Drive / Eagle View Drive	A (4.1) / WB	A (4.2) / WB	A (3.5) / WB	A (4.0) / EB
Westfield Road / 400 West / 200 North	A (3.8) / NB	A (4.0) / NB	A (3.9) / NB	A (4.5) / NB
Road A / Suncrest Drive[2]	-	B (10.7) / SB	-	B (11.2) / SB

1. Intersection LOS and delay (seconds/vehicle) values represent the overall intersection average for roundabout, signalized, all-way stop controlled intersections and the worst approach for all other unsignalized intersections.
2. This intersection is a project access and was only analyzed in "plus project" scenarios.

Source: Hales Engineering, August 2018

TABLE ES-2 Recommended Storage Lengths Saratoga Springs - Wildflower TIS								
Intersection	Storage Length (feet)							
	Northbound		Southbound		Eastbound		Westbound	
	LT	RT	LT	RT	LT	RT	LT	RT
Road A / Suncrest Drive	-	-	-	100	100	-	-	-

Source: Hales Engineering, August 2018

SUMMARY OF KEY FINDINGS/RECOMMENDATIONS

The following is a summary of key findings and recommendations:

- All study intersections are currently operating at acceptable levels of service during the evening peak hour in existing (2018) background conditions.
- The development will consist of residential townhome and single-family units.
- All study intersections are anticipated to operate at acceptable levels of service during the evening peak hour with project traffic added.
- All study intersections are anticipated to operate at acceptable levels of service during the evening peak hour in future (2024) background and plus project conditions.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

I. INTRODUCTION

A. Purpose

This study addresses the traffic impacts associated with the proposed Blue Bison development located in Alpine and Draper, Utah. This development will consist of two subdivisions, the Sequoias Subdivision (located within the Draper city limits) and the Summit Pointe Subdivision (located in the Alpine city limits). The proposed project will have accesses at the west end of Lakeview Drive in Alpine and the north/east side of Suncrest Drive approximately 1,200 feet east of the Mercer Hollow Cove / Suncrest Drive intersection. Figure 1 shows a vicinity map of the proposed development; note that that the stars denote the locations of the proposed project access points.

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways near the site. Future 2024 conditions were also analyzed.

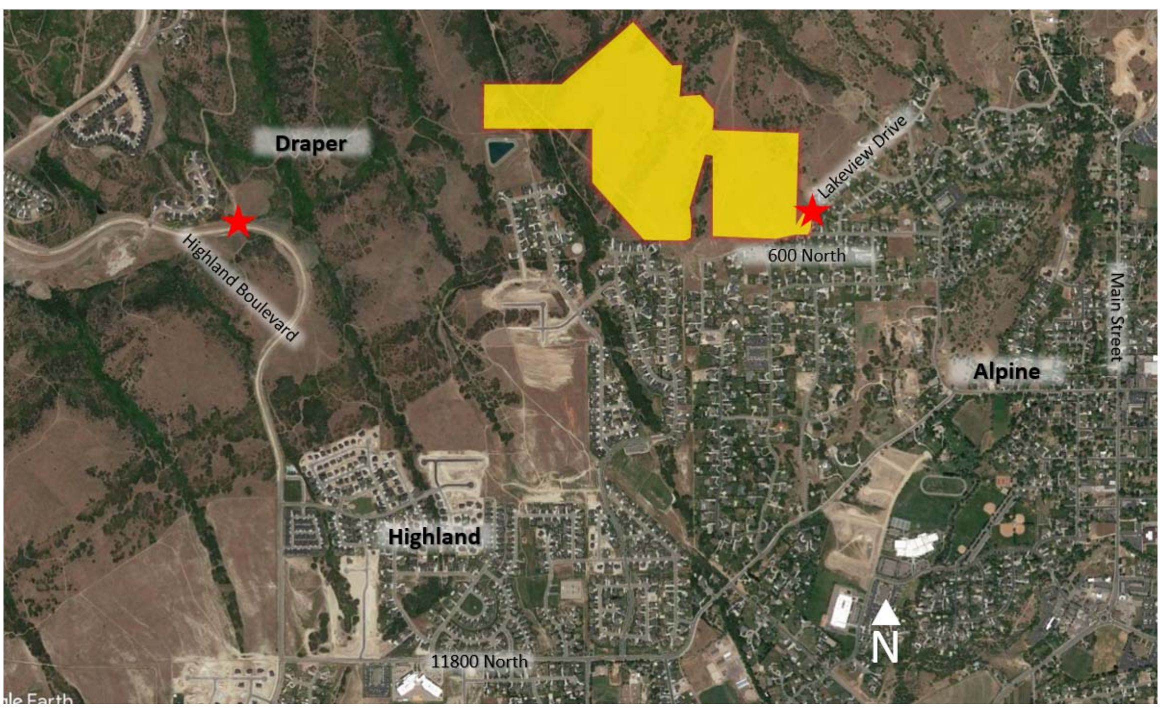


Figure 1: Vicinity map showing the project location in Alpine/Draper, Utah

B. Scope

The study area was defined based on conversations with the development team. This study was scoped to evaluate the traffic operational performance impacts of the project on the following intersections:

- Mercer Hollow Cove / Suncrest Drive
- Road A / Suncrest Drive
- Lakeview Drive / Treeline Drive
- Treeline Drive / Eagle View Drive
- International way / Eagle View Drive
- Hog Hollow (600 North) / Eagle View Drive
- Hillside Circle / Eagle View Drive
- Lupine Drive / 400 West
- Westfield Road / 400 West / 200 North

C. Analysis Methodology

Level of service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. Table 1 provides a brief description of each LOS letter designation and an accompanying average delay per vehicle for both signalized and unsignalized intersections. Figure 2 provides a visual representation of each LOS letter designation.

The *Highway Capacity Manual* (*HCM*), 6th Edition methodology was used in this study to remain consistent with "state-of-the-practice" professional standards. This methodology has different quantitative evaluations for signalized and unsignalized intersections. For signalized and all-way stop intersections, the LOS is provided for the overall intersection (weighted average of all approach delays). For all other unsignalized intersections LOS is reported based on the worst approach.

D. Level of Service Standards

For the purposes of this study, a minimum overall intersection performance for each of the study intersections was set at LOS D. However, if LOS E or F conditions exist, an explanation and/or mitigation measures will be presented. An LOS D threshold is consistent with "state-of-the-practice" traffic engineering principles for urbanized areas.

Table 1: Level of Service Description

Level of Service	Description of Traffic Conditions	Average Delay (seconds/vehicle)
	Signalized Intersections	**Overall Intersection**
A	Extremely favorable progression and a very low level of control delay. Individual users are virtually unaffected by others in the traffic stream.	0 ≤ 10.0
B	Good progression and a low level of control delay. The presence of other users in the traffic stream becomes noticeable.	> 10.0 and ≤ 20.0
C	Fair progression and a moderate level of control delay. The operation of individual users becomes somewhat affected by interactions with others in the traffic stream.	>20.0 and ≤ 35.0
D	Marginal progression with relatively elevated levels of control delay. Operating conditions are noticeably more constrained.	> 35.0 and ≤ 55.0
E	Poor progression with unacceptably elevated levels of control delay. Operating conditions are at or near capacity.	> 55.0 and ≤ 80.0
F	Unacceptable progression with forced or breakdown operating conditions.	> 80.0
	Unsignalized Intersections	**Worst Approach**
A	Free Flow / Insignificant Delay	0 ≤ 10.0
B	Stable Operations / Minimum Delays	>10.0 and ≤ 15.0
C	Stable Operations / Acceptable Delays	>15.0 and ≤ 25.0
D	Approaching Unstable Flows / Tolerable Delays	>25.0 and ≤ 35.0
E	Unstable Operations / Significant Delays Can Occur	>35.0 and ≤ 50.0
F	Forced Flows / Unpredictable Flows / Excessive Delays Occur	> 50.0
Source: Hales Engineering Descriptions, based on the *Highway Capacity Manual* (HCM), 6th Edition Methodology (Transportation Research Board, 2016)		

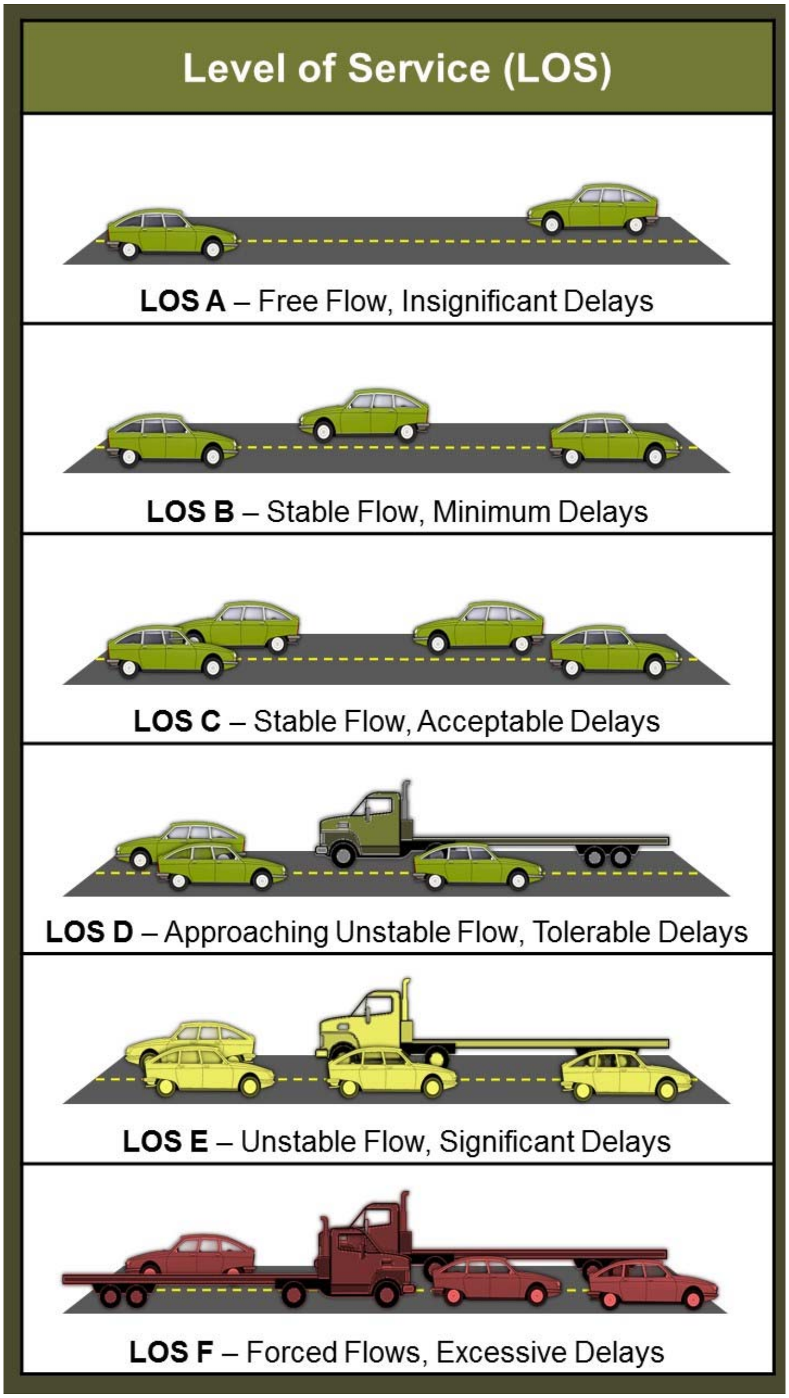


Figure 2: LOS letter designation

II. EXISTING (2018) BACKGROUND CONDITIONS

A. Purpose

The purpose of the background analysis is to study the intersections and roadways during the peak travel periods of the day with background traffic and geometric conditions. Through this analysis, background traffic operational deficiencies can be identified, and potential mitigation measures recommended. This analysis will provide a baseline condition that may be compared to the build conditions to identify the impacts of the development.

B. Roadway System

The primary roadways that will provide access to the project site are described below:

Suncrest Drive – is a City-maintained roadway classified by the Draper City Transportation Master Plan (November 2011) as a "minor arterial". Suncrest Drive has two travel lanes in each direction with a double solid yellow line separating opposing lanes. The posted speed limit is 40 mph in the study area.

Lakeview Drive – is a City-maintained roadway which is classified by the Alpine City General Plan Transportation Master Plan Map (September 2007) as a "local" road. The roadway has one travel lane in each direction with no separation between lanes. The speed limit was assumed to be 25 mph in the study area.

C. Traffic Volumes

Weekday ADT data was collected by performing 24-hr counts at the following two locations:

- Suncrest Drive, West/South of Mercer Hollow Cove
- 400 West, between Lupine Drive and Westfield Road

Weekday morning (7:00 to 9:00 a.m.) and evening (4:00 to 6:00 p.m.) peak period traffic counts were performed at the following intersections:

- Mercer Hollow Cove / Suncrest Drive
- Lakeview Drive / Treeline Drive
- Treeline Drive / Eagle View Drive
- International way / Eagle View Drive
- Hog Hollow (600 North) / Eagle View Drive
- Hillside Circle / Eagle View Drive
- Lupine Drive / 400 West

- Westfield Road / 400 West / 200 North

The traffic counts were performed on Thursday, August 16, 2018, and the tube counts were performed on Tuesday, August 21, 2018. The morning peak hour was determined to be between 8:00 and 9:00 a.m. and the evening peak hour was determined to be between 5:00 and 6:00 p.m. The evening peak hour volumes were approximately 57% higher than the morning peak hour volumes. Therefore, the evening peak hour volumes were used in the analysis to represent the worst-case conditions. Additionally, the ADT on Suncrest Drive was found to be 5,293, and the ADT on 400 West was found to be 1,788 within the study area. Detailed count data are included in Appendix A.

Figure 3 shows the existing evening peak hour volumes as well as intersection geometry at the study intersections.

D. Level of Service Analysis

Using Synchro/SimTraffic, which follow the *HCM*, 6th Edition methodology introduced in Chapter I, the evening peak hour LOS was computed for each study intersection. The results of this analysis are reported in Table 2 (see Appendix B for the detailed LOS reports). Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. These results serve as a baseline condition for the impact analysis of the proposed development during existing (2018) conditions. As shown in Table 2, all study intersections are currently operating at an acceptable LOS during the evening peak hour.


1
0
1
0
341
35
5
341
0
0
0
26
Mercer Hollow Cove
Suncrest Drive
Google Earth


Eagleview Drive
International Way
Lakeview Drive
Treeline Drive
Hillside Circle
600 North
Lupine Drive
Hog Hollow Road
200 North
Westfield Road

Table 2: Existing (2018) Background Evening Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mercer Hollow Cove / Suncrest Drive	SB Stop	EB	9.1	A	-	-
Lakeview Drive / Treeline Drive	WB Stop	WB	0.7	A	-	-
Treeline Drive / Eagle View Drive	EB Stop	EB	2.3	A	-	-
International Way / Eagle View Drive	WB Stop	WB	4.0	A	-	-
Hillside Circle / Eagle View Drive	WB Stop	WB	4.2	A	-	-
600 North / Eagle View Drive	EB Stop	EB	2.6	A	-	-
Lupine Drive / Eagle View Drive	EB / WB Stop	WB	4.1	A	-	-
Westfield Road / 400 West / 200 North	NB Stop	NB	3.8	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal-controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, August 2018

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. The queue reports can be found in Appendix D. No significant queueing was observed during the evening peak hour.

F. Mitigation Measures

No mitigation measures are recommended.

III. PROJECT CONDITIONS

A. Purpose

The project conditions analysis explains the type and intensity of development. This provides the basis for trip generation, distribution, and assignment of project trips to the surrounding study intersections defined in the Introduction.

B. Project Description

This study addresses the traffic impacts associated with proposed Blue Bison development located in Alpine and Draper, Utah. This development will consist of two subdivisions, the Sequoias Subdivision (located within the Draper city limits) and the Summit Pointe Subdivision (located in the Alpine city limits). The proposed project will have accesses at the west end of Lakeview Drive in Alpine and the north/east side of Suncrest Drive approximately 1,200 feet east of the Mercer Hollow Cove / Suncrest Drive intersection. The development will consist of residential townhome, and single-family units. A concept plan for the proposed developments has been included in Appendix C.

The proposed land use for the Summit Pointe Subdivision has been identified as follows:

- Single-family detached housing — 8 Units

The proposed land use for the Sequoias Subdivision has been identified as follows:

- Single-family detached housing — 355 Units
- Townhomes — 60 Units

C. Trip Generation

Trip generation for the development was calculated using trip generation rates published in the Institute of Transportation Engineers (ITE), *Trip Generation*, 10th Edition, 2017. Trip Generation for the proposed project is included in Table 3.

The total trip generation for the development is as follows:

- Daily Trips: 3,852
- Morning Peak Hour Trips: 301
- Evening Peak Hour Trips: 392

Table 3
Alpine/Draper Blue Bison Development TIS
Trip Generation

Weekday Daily Land Use[1]	# of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total Daily Trips
Single-Family (Summit Pointe) [210]	8	Dwelling Units	102	50%	50%	51	51	**102**
Single-Family (Sequioas) [210]	355	Dwelling Units	3,336	50%	50%	1,668	1,668	**3,336**
Townhomes (Sequioas) [220]	60	Dwelling Units	414	50%	50%	207	207	**414**
Project Total Daily Trips						**1,926**	**1,926**	**3,852**
Morning Peak Hour Land Use[1]	# of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total a.m. Trips
Single-Family (Summit Pointe) [210]	8	Dwelling Units	12	25%	75%	3	9	**12**
Single-Family (Sequioas) [210]	355	Dwelling Units	258	25%	75%	65	194	**259**
Townhomes (Sequioas) [220]	60	Dwelling Units	30	23%	77%	7	23	**30**
Project Total a.m. Peak Hour Trips						**75**	**226**	**301**
Evening Peak Hour Land Use[1]	# of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total p.m. Trips
Single-Family (Summit Pointe) [210]	8	Dwelling Units	10	63%	37%	6	4	**10**
Single-Family (Sequioas) [210]	355	Dwelling Units	344	63%	37%	217	127	**344**
Townhomes (Sequioas) [220]	60	Dwelling Units	38	63%	37%	24	14	**38**
Project Total p.m. Peak Hour Trips						**247**	**145**	**392**

1. Land Use Code from the Institute of Transportation Engineers (ITE) *Trip Generation*, 10th Edition, 2017.

SOURCE: Hales Engineering, August 2018

D. Trip Distribution and Assignment

Project traffic is assigned to the roadway network based on the type of trip and the proximity of project access points to major streets, high population densities, and regional trip attractions. Existing travel patterns observed during data collection also provide helpful guidance to establishing these distribution percentages, especially near the site. The resulting distribution of project generated trips during the evening peak hour is as follows:

To/From Project:

- 5% North via Suncrest Drive
- 75% South via Suncrest Drive
- 15% East via 200 North
- 5% West via Westfield Drive

These trip distribution assumptions were used to assign the evening peak hour generated traffic at the study intersections to create trip assignment for the proposed development. Trip assignment for the development is shown in Figure 4.


Road A
Mercer Hollow Cove
Suncrest Drive
0 0 0
0
7
0
0
12
0
0 0 0
109
7
185
0
12
0
Google Earth


Eagleview Drive
International Way
Lakeview Drive
Treeline Drive
Hillside Circle
600 North
Lupine Drive
400 West
200 North
Westfield Road

E. Access

The proposed access for the site will be gained at the following locations (see also concept plan in Appendix C):

Suncrest Drive:

- Road A will be located approximately 1,200 feet east of the Mercer Hollow Cove / Suncrest Drive intersection in Draper. It will access the project on the north/east side of Suncrest Drive. It is anticipated that the access will be stop-controlled at southbound approach.

Lakeview Drive:

- The eastern access to the project will be located at the westernmost cul-de-sac on Lakeview Drive in Alpine. As the access to the project will be extending from Lakeview Drive and not intersecting it, any project traffic utilizing this access will be considered starting at the Lakeview Drive / Treeline Drive intersection.

IV. EXISTING (2018) PLUS PROJECT CONDITIONS

A. Purpose

The purpose of the existing (2018) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for existing background traffic and geometric conditions plus the net trips generated by the proposed development. This scenario provides valuable insight into the potential impacts of the proposed project on background traffic conditions.

B. Traffic Volumes

Project trips were assigned to the study intersections based on the trip distribution percentages discussed in Chapter III and permitted intersection turning movements. The existing (2018) plus project evening peak hour volumes were generated for the study intersections and are shown in Figure 5. By adding the project traffic, it is anticipated that the ADT on Suncrest Drive will increase to 8,375 and the ADT on 400 West will increase to 2,558 within the study area.

C. Level of Service Analysis

Using Synchro/SimTraffic, which follow the *HCM*, 6th Edition methodology introduced in Chapter I, the evening peak hour LOS was computed for each study intersection. The results of this analysis are reported in Table 4 (see Appendix B for the detailed LOS reports). Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. As shown in Table 4, all intersections are anticipated to operate at an acceptable LOS during the evening peak hour with project traffic added.

D. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. The queue reports can be found in Appendix D. No significant queuing is anticipated during the evening peak hour with project traffic added.

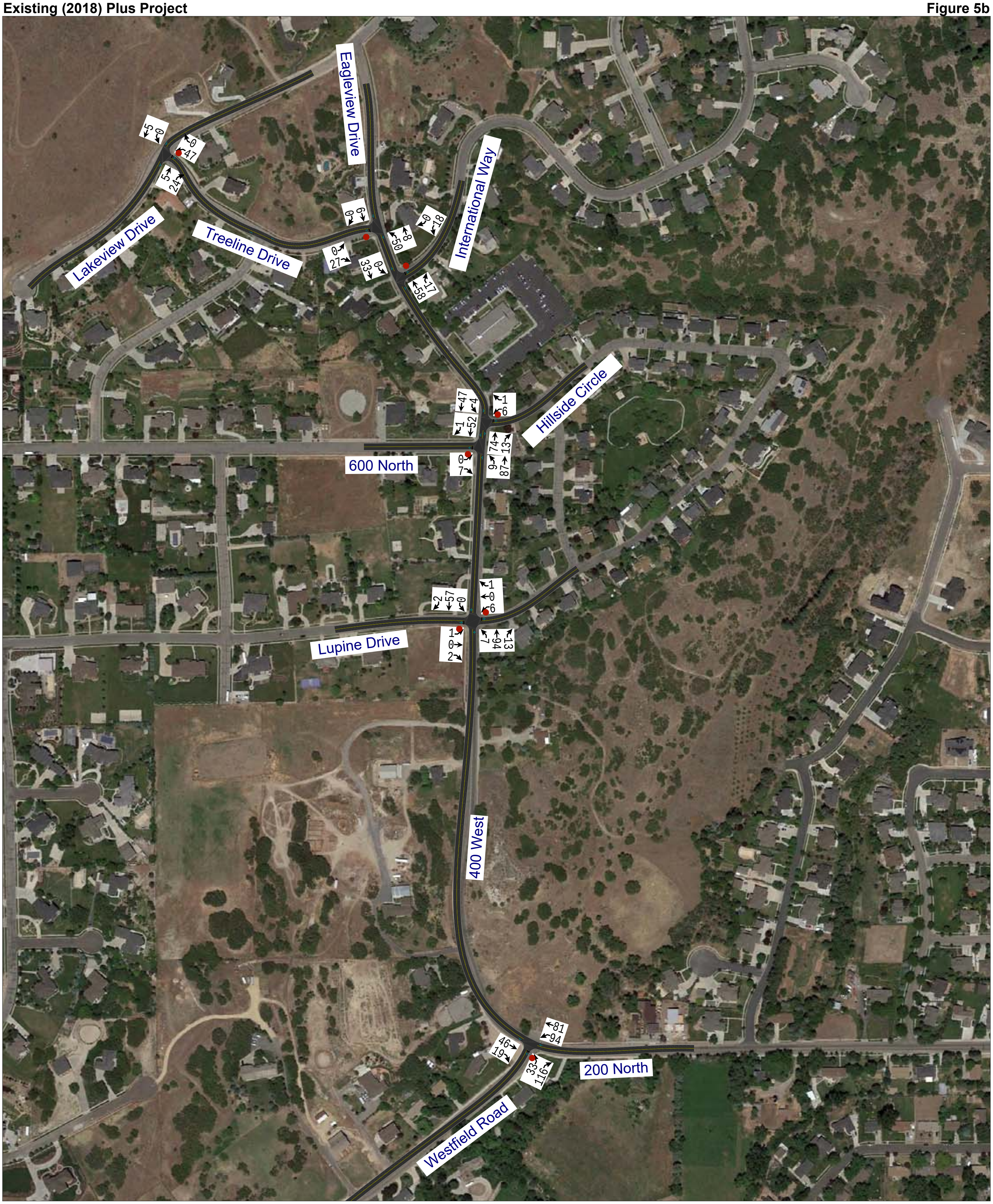
E. Mitigation Measures

No mitigation measures are recommended.


Mercer Hollow Cove
Suncrest Drive
Road A
1 0 1
0 350 35
5 353 0
0 0 26
109 7
185 378
12 368

Alpine-Draper Blue Bison Development TIS
Existing (2018) Plus Project

Evening Peak Hour
Figure 5b



Hales Engineering
1220 North 500 West, Ste. 202 Lehi UT 84043

801.766.4343
08/21/2018

Table 4: Existing (2018) Plus Project Evening Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mercer Hollow Cove / Suncrest Drive	SB Stop	EB	9.1	A	-	-
Lakeview Drive / Treeline Drive	WB Stop	WB	3.7	A	-	-
Treeline Drive / Eagle View Drive	EB Stop	EB	2.4	A	-	-
International Way / Eagle View Drive	WB Stop	WB	4.3	A	-	-
Hillside Circle / Eagle View Drive	WB Stop	WB	4.3	A	-	-
600 North / Eagle View Drive	EB Stop	EB	2.6	A	-	-
Lupine Drive / Eagle View Drive	EB / WB Stop	WB	4.2	A	-	-
Westfield Road / 400 West / 200 North	NB Stop	NB	4.0	A	-	-
Road A / Suncrest Drive	SB Stop	SB	10.7	B	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal-controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, August 2018

V. FUTURE (2024) BACKGROUND CONDITIONS

A. Purpose

The purpose of the future (2024) background analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions. Through this analysis, future background traffic operational deficiencies can be identified, and potential mitigation measures recommended.

B. Roadway Network

According to the Mountainland Association of Governments (MAG) Regional Transportation Plan, there are no projects planned before 2024 in the study area. Therefore, no changes were made to the roadway network for the future (2024) analysis.

C. Traffic Volumes

Hales Engineering obtained future (2024) forecasted volumes from the Mountainland Association of Governments (MAG) travel demand model. Peak period turning movement counts were estimated using NCHRP 255 methodologies which utilize existing peak period turn volumes and future AWDT volumes to project the future turn volumes at the major intersections. Future (2024) evening peak hour turning movement volumes are shown in Figure 6.

D. Level of Service Analysis

Using Synchro/SimTraffic, which follow the *HCM*, 6th Edition methodology introduced in Chapter I, the evening peak hour LOS was computed for each study intersection. The results of this analysis are reported in Table 5 (see Appendix B for the detailed LOS reports). Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. These results serve as a baseline condition for the impact analysis of the proposed development for future (2024) conditions. As shown in Table 5, all intersections are anticipated to operate at an acceptable LOS during the evening peak hour.


5
0
5
0
360
40
5
365
0
5
0
35
Mercer Hollow Cove
Suncrest Drive
Google Earth


Eagleview Drive
International Way
Lakeview Drive
Treeline Drive
Hillside Circle
600 North
Lupine Drive
400 West
200 North
Westfield Road

Table 5: Future (2024) Background Evening Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mercer Hollow Cove / Suncrest Drive	SB Stop	EB	9.3	A	-	-
Lakeview Drive / Treeline Drive	WB Stop	WB	4.1	A	-	-
Treeline Drive / Eagle View Drive	EB Stop	EB	2.5	A	-	-
International Way / Eagle View Drive	WB Stop	WB	3.9	A	-	-
Hillside Circle / Eagle View Drive	WB Stop	WB	3.7	A	-	-
600 North / Eagle View Drive	EB Stop	EB	2.8	A	-	-
Lupine Drive / Eagle View Drive	EB / WB Stop	WB	3.5	A	-	-
Westfield Road / 400 West / 200 North	NB Stop	NB	3.9	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal-controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, August 2018

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. The queue reports can be found in Appendix D. No significant queuing is anticipated during the evening peak hour.

F. Mitigation Measures

No mitigation measures are recommended.

VI. FUTURE (2024) PLUS PROJECT CONDITIONS

A. Purpose

The purpose of the future (2024) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions plus the net trips generated by the proposed development. This scenario provides valuable insight into the potential impacts of the proposed project on future background traffic conditions.

B. Traffic Volumes

Hales Engineering used the future (2024) background traffic volumes and added the project trips to predict future (2024) plus project conditions. Trips were assigned to the study intersections based on the trip distribution percentages discussed in Chapter III and permitted intersection turning movements. Future (2024) plus project evening peak hour turning movement volumes are shown in Figure 7.

C. Level of Service Analysis

Using Synchro/SimTraffic, which follow the *HCM*, 6th Edition methodology introduced in Chapter I, the evening peak hour LOS was computed for each study intersection. The results of this analysis are reported in Table 6 (see Appendix B for the detailed LOS reports). Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. As shown in Table 6, all intersections are anticipated to operate at an acceptable LOS during the evening peak hour.

D. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. The queue reports can be found in Appendix D. No significant queuing is anticipated during the evening peak hour with project traffic added.


Mercer Hollow Cove
Road A
Suncrest Drive
5 0 5
0
367
40
5
377
0
5 0 35
109
7
185
400
12
405
Google Earth


Eagleview Drive
International Way
Lakeview Drive
Treeline Drive
Hillside Circle
600 North
Lupine Drive
400 West
200 North
Westfield Road

Table 6: Future (2024) Plus Project Evening Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mercer Hollow Cove / Suncrest Drive	SB Stop	EB	9.3	A	-	-
Lakeview Drive / Treeline Drive	WB Stop	WB	4.1	A	-	-
Treeline Drive / Eagle View Drive	EB Stop	EB	2.5	A	-	-
International Way / Eagle View Drive	WB Stop	WB	4.5	A	-	-
Hillside Circle / Eagle View Drive	WB Stop	WB	4.1	A	-	-
600 North / Eagle View Drive	EB Stop	EB	2.9	A	-	-
Lupine Drive / Eagle View Drive	EB / WB Stop	EB	4.0	A	-	-
Westfield Road / 400 West / 200 North	NB Stop	NB	4.5	A	-	-
Road A / Suncrest Drive	SB Stop	SB	11.2	B	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal-controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, August 2018

E. Mitigation Measures

No mitigation measures are recommended.

F. Recommended Storage Lengths

Hales Engineering determined recommended storage lengths based on the 95th percentile queue lengths given in the future (2040) plus project scenario. These storage lengths do not include the taper length. Recommended storage lengths for the study intersections are shown in Table 7. Intersections shown in Table 7 include new intersections and existing intersections that have recommended storage length changes.

Table 7: Recommended Storage Lengths

Recommended Storage Lengths Saratoga Springs - Wildflower TIS								
Intersection	Storage Length (feet)							
	Northbound		Southbound		Eastbound		Westbound	
	LT	RT	LT	RT	LT	RT	LT	RT
Road A / Suncrest Drive	-	-	-	100	100	-	-	-
Source: Hales Engineering, August 2018								

APPENDIX A

Turning Movement Counts

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

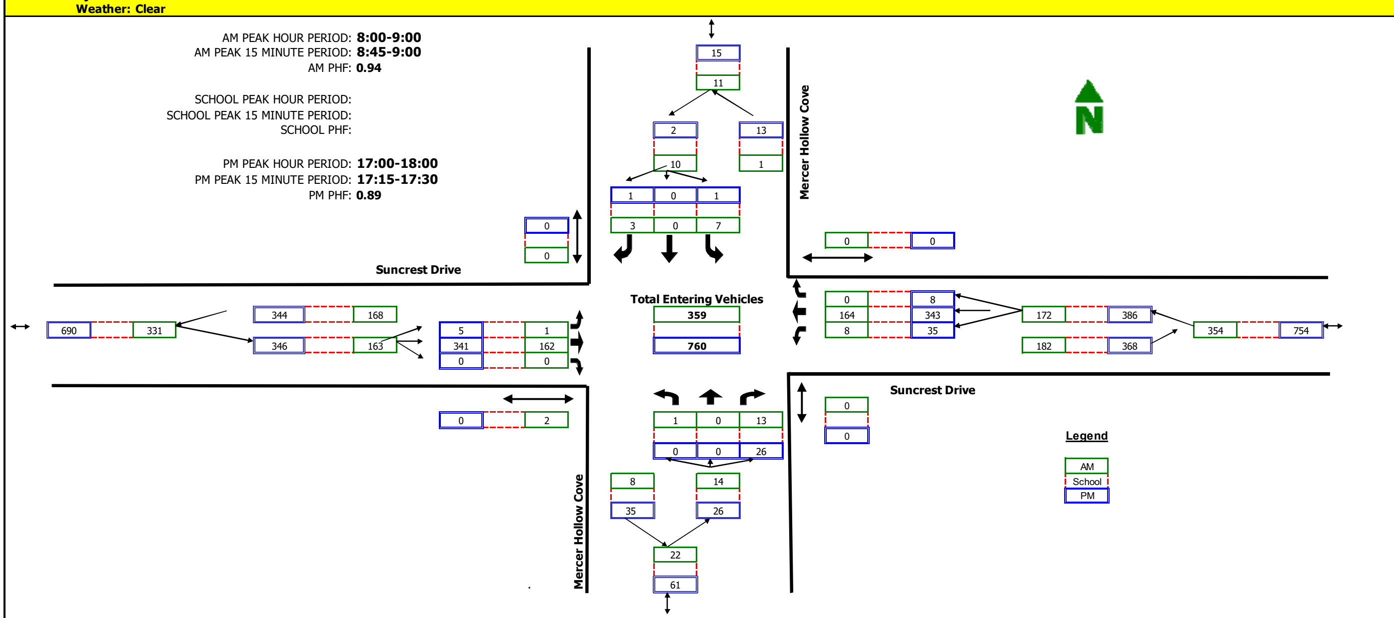
Intersection: Mercer Hollow Cove / Suncrest Drive
North/South: Mercer Hollow Cove
East/West: Suncrest Drive
Jurisdiction: Draper
Project Title: Alpine Draper Blue Bison Development TIS
Project No: 1304
Weather: Clear

Date: 8-16-18, Thu
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: **8:00-9:00**
AM PEAK 15 MINUTE PERIOD: **8:45-9:00**
AM PHF: **0.94**

SCHOOL PEAK HOUR PERIOD:
SCHOOL PEAK 15 MINUTE PERIOD:
SCHOOL PHF:

PM PEAK HOUR PERIOD: **17:00-18:00**
PM PEAK 15 MINUTE PERIOD: **17:15-17:30**
PM PHF: **0.89**



RAW COUNT SUMMARIES	Mercer Hollow Cove Northbound Left	Thru	Right	Peds	Mercer Hollow Cove Southbound Left	Thru	Right	Peds	Suncrest Drive Eastbound Left	Thru	Right	Peds	Suncrest Drive Westbound Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
7:00-7:15	0	0	0	0	0	0	3	0	0	20	0	0	0	23	0	0	46
7:15-7:30	0	0	2	0	1	0	0	0	0	30	0	0	2	32	0	0	67
7:30-7:45	0	0	3	0	1	0	1	0	0	37	0	0	0	46	0	0	88
7:45-8:00	0	0	3	0	0	0	3	0	0	34	0	2	1	33	0	0	74
8:00-8:15	0	0	1	0	2	0	3	0	0	30	0	2	4	41	0	0	81
8:15-8:30	0	0	5	0	1	0	0	0	0	45	0	0	1	40	0	0	92
8:30-8:45	0	0	5	0	3	0	0	0	0	44	0	0	2	37	0	0	91
8:45-9:00	1	0	2	0	1	0	0	0	1	43	0	0	1	46	0	0	95
MIDDAY PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30-13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
16:00-16:15	0	0	1	0	2	0	1	0	1	54	0	0	3	24	1	0	87
16:15-16:30	0	0	6	0	1	0	1	0	1	44	0	0	7	39	1	0	100
16:30-16:45	0	0	9	0	1	0	3	0	4	51	1	0	5	47	0	0	121
16:45-17:00	0	0	3	0	0	0	0	0	0	69	0	0	1	60	3	0	136
17:00-17:15	0	0	6	0	1	0	0	0	1	76	0	0	7	77	2	0	170
17:15-17:30	0	0	1	0	0	0	0	0	0	87	0	0	15	107	4	0	214
17:30-17:45	0	0	8	0	0	0	0	0	1	86	0	0	4	85	0	0	184
17:45-18:00	0	0	11	0	0	0	1	0	3	92	0	0	9	74	2	0	192

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

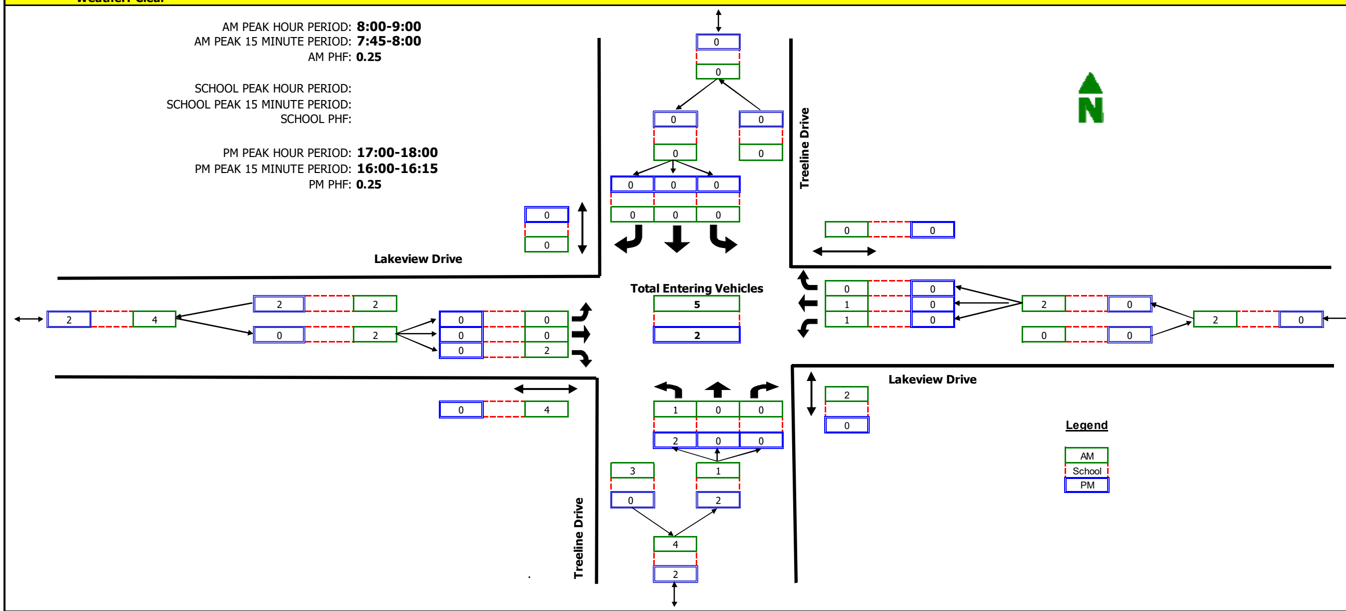
Intersection: Treeline Drive / Lakeview Drive
North/South: Treeline Drive
East/West: Lakeview Drive
Jurisdiction: Alpine
Project Title: Alpine Draper Blue Bison Development TIS
Project No: 1304
Weather: Clear

Date: 8-16-18, Thu
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: **8:00-9:00**
AM PEAK 15 MINUTE PERIOD: **7:45-8:00**
AM PHF: **0.25**

SCHOOL PEAK HOUR PERIOD:
SCHOOL PEAK 15 MINUTE PERIOD:
SCHOOL PHF:

PM PEAK HOUR PERIOD: **17:00-18:00**
PM PEAK 15 MINUTE PERIOD: **16:00-16:15**
PM PHF: **0.25**



RAW COUNT SUMMARIES	Treeline Drive Northbound Left	Thru	Right	Peds	Treeline Drive Southbound Left	Thru	Right	Peds	Lakeview Drive Eastbound Left	Thru	Right	Peds	Lakeview Drive Westbound Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
7:00-7:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15-7:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
7:30-7:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45-8:00	0	0	0	0	0	0	0	0	0	0	3	0	1	1	0	0	5
8:00-8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15-8:30	1	0	0	2	0	0	0	0	0	0	1	1	1	0	0	0	3
8:30-8:45	0	0	0	0	0	0	0	0	0	0	1	3	0	1	0	0	2
8:45-9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30-13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
16:00-16:15	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
16:15-16:30	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
16:30-16:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16:45-17:00	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	0	2
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

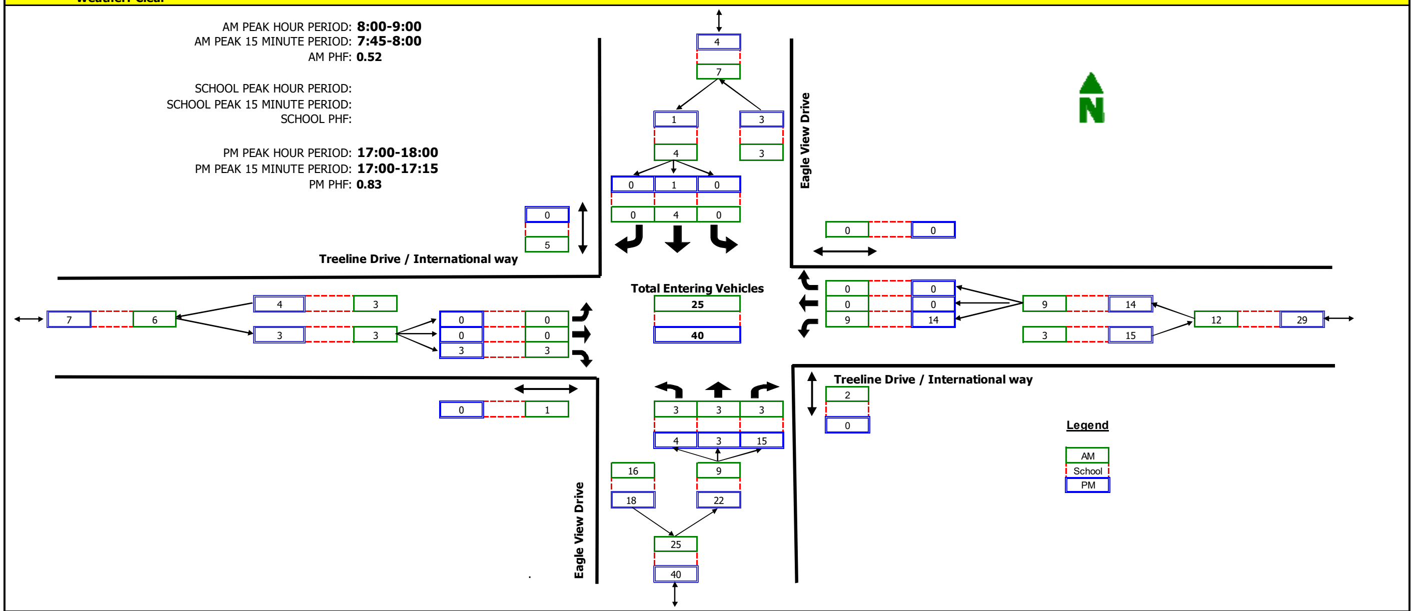
Intersection: Eagle View Drive / Treeline Drive / International way
North/South: Eagle View Drive
East/West: Treeline Drive / International way
Jurisdiction: Alpine
Project Title: Alpine Draper Blue Bison Development TIS
Project No: 1304
Weather: Clear

Date: 8-16-18, Thu
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: **8:00-9:00**
AM PEAK 15 MINUTE PERIOD: **7:45-8:00**
AM PHF: **0.52**

SCHOOL PEAK HOUR PERIOD:
SCHOOL PEAK 15 MINUTE PERIOD:
SCHOOL PHF:

PM PEAK HOUR PERIOD: **17:00-18:00**
PM PEAK 15 MINUTE PERIOD: **17:00-17:15**
PM PHF: **0.83**



RAW COUNT SUMMARIES	Eagle View Drive Northbound Left	Thru	Right	Peds	Eagle View Drive Southbound Left	Thru	Right	Peds	eeline Drive / International w Eastbound Left	Thru	Right	Peds	eeline Drive / International w Westbound Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
7:00-7:15	0	1	0	1	0	2	0	0	0	0	1	0	2	0	0	0	6
7:15-7:30	1	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	5
7:30-7:45	2	2	2	5	1	0	0	0	0	0	0	0	3	0	0	0	10
7:45-8:00	0	3	1	0	0	4	0	0	0	0	3	0	1	0	0	0	12
8:00-8:15	1	0	1	0	0	1	0	2	0	0	3	0	1	0	0	0	7
8:15-8:30	1	0	0	0	0	1	0	3	0	0	0	1	4	0	0	0	6
8:30-8:45	1	2	1	2	0	1	0	0	0	0	0	0	1	0	0	0	6
8:45-9:00	0	1	1	0	0	1	0	0	0	0	0	0	3	0	0	0	6
MIDDAY PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30-13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
16:00-16:15	1	1	2	0	0	4	0	0	0	0	0	0	2	0	0	0	10
16:15-16:30	0	1	2	0	0	1	0	0	0	0	2	0	3	0	0	0	9
16:30-16:45	0	0	2	0	0	1	0	0	0	0	0	0	2	0	0	0	5
16:45-17:00	0	3	0	0	0	3	0	0	0	0	1	0	2	0	0	0	9
17:00-17:15	1	1	5	0	0	0	0	0	0	0	1	0	4	0	0	0	12
17:15-17:30	0	1	5	0	0	0	0	0	0	0	0	0	4	0	0	0	10
17:30-17:45	0	1	4	0	0	1	0	0	0	0	2	0	4	0	0	0	12
17:45-18:00	3	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	6

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

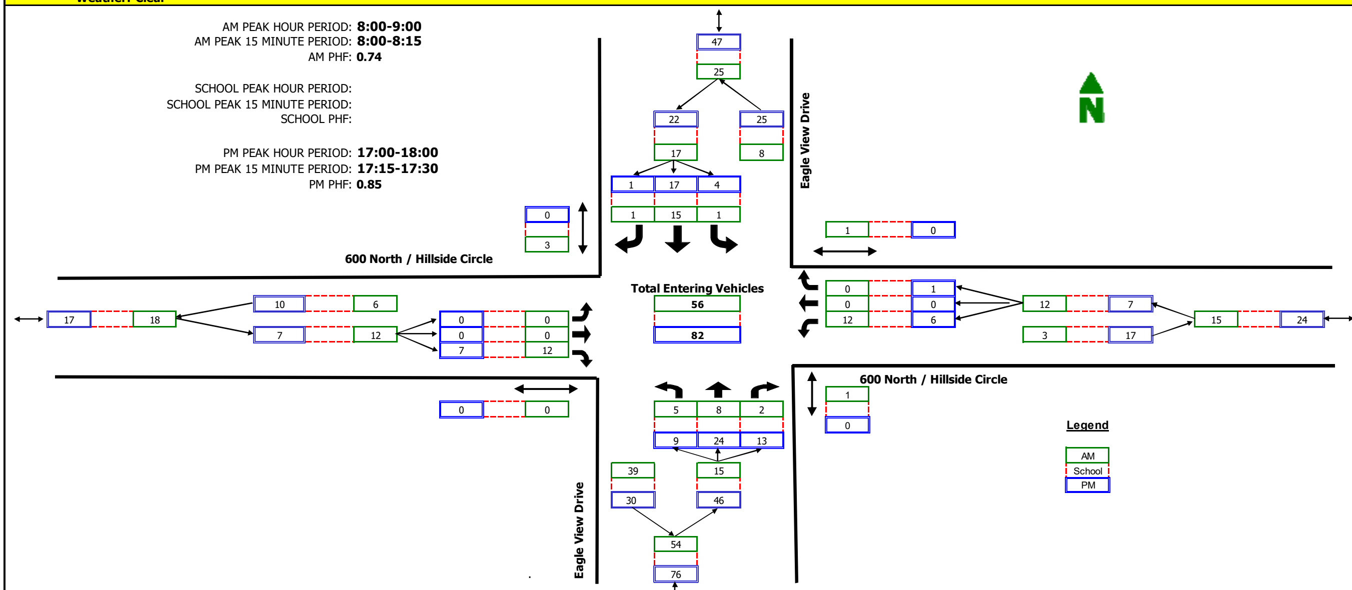
Intersection Turning Movement Summary

Intersection:	**Eagle View Drive / 600 North / Hillside Circle**	**Date:**	**8-16-18, Thu**
North/South:	**Eagle View Drive**	**Day of Week Adjustment:**	**100.0%**
East/West:	**600 North / Hillside Circle**	**Month of Year Adjustment:**	**100.0%**
Jurisdiction:	**Alpine**	**Adjustment Station #:**	**0**
Project Title:	**Alpine Draper Blue Bison Development TIS**	**Growth Rate:**	**0.0%**
Project No:	**1304**	**Number of Years:**	**0**
Weather:	**Clear**		

AM PEAK HOUR PERIOD: **8:00-9:00**
AM PEAK 15 MINUTE PERIOD: **8:00-8:15**
AM PHF: **0.74**

SCHOOL PEAK HOUR PERIOD:
SCHOOL PEAK 15 MINUTE PERIOD:
SCHOOL PHF:

PM PEAK HOUR PERIOD: **17:00-18:00**
PM PEAK 15 MINUTE PERIOD: **17:15-17:30**
PM PHF: **0.85**



RAW COUNT SUMMARIES	Eagle View Drive Northbound Left	Thru	Right	Peds	Eagle View Drive Southbound Left	Thru	Right	Peds	600 North / Hillside Circle Eastbound Left	Thru	Right	Peds	600 North / Hillside Circle Westbound Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
7:00-7:15	0	1	0	0	0	5	0	0	0	1	2	0	0	0	0	0	9
7:15-7:30	0	4	0	0	0	1	0	0	0	0	1	0	3	0	0	0	9
7:30-7:45	1	8	1	0	1	3	0	1	0	0	2	0	2	0	0	1	18
7:45-8:00	1	3	1	0	0	8	1	1	0	0	4	0	0	0	0	0	18
8:00-8:15	2	2	1	0	1	6	0	0	0	0	1	0	6	0	0	1	19
8:15-8:30	1	1	0	0	0	4	0	3	0	0	3	0	3	0	0	0	12
8:30-8:45	1	3	1	1	0	1	1	0	0	0	5	0	0	0	0	0	12
8:45-9:00	1	2	0	0	0	4	0	0	0	0	3	0	3	0	0	0	13
MIDDAY PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30-13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
16:00-16:15	4	4	5	0	0	6	0	1	0	0	1	0	1	0	0	0	21
16:15-16:30	0	4	0	0	1	5	0	0	0	0	2	0	0	0	0	0	12
16:30-16:45	2	2	4	0	0	2	0	0	0	0	5	0	3	0	0	0	18
16:45-17:00	2	3	0	0	2	5	1	0	0	0	3	0	1	0	0	0	17
17:00-17:15	1	7	1	0	0	5	0	0	0	0	2	0	1	0	0	0	17
17:15-17:30	3	6	4	0	0	5	1	0	0	0	2	0	3	0	0	0	24
17:30-17:45	2	6	2	0	2	6	0	0	0	0	3	0	2	0	1	0	24
17:45-18:00	3	5	6	0	2	1	0	0	0	0	0	0	0	0	0	0	17

TrafficCounts
2364 North 1450 East
Lehi, UT 84043
801.636.0891

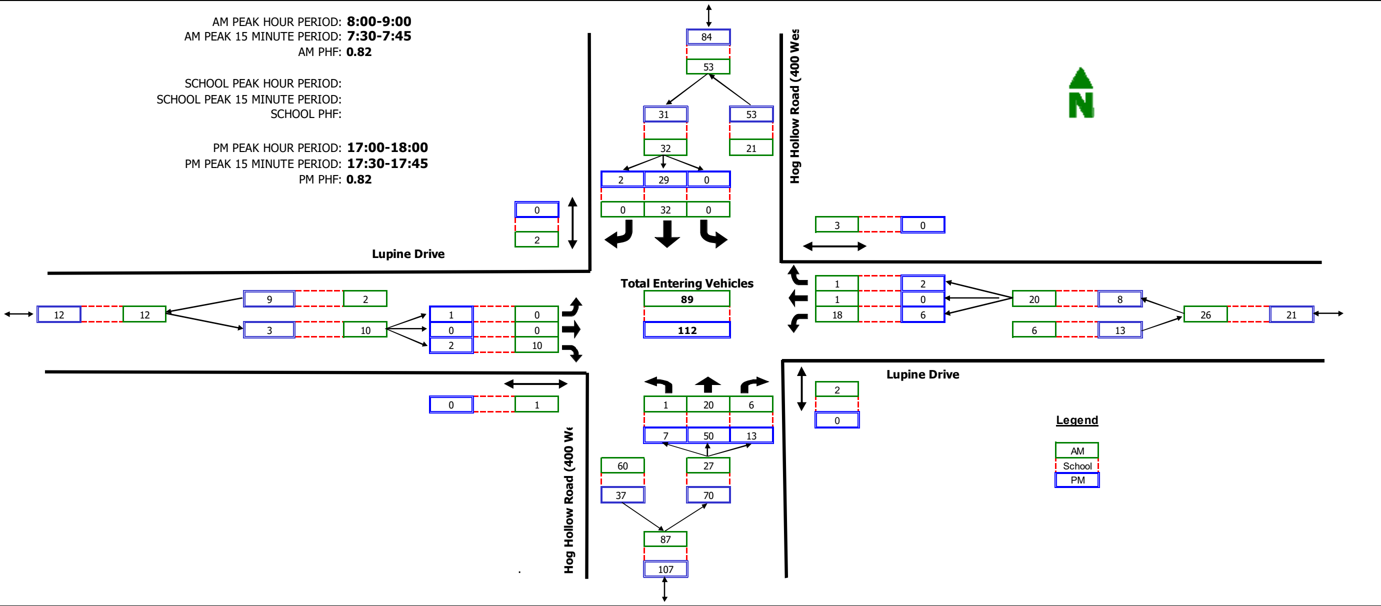
Intersection Turning Movement Summary

Intersection:	Hog Hollow Road (400 West) / Lupine Drive	Date:	8-16-18, Thu
North/South:	Hog Hollow Road (400 West)	Day of Week Adjustment:	100.0%
East/West:	Lupine Drive	Month of Year Adjustment:	100.0%
Jurisdiction:	Alpine	Adjustment Station #:	0
Project Title:	Alpine Draper Blue Bison Development TIS	Growth Rate:	0.0%
Project No:	1304	Number of Years:	0
Weather:	Clear		

AM PEAK HOUR PERIOD: **8:00-9:00**
AM PEAK 15 MINUTE PERIOD: **7:30-7:45**
AM PHF: **0.82**

SCHOOL PEAK HOUR PERIOD:
SCHOOL PEAK 15 MINUTE PERIOD:
SCHOOL PHF:

PM PEAK HOUR PERIOD: **17:00-18:00**
PM PEAK 15 MINUTE PERIOD: **17:30-17:45**
PM PHF: **0.82**



RAW COUNT SUMMARIES	Hog Hollow Road (400 West) Northbound				Hog Hollow Road (400 West) Southbound				Lupine Drive Eastbound				Lupine Drive Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
7:00-7:15	3	3	0	0	0	5	0	0	0	0	2	1	2	0	0	1	15
7:15-7:30	0	4	0	0	0	6	0	0	0	0	1	0	2	0	0	0	13
7:30-7:45	0	7	0	0	0	7	0	0	2	0	3	0	7	0	1	1	27
7:45-8:00	0	5	0	0	0	12	0	2	0	0	3	1	3	0	0	0	23
8:00-8:15	0	9	1	0	0	12	0	0	0	0	2	0	2	1	0	1	27
8:15-8:30	1	3	2	0	0	6	0	2	0	0	3	0	8	0	0	0	23
8:30-8:45	0	5	2	0	0	6	0	0	0	0	1	0	7	0	1	1	22
8:45-9:00	0	3	1	2	0	8	0	0	0	0	4	1	1	0	0	1	17
MIDDAY PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30-13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
16:00-16:15	3	13	1	0	0	6	0	0	0	0	0	0	4	0	0	1	27
16:15-16:30	1	4	2	0	0	7	0	0	0	0	2	0	3	0	0	0	19
16:30-16:45	4	7	3	0	0	10	0	0	0	0	3	0	4	0	0	0	31
16:45-17:00	5	6	2	0	1	4	2	0	0	0	1	0	2	0	0	0	23
17:00-17:15	0	10	4	0	0	9	0	0	0	0	1	0	1	0	0	0	25
17:15-17:30	2	16	3	0	0	10	0	0	0	0	0	0	2	0	0	0	33
17:30-17:45	4	11	3	0	0	9	2	0	0	0	0	0	3	0	2	0	34
17:45-18:00	1	13	3	0	0	1	0	0	1	0	1	0	0	0	0	0	20

TrafficCounts
2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

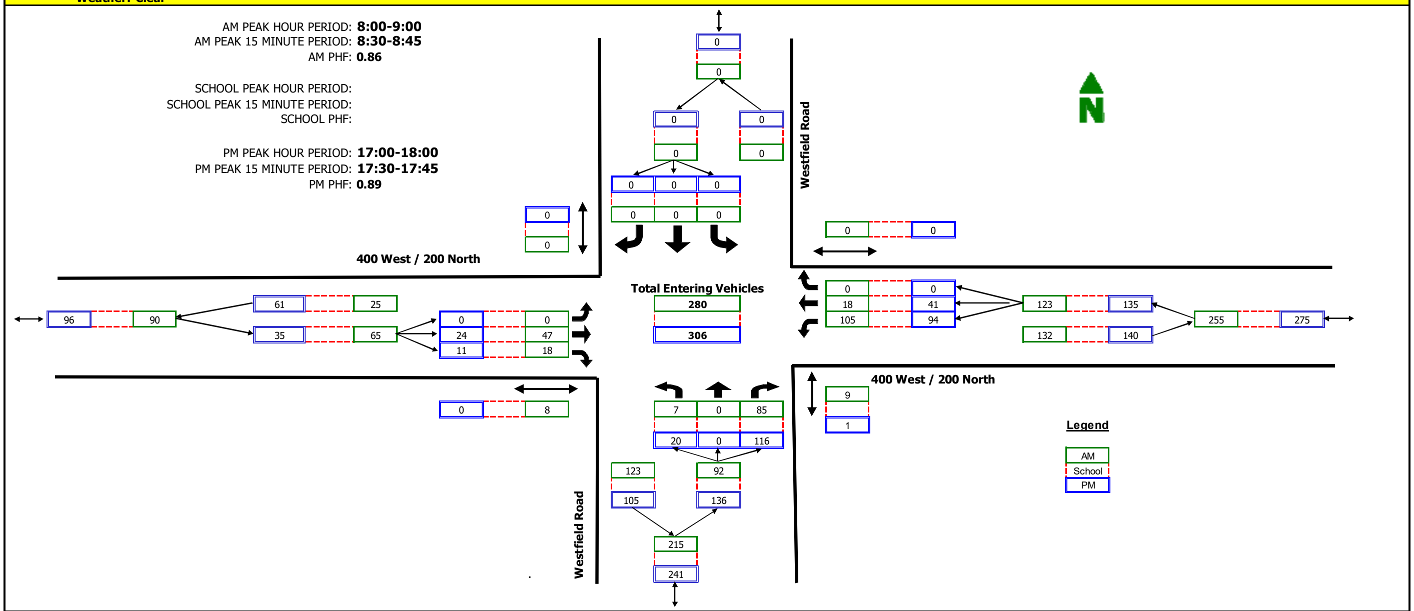
Intersection: Westfield Road / 400 West / 200 North
North/South: Westfield Road
East/West: 400 West / 200 North
Jurisdiction: Alpine
Project Title: Alpine Draper Blue Bison Development TIS
Project No: 1304
Weather: Clear

Date: 8-16-18, Thu
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: **8:00-9:00**
AM PEAK 15 MINUTE PERIOD: **8:30-8:45**
AM PHF: **0.86**

SCHOOL PEAK HOUR PERIOD:
SCHOOL PEAK 15 MINUTE PERIOD:
SCHOOL PHF:

PM PEAK HOUR PERIOD: **17:00-18:00**
PM PEAK 15 MINUTE PERIOD: **17:30-17:45**
PM PHF: **0.89**



RAW COUNT SUMMARIES	Westfield Road Northbound Left	Thru	Right	Peds	Westfield Road Southbound Left	Thru	Right	Peds	400 West / 200 North Eastbound Left	Thru	Right	Peds	400 West / 200 North Westbound Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
7:00-7:15	1	0	22	4	0	0	0	0	0	7	4	6	15	4	0	0	53
7:15-7:30	2	0	12	0	0	0	0	0	0	7	2	1	15	2	0	0	40
7:30-7:45	2	0	12	5	0	0	0	0	0	7	11	3	11	6	0	0	49
7:45-8:00	1	0	18	4	0	0	0	0	0	12	5	3	17	5	0	0	58
8:00-8:15	3	0	21	6	0	0	0	0	0	11	6	1	26	6	0	0	73
8:15-8:30	1	0	15	0	0	0	0	0	0	12	5	1	23	3	0	0	59
8:30-8:45	3	0	21	2	0	0	0	0	0	10	5	4	37	5	0	0	81
8:45-9:00	0	0	28	1	0	0	0	0	0	14	2	2	19	4	0	0	67
MIDDAY PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30-13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
16:00-16:15	5	0	24	1	0	0	0	0	0	7	4	0	26	9	0	0	75
16:15-16:30	3	0	14	0	0	0	0	0	0	6	3	0	20	4	0	0	50
16:30-16:45	3	0	12	0	0	0	0	0	0	12	6	0	13	6	0	0	52
16:45-17:00	0	0	28	0	0	0	0	0	0	6	2	0	14	9	0	0	59
17:00-17:15	5	0	26	0	0	0	0	0	0	5	3	0	31	7	0	0	77
17:15-17:30	5	0	29	0	0	0	0	0	0	8	6	0	20	10	0	0	78
17:30-17:45	5	0	36	0	0	0	0	0	0	9	2	0	23	11	0	0	86
17:45-18:00	5	0	25	1	0	0	0	0	0	2	0	0	20	13	0	0	65

APPENDIX B

LOS Results

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Existing (2018) Background*
Time Period: *Evening Peak Hour*
Project #: *UT18-1304*

Intersection: Suncrest Drive & Mercer Hollow Cove
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	26	24	92	0.1	A
	Subtotal	26	24	92	0.1	A
SB	L	1	1	100	1.0	A
	R	1	2	200	0.0	A
	Subtotal	2	3	150	0.3	A
EB	L	5	5	95	7.3	A
	T	341	340	100	9.1	A
	Subtotal	***346***	***345***	***100***	***9.1***	***A***
WB	L	35	37	105	5.6	A
	T	341	342	100	8.2	A
	Subtotal	376	379	101	7.9	A
Total		750	751	100	8.2	A

Intersection: Lakeview Drive & Treeline Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
WB	L	2	1	50	3.4	A
	T	3	4	123	0.0	A
	Subtotal	5	5	100	0.7	A
Total		5	5	95	0.7	A

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Existing (2018) Background*
Time Period: *Evening Peak Hour*
Project #: *UT18-1304*

Intersection: Eagleview Drive & Treeline Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	L	5	5	95	1.3	A
	T	3	5	167	0.0	A
	Subtotal	8	10	125	0.7	A
SB	T	1	1	100	0.0	A
	Subtotal	1	1	100	0.0	A
EB	R	3	2	67	2.3	A
	Subtotal	***3***	***2***	***67***	***2.3***	***A***
Total		12	13	106	0.9	A

Intersection: Eagleview Drive & International Way
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	T	8	9	109	0.2	A
	R	17	15	90	0.1	A
	Subtotal	25	24	96	0.1	A
SB	T	4	3	75	0.1	A
	Subtotal	4	3	75	0.1	A
WB	L	18	17	96	4.0	A
	Subtotal	***18***	***17***	***94***	***4.0***	***A***
Total		47	44	94	1.6	A

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Existing (2018) Background*
Time Period: *Evening Peak Hour*
Project #: *UT18-1304*

Intersection: Eagleview Drive & Hillside Circle
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	T	24	23	96	0.1	A
	R	13	14	110	0.0	A
	Subtotal	37	37	100	0.1	A
SB	L	4	3	75	2.2	A
	T	18	17	96	0.5	A
	Subtotal	22	20	91	0.8	A
WB	L	6	6	96	4.4	A
	R	1	1	100	2.8	A
	Subtotal	***7***	***7***	***100***	***4.2***	***A***
Total		66	64	97	0.7	A

Intersection: 400 West/Eagleview Drive & 600 North
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	L	9	9	97	1.5	A
	T	37	38	103	0.2	A
	Subtotal	46	47	102	0.4	A
SB	T	23	23	100	0.2	A
	R	1	1	100	0.2	A
	Subtotal	24	24	100	0.2	A
EB	R	7	7	97	2.6	A
	Subtotal	***7***	***7***	***100***	***2.6***	***A***
Total		77	78	101	0.6	A

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Existing (2018) Background*
Time Period: *Evening Peak Hour*
Project #: *UT18-1304*

Intersection: 400 West & Lupine Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	7	6	83	2.0	*A*
	T	44	44	101	0.5	*A*
	R	13	15	118	0.5	*A*
	Subtotal	64	65	102	0.6	*A*
SB	T	28	28	99	0.1	*A*
	R	2	2	100	0.1	*A*
	Subtotal	30	30	100	0.1	*A*
EB	L	1	0	0		
	R	2	3	150	2.4	*A*
	Subtotal	3	3	100	2.4	*A*
WB	L	6	7	112	4.5	*A*
	R	1	2	200	2.8	*A*
	Subtotal	***7***	***9***	***129***	***4.1***	***A***
Total		104	107	103	0.8	*A*

Intersection: Westfield Road & 400 West/200 North
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	21	21	100	5.6	*A*
	R	116	108	93	3.5	*A*
	Subtotal	***137***	***129***	***94***	***3.8***	***A***
EB	T	24	24	100	0.4	*A*
	R	12	13	106	0.3	*A*
	Subtotal	36	37	103	0.4	*A*
WB	L	94	93	99	1.8	*A*
	T	43	44	103	0.5	*A*
	Subtotal	137	137	100	1.4	*A*
Total		310	303	98	2.3	*A*

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #1 5:00

Movement	EBL	EBT	WBL	WBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.1	0.0	0.0	0.1		0.1	0.1
Total Delay (hr)	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.4
Total Del/Veh (s)	6.8	9.0	5.0	7.9	0.1		0.0	7.9
Vehicles Entered	2	82	8	85	5	0	1	183
Vehicles Exited	2	82	8	85	5	0	1	183
Hourly Exit Rate	8	328	32	340	20	0	4	732
Input Volume	5	327	34	327	25	1	1	720
% of Volume	160	100	94	104	80	0	400	102

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #2 5:15

Movement	EBL	EBT	WBL	WBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.5	0.1	0.0	0.0	0.1			0.1
Total Delay (hr)	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.4
Total Del/Veh (s)	7.7	8.9	5.5	7.9	0.1			8.0
Vehicles Entered	1	86	9	83	7	0	0	186
Vehicles Exited	1	85	8	82	6	0	0	182
Hourly Exit Rate	4	340	32	328	24	0	0	728
Input Volume	5	327	34	327	25	1	1	720
% of Volume	80	104	94	100	96	0	0	101

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #3 5:30

Movement	EBL	EBT	WBL	WBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1			0.1
Total Delay (hr)	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.5
Total Del/Veh (s)	8.3	9.2	5.6	8.1	0.1			8.2
Vehicles Entered	1	95	9	96	7	0	0	208
Vehicles Exited	1	96	10	95	7	0	0	209
Hourly Exit Rate	4	384	40	380	28	0	0	836
Input Volume	6	383	39	383	29	1	1	842
% of Volume	67	100	103	99	97	0	0	99

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #4 5:45

Movement	EBL	EBT	WBL	WBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.4	0.1	0.0	0.0	0.1			0.1
Total Delay (hr)	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.4
Total Del/Veh (s)	6.6	8.7	5.6	7.9	0.0			7.8
Vehicles Entered	1	78	11	79	6	0	0	175
Vehicles Exited	1	78	11	80	6	0	0	176
Hourly Exit Rate	4	312	44	320	24	0	0	704
Input Volume	5	327	34	327	25	1	1	720
% of Volume	80	95	129	98	96	0	0	98

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Entire Run

Movement	EBL	EBT	WBL	WBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.1	0.0	0.0	0.1	0.1	0.1	0.1
Total Delay (hr)	0.0	0.9	0.1	0.8	0.0	0.0	0.0	1.7
Total Del/Veh (s)	7.3	9.1	5.6	8.2	0.1	1.0	0.0	8.2
Vehicles Entered	5	341	37	342	25	1	2	753
Vehicles Exited	5	340	37	342	24	1	2	751
Hourly Exit Rate	5	340	37	342	24	1	2	751
Input Volume	5	341	35	341	26	1	1	750
% of Volume	95	100	105	100	92	100	200	100

201: Lakeview Drive & Treeline Drive Performance by movement Interval #1 5:00

Movement	WBL	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)		0.0	0.3
Vehicles Entered	0	1	1
Vehicles Exited	0	1	1
Hourly Exit Rate	0	4	4
Input Volume	2	3	5
% of Volume	0	133	80

201: Lakeview Drive & Treeline Drive Performance by movement Interval #2 5:15

Movement	WBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	0.0	0.0
Vehicles Entered	1	1
Vehicles Exited	1	1
Hourly Exit Rate	4	4
Input Volume	3	5
% of Volume	133	80

201: Lakeview Drive & Treeline Drive Performance by movement Interval #3 5:30

Movement	WBL	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)		0.0	1.2
Vehicles Entered	0	1	1
Vehicles Exited	0	1	1
Hourly Exit Rate	0	4	4
Input Volume	2	4	6
% of Volume	0	100	67

201: Lakeview Drive & Treeline Drive Performance by movement Interval #4 5:45

Movement	WBL	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)		0.0	1.8
Vehicles Entered	0	1	1
Vehicles Exited	0	1	1
Hourly Exit Rate	0	4	4
Input Volume	2	3	5
% of Volume	0	133	80

201: Lakeview Drive & Treeline Drive Performance by movement Entire Run

Movement	WBL	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	3.4	0.0	0.7
Vehicles Entered	1	4	5
Vehicles Exited	1	4	5
Hourly Exit Rate	1	4	5
Input Volume	2	3	5
% of Volume	50	123	95

202: Eagleview Drive & Treeline Drive Performance by movement Interval #1 5:00

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0		0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.4	1.5	0.1		1.0
Vehicles Entered	1	1	1	0	3
Vehicles Exited	1	1	1	0	3
Hourly Exit Rate	4	4	4	0	12
Input Volume	3	5	3	1	12
% of Volume	133	80	133	0	100

202: Eagleview Drive & Treeline Drive Performance by movement Interval #2 5:15

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0		0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		1.3	0.0		1.0
Vehicles Entered	0	1	1	0	2
Vehicles Exited	0	1	1	0	2
Hourly Exit Rate	0	4	4	0	8
Input Volume	3	5	3	1	12
% of Volume	0	80	133	0	67

202: Eagleview Drive & Treeline Drive Performance by movement Interval #3 5:30

Movement	EBR	NBL	NBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0
Total Del/Veh (s)		1.9	0.0	1.4
Vehicles Entered	0	1	1	2
Vehicles Exited	0	1	1	2
Hourly Exit Rate	0	4	4	8
Input Volume	3	6	3	13
% of Volume	0	67	133	62

202: Eagleview Drive & Treeline Drive Performance by movement Interval #4 5:45

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0		0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.6	1.6	0.1		1.1
Vehicles Entered	1	1	1	0	3
Vehicles Exited	1	1	1	0	3
Hourly Exit Rate	4	4	4	0	12
Input Volume	3	5	3	1	12
% of Volume	133	80	133	0	100

202: Eagleview Drive & Treeline Drive Performance by movement Entire Run

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.3	1.3	0.0	0.0	0.9
Vehicles Entered	2	5	5	1	13
Vehicles Exited	2	5	5	1	13
Hourly Exit Rate	2	5	5	1	13
Input Volume	3	5	3	1	12
% of Volume	67	95	167	100	106

203: Eagleview Drive & International Way Performance by movement Interval #1 5:00

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.7	0.4	0.2	0.1	1.3
Vehicles Entered	3	2	4	1	10
Vehicles Exited	3	2	4	1	10
Hourly Exit Rate	12	8	16	4	40
Input Volume	17	8	16	4	45
% of Volume	71	100	100	100	89

203: Eagleview Drive & International Way Performance by movement Interval #2 5:15

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0		0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.6	0.0	0.0		1.8
Vehicles Entered	4	2	2	0	8
Vehicles Exited	4	2	2	0	8
Hourly Exit Rate	16	8	8	0	32
Input Volume	17	8	16	4	45
% of Volume	94	100	50	0	71

203: Eagleview Drive & International Way Performance by movement Interval #3 5:30

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0		0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.8	0.2	0.0		1.7
Vehicles Entered	6	3	5	0	14
Vehicles Exited	6	3	5	0	14
Hourly Exit Rate	24	12	20	0	56
Input Volume	20	9	19	4	52
% of Volume	120	133	105	0	108

203: Eagleview Drive & International Way Performance by movement Interval #4 5:45

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.8	0.2	0.0	0.2	1.6
Vehicles Entered	4	2	4	1	11
Vehicles Exited	5	2	4	1	12
Hourly Exit Rate	20	8	16	4	48
Input Volume	17	8	16	4	45
% of Volume	118	100	100	100	107

203: Eagleview Drive & International Way Performance by movement Entire Run

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.0	0.2	0.1	0.1	1.6
Vehicles Entered	17	9	15	3	44
Vehicles Exited	17	9	15	3	44
Hourly Exit Rate	17	9	15	3	44
Input Volume	18	8	17	4	47
% of Volume	96	109	90	75	94

204: Eagleview Drive & Hillside Circle Performance by movement Interval #1 5:00

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1		0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.4		0.1	0.1	1.6	0.4	0.7
Vehicles Entered	2	0	6	3	1	3	15
Vehicles Exited	2	0	6	3	1	3	15
Hourly Exit Rate	8	0	24	12	4	12	60
Input Volume	6	1	23	12	4	17	63
% of Volume	133	0	104	100	100	71	95

204: Eagleview Drive & Hillside Circle Performance by movement Interval #2 5:15

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1		0.0	0.0		0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.0		0.0	0.0		0.6	0.9
Vehicles Entered	2	0	4	3	0	4	13
Vehicles Exited	2	0	4	3	0	4	13
Hourly Exit Rate	8	0	16	12	0	16	52
Input Volume	6	1	23	12	4	17	63
% of Volume	133	0	70	100	0	94	83

204: Eagleview Drive & Hillside Circle Performance by movement Interval #3 5:30

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1		0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.4		0.0	0.0	1.6	0.5	0.8
Vehicles Entered	2	0	7	4	1	6	20
Vehicles Exited	2	0	7	4	1	5	19
Hourly Exit Rate	8	0	28	16	4	20	76
Input Volume	7	1	27	15	4	20	74
% of Volume	114	0	104	107	100	100	103

204: Eagleview Drive & Hillside Circle Performance by movement Interval #4 5:45

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1		0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.0		0.1	0.0	2.7	0.5	0.5
Vehicles Entered	1	0	6	4	1	5	17
Vehicles Exited	1	0	6	4	1	5	17
Hourly Exit Rate	4	0	24	16	4	20	68
Input Volume	6	1	23	12	4	17	63
% of Volume	67	0	104	133	100	118	108

204: Eagleview Drive & Hillside Circle Performance by movement Entire Run

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.4	2.8	0.1	0.0	2.2	0.5	0.7
Vehicles Entered	6	1	23	14	3	17	64
Vehicles Exited	6	1	23	14	3	17	64
Hourly Exit Rate	6	1	23	14	3	17	64
Input Volume	6	1	24	13	4	18	66
% of Volume	96	100	96	110	75	96	97

205: 400 West/Eagleview Drive & 600 North Performance by movement Interval #1 5:00

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0		0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.4	1.4	0.3	0.2		0.6
Vehicles Entered	2	2	8	5	0	17
Vehicles Exited	2	2	9	5	0	18
Hourly Exit Rate	8	8	36	20	0	72
Input Volume	7	9	35	22	1	74
% of Volume	114	89	103	91	0	97

205: 400 West/Eagleview Drive & 600 North Performance by movement Interval #2 5:15

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0		0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.3	1.7	0.2	0.2		0.6
Vehicles Entered	2	2	8	6	0	18
Vehicles Exited	2	2	8	6	0	18
Hourly Exit Rate	8	8	32	24	0	72
Input Volume	7	9	35	22	1	74
% of Volume	114	89	91	109	0	97

205: 400 West/Eagleview Drive & 600 North Performance by movement Interval #3 5:30

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.5	1.8	0.2	0.2	0.1	0.5
Vehicles Entered	1	2	11	7	1	22
Vehicles Exited	1	2	11	7	1	22
Hourly Exit Rate	4	8	44	28	4	88
Input Volume	8	10	42	26	1	87
% of Volume	50	80	105	108	400	101

205: 400 West/Eagleview Drive & 600 North Performance by movement Interval #4 5:45

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.2	1.7	0.3	0.1	0.7
Vehicles Entered	2	2	10	5	19
Vehicles Exited	2	2	10	5	19
Hourly Exit Rate	8	8	40	20	76
Input Volume	7	9	35	22	74
% of Volume	114	89	114	91	103

205: 400 West/Eagleview Drive & 600 North Performance by movement Entire Run

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.6	1.5	0.2	0.2	0.2	0.6
Vehicles Entered	7	9	38	23	1	78
Vehicles Exited	7	9	38	23	1	78
Hourly Exit Rate	7	9	38	23	1	78
Input Volume	7	9	37	23	1	77
% of Volume	97	97	103	100	100	101

206: 400 West & Lupine Drive Performance by movement Interval #1 5:00

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.1		0.0	0.0	0.0	0.0		0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		2.1	3.2		2.2	0.4	0.5	0.1		0.9
Vehicles Entered	0	1	2	0	2	10	3	6	0	24
Vehicles Exited	0	1	2	0	2	10	3	6	0	24
Hourly Exit Rate	0	4	8	0	8	40	12	24	0	96
Input Volume	1	2	6	1	7	42	12	27	2	100
% of Volume	0	200	133	0	114	95	100	89	0	96

206: 400 West & Lupine Drive Performance by movement Interval #2 5:15

Movement	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1		0.0	0.0	0.0	0.0		0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.1	4.1		2.0	0.4	0.4	0.2	0.0	0.8
Vehicles Entered	1	2	0	1	10	3	7	0	24
Vehicles Exited	1	2	0	1	10	3	7	1	25
Hourly Exit Rate	4	8	0	4	40	12	28	4	100
Input Volume	2	6	1	7	42	12	27	2	100
% of Volume	200	133	0	57	95	100	104	200	100

206: 400 West & Lupine Drive Performance by movement Interval #3 5:30

Movement	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.1	0.0	0.0	0.0	0.0		0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		5.1	1.6	1.8	0.5	0.6	0.0		0.8
Vehicles Entered	0	2	1	1	13	5	7	0	29
Vehicles Exited	0	2	1	1	13	5	7	0	29
Hourly Exit Rate	0	8	4	4	52	20	28	0	116
Input Volume	2	7	1	8	49	15	32	2	117
% of Volume	0	114	400	50	106	133	88	0	99

206: 400 West & Lupine Drive Performance by movement Interval #4 5:45

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.1		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		1.6	3.3		1.9	0.6	0.2	0.1	0.0	0.8
Vehicles Entered	0	1	2	0	2	12	4	7	1	29
Vehicles Exited	0	1	1	0	2	12	4	7	0	27
Hourly Exit Rate	0	4	4	0	8	48	16	28	0	108
Input Volume	1	2	6	1	7	42	12	27	2	100
% of Volume	0	200	67	0	114	114	133	104	0	108

206: 400 West & Lupine Drive Performance by movement Entire Run

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		2.4	4.5	2.8	2.0	0.5	0.5	0.1	0.1	0.8
Vehicles Entered	0	3	7	2	6	44	15	28	2	107
Vehicles Exited	0	3	7	2	6	44	15	28	2	107
Hourly Exit Rate	0	3	7	2	6	44	15	28	2	107
Input Volume	1	2	6	1	7	44	13	28	2	104
% of Volume	0	150	112	200	83	101	118	99	100	103

207: Westfield Road & 400 West/200 North Performance by movement Interval #1 5:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.2	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.5	0.3	1.6	0.5	6.2	3.4	2.2
Vehicles Entered	6	3	23	10	4	24	70
Vehicles Exited	6	3	22	10	4	25	70
Hourly Exit Rate	24	12	88	40	16	100	280
Input Volume	23	12	90	41	20	111	297
% of Volume	104	100	98	98	80	90	94

207: Westfield Road & 400 West/200 North Performance by movement Interval #2 5:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.1	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.4	0.3	1.8	0.5	5.1	3.4	2.2
Vehicles Entered	7	3	23	9	5	27	74
Vehicles Exited	7	3	23	9	5	26	73
Hourly Exit Rate	28	12	92	36	20	104	292
Input Volume	23	12	90	41	20	111	297
% of Volume	122	100	102	88	100	94	98

207: Westfield Road & 400 West/200 North Performance by movement Interval #3 5:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.6	0.2	1.8	0.5	5.4	3.4	2.3
Vehicles Entered	6	4	26	13	7	32	88
Vehicles Exited	6	4	26	13	6	32	87
Hourly Exit Rate	24	16	104	52	24	128	348
Input Volume	27	13	106	48	24	130	348
% of Volume	89	123	98	108	100	98	100

207: Westfield Road & 400 West/200 North Performance by movement Interval #4 5:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.5	1.9	0.5	4.9	3.5	2.3
Vehicles Entered	6	3	22	12	5	25	73
Vehicles Exited	6	3	22	12	5	25	73
Hourly Exit Rate	24	12	88	48	20	100	292
Input Volume	23	12	90	41	20	111	297
% of Volume	104	100	98	117	100	90	98

207: Westfield Road & 400 West/200 North Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.2
Total Del/Veh (s)	0.4	0.3	1.8	0.5	5.6	3.5	2.3
Vehicles Entered	24	13	94	44	21	108	304
Vehicles Exited	24	13	93	44	21	108	303
Hourly Exit Rate	24	13	93	44	21	108	303
Input Volume	24	12	94	43	21	116	310
% of Volume	100	106	99	103	100	93	98

Total Network Performance By Interval

Interval Start	5:00	5:15	5:30	5:45	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1
Total Delay (hr)	0.6	0.6	0.7	0.6	2.6
Total Del/Veh (s)	8.2	8.2	8.3	7.8	8.5
Vehicles Entered	255	260	298	250	1066
Vehicles Exited	253	258	297	253	1064
Hourly Exit Rate	1012	1032	1188	1012	1064
Input Volume	3059	3059	3577	3059	3188
% of Volume	33	34	33	33	33

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #1

Movement	EB	EB	WB	WB
Directions Served	LT	T	LT	TR
Maximum Queue (ft)	60	30	51	50
Average Queue (ft)	42	25	32	32
95th Queue (ft)	65	42	50	53
Link Distance (ft)	515	515	1113	1113
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #2

Movement	EB	EB	WB	WB	NB
Directions Served	LT	T	LT	TR	LTR
Maximum Queue (ft)	60	37	48	52	1
Average Queue (ft)	44	26	33	32	0
95th Queue (ft)	65	45	51	53	2
Link Distance (ft)	515	515	1113	1113	219
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #3

Movement	EB	EB	WB	WB
Directions Served	LT	T	LT	TR
Maximum Queue (ft)	62	41	52	51
Average Queue (ft)	43	29	35	35
95th Queue (ft)	66	42	55	56
Link Distance (ft)	515	515	1113	1113
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #4

Movement	EB	EB	WB	WB
Directions Served	LT	T	LT	TR
Maximum Queue (ft)	56	39	52	52
Average Queue (ft)	39	25	35	31
95th Queue (ft)	57	45	55	51
Link Distance (ft)	515	515	1113	1113
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, All Intervals

Movement	EB	EB	WB	WB	NB
Directions Served	LT	T	LT	TR	LTR
Maximum Queue (ft)	72	52	59	61	1
Average Queue (ft)	42	26	34	32	0
95th Queue (ft)	64	44	53	53	1
Link Distance (ft)	515	515	1113	1113	219
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 201: Lakeview Drive & Treeline Drive, Interval #1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	3
Average Queue (ft)	0
95th Queue (ft)	6
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 201: Lakeview Drive & Treeline Drive, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 201: Lakeview Drive & Treeline Drive, Interval #3

Movement	WB
Directions Served	LR
Maximum Queue (ft)	9
Average Queue (ft)	1
95th Queue (ft)	11
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 201: Lakeview Drive & Treeline Drive, Interval #4

Movement	WB
Directions Served	LR
Maximum Queue (ft)	11
Average Queue (ft)	2
95th Queue (ft)	14
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 201: Lakeview Drive & Treeline Drive, All Intervals

Movement	WB
Directions Served	LR
Maximum Queue (ft)	17
Average Queue (ft)	1
95th Queue (ft)	9
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 202: Eagleview Drive & Treeline Drive, Interval #1

Movement	EB
Directions Served	LR
Maximum Queue (ft)	10
Average Queue (ft)	2
95th Queue (ft)	13
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 202: Eagleview Drive & Treeline Drive, Interval #2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	5
Average Queue (ft)	1
95th Queue (ft)	9
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 202: Eagleview Drive & Treeline Drive, Interval #3

Movement	EB
Directions Served	LR
Maximum Queue (ft)	7
Average Queue (ft)	1
95th Queue (ft)	11
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 202: Eagleview Drive & Treeline Drive, Interval #4

Movement	EB
Directions Served	LR
Maximum Queue (ft)	14
Average Queue (ft)	2
95th Queue (ft)	14
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 202: Eagleview Drive & Treeline Drive, All Intervals

Movement	EB
Directions Served	LR
Maximum Queue (ft)	19
Average Queue (ft)	2
95th Queue (ft)	12
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 203: Eagleview Drive & International Way, Interval #1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	10
95th Queue (ft)	34
Link Distance (ft)	382
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 203: Eagleview Drive & International Way, Interval #2

Movement	WB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	13
95th Queue (ft)	38
Link Distance (ft)	382
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 203: Eagleview Drive & International Way, Interval #3

Movement	WB
Directions Served	LR
Maximum Queue (ft)	33
Average Queue (ft)	16
95th Queue (ft)	42
Link Distance (ft)	382
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 203: Eagleview Drive & International Way, Interval #4

Movement	WB
Directions Served	LR
Maximum Queue (ft)	36
Average Queue (ft)	14
95th Queue (ft)	41
Link Distance (ft)	382
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 203: Eagleview Drive & International Way, All Intervals

Movement	WB
Directions Served	LR
Maximum Queue (ft)	38
Average Queue (ft)	13
95th Queue (ft)	39
Link Distance (ft)	382
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 204: Eagleview Drive & Hillside Circle, Interval #1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	24
Average Queue (ft)	7
95th Queue (ft)	28
Link Distance (ft)	377
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 204: Eagleview Drive & Hillside Circle, Interval #2

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	27	3
Average Queue (ft)	8	0
95th Queue (ft)	29	6
Link Distance (ft)	377	520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 204: Eagleview Drive & Hillside Circle, Interval #3

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	30	3
Average Queue (ft)	8	0
95th Queue (ft)	29	7
Link Distance (ft)	377	520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 204: Eagleview Drive & Hillside Circle, Interval #4

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	21	9
Average Queue (ft)	3	1
95th Queue (ft)	19	12
Link Distance (ft)	377	520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 204: Eagleview Drive & Hillside Circle, All Intervals

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	30	15
Average Queue (ft)	7	1
95th Queue (ft)	27	7
Link Distance (ft)	377	520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 205: 400 West/Eagleview Drive & 600 North, Interval #1

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	27	6
Average Queue (ft)	7	1
95th Queue (ft)	28	14
Link Distance (ft)	370	537
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 205: 400 West/Eagleview Drive & 600 North, Interval #2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	7
95th Queue (ft)	28
Link Distance (ft)	370
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 205: 400 West/Eagleview Drive & 600 North, Interval #3

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	24	3
Average Queue (ft)	4	0
95th Queue (ft)	20	7
Link Distance (ft)	370	537
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 205: 400 West/Eagleview Drive & 600 North, Interval #4

Movement	EB
Directions Served	LR
Maximum Queue (ft)	24
Average Queue (ft)	8
95th Queue (ft)	30
Link Distance (ft)	370
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 205: 400 West/Eagleview Drive & 600 North, All Intervals

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	9
Average Queue (ft)	7	0
95th Queue (ft)	27	8
Link Distance (ft)	370	537
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 206: 400 West & Lupine Drive, Interval #1

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	21	27
Average Queue (ft)	3	7
95th Queue (ft)	18	27
Link Distance (ft)	441	379
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 206: 400 West & Lupine Drive, Interval #2

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	15	27
Average Queue (ft)	3	9
95th Queue (ft)	18	31
Link Distance (ft)	441	379
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 206: 400 West & Lupine Drive, Interval #3

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	9	32
Average Queue (ft)	2	9
95th Queue (ft)	13	33
Link Distance (ft)	441	379
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 206: 400 West & Lupine Drive, Interval #4

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	15	24
Average Queue (ft)	3	6
95th Queue (ft)	18	25
Link Distance (ft)	441	379
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 206: 400 West & Lupine Drive, All Intervals

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	28	33
Average Queue (ft)	3	8
95th Queue (ft)	17	29
Link Distance (ft)	441	379
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 207: Westfield Road & 400 West/200 North, Interval #1

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	6	53
Average Queue (ft)	1	36
95th Queue (ft)	9	55
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 207: Westfield Road & 400 West/200 North, Interval #2

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	23	54
Average Queue (ft)	5	37
95th Queue (ft)	26	59
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 207: Westfield Road & 400 West/200 North, Interval #3

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	32	57
Average Queue (ft)	6	42
95th Queue (ft)	30	62
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 207: Westfield Road & 400 West/200 North, Interval #4

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	23	56
Average Queue (ft)	5	38
95th Queue (ft)	25	62
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 207: Westfield Road & 400 West/200 North, All Intervals

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	43	65
Average Queue (ft)	4	38
95th Queue (ft)	24	60
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, Interval #3: 0
Network wide Queuing Penalty, Interval #4: 0
Network wide Queuing Penalty, All Intervals: 0

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Existing (2018) Plus Project*
Time Period: *Evening Peak Hour*
Project #: *UT18-1304*

Intersection: Suncrest Drive & Mercer Hollow Cove
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	R	26	25	96	0.0	A
	Subtotal	26	25	96	0.0	A
SB	L	1	0	0		
	R	1	1	100	0.1	A
	Subtotal	2	1	50	0.1	A
EB	L	5	5	95	5.9	A
	T	353	353	100	9.1	A
	Subtotal	***358***	***358***	***100***	***9.1***	***A***
WB	L	35	34	96	5.5	A
	T	351	363	103	8.2	A
	Subtotal	386	397	103	8.0	A
Total		772	781	101	8.2	A

Intersection: Lakeview Drive & Treeline Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	T	5	5	95	0.2	A
	R	24	23	96	0.1	A
	Subtotal	29	28	97	0.1	A
SB	T	5	4	76	0.0	A
	Subtotal	5	4	80	0.0	A
WB	L	47	46	98	4.0	A
	T	3	4	133	0.0	A
	Subtotal	***50***	***50***	***100***	***3.7***	***A***
Total		84	82	97	2.3	A

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Existing (2018) Plus Project*
Time Period: *Evening Peak Hour*
Project #: *UT18-1304*

Intersection: Eagleview Drive & Treeline Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	50	49	98	1.5	A
	T	9	9	100	0.2	A
	Subtotal	59	58	98	1.3	A
SB	T	6	7	112	0.0	A
	Subtotal	6	7	117	0.0	A
EB	R	27	26	96	2.4	A
	Subtotal	***27***	***26***	***96***	***2.4***	***A***
Total		92	91	99	1.5	A

Intersection: Eagleview Drive & International Way
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	58	58	100	0.4	A
	R	17	16	96	0.1	A
	Subtotal	75	74	99	0.3	A
SB	T	33	33	99	0.2	A
	Subtotal	33	33	100	0.2	A
WB	L	18	16	90	4.3	A
	Subtotal	***18***	***16***	***89***	***4.3***	***A***
Total		126	123	98	0.8	A

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Existing (2018) Plus Project*
Time Period: *Evening Peak Hour*
Project #: *UT18-1304*

Intersection: Eagleview Drive & Hillside Circle
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	T	74	73	99	0.1	A
	R	13	14	110	0.0	A
	Subtotal	87	87	100	0.1	A
SB	L	4	4	100	1.8	A
	T	47	45	95	0.2	A
	Subtotal	51	49	96	0.3	A
WB	L	6	7	112	4.4	A
	R	1	1	100	3.6	A
	Subtotal	***7***	***8***	***114***	***4.3***	***A***
Total		145	144	99	0.4	A

Intersection: 400 West/Eagleview Drive & 600 North
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	L	9	9	97	1.7	A
	T	87	87	100	0.3	A
	Subtotal	96	96	100	0.4	A
SB	T	53	53	100	0.1	A
	R	1	0	0		
	Subtotal	54	53	98	0.1	A
EB	R	7	8	110	2.6	A
	Subtotal	***7***	***8***	***114***	***2.6***	***A***
Total		157	157	100	0.4	A

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Existing (2018) Plus Project*
Time Period: *Evening Peak Hour* **Project #:** *UT18-1304*

Intersection: 400 West & Lupine Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	L	7	7	97	2.0	A
	T	95	95	100	0.7	A
	R	13	13	102	0.5	A
	Subtotal	115	115	100	0.8	A
SB	T	57	57	100	0.1	A
	R	2	2	100	0.1	A
	Subtotal	59	59	100	0.1	A
EB	L	1	1	100	3.4	A
	R	2	4	200	2.7	A
	Subtotal	3	5	167	2.8	A
WB	L	6	7	112	4.7	A
	R	1	2	200	2.4	A
	Subtotal	***7***	***9***	***129***	***4.2***	***A***
Total		184	188	102	0.8	A

Intersection: Westfield Road & 400 West/200 North
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	L	33	32	96	5.5	A
	R	116	116	100	3.6	A
	Subtotal	***149***	***148***	***99***	***4.0***	***A***
EB	T	47	47	101	0.6	A
	R	19	21	112	0.4	A
	Subtotal	66	68	103	0.5	A
WB	L	94	94	100	1.9	A
	T	81	82	101	0.6	A
	Subtotal	175	176	101	1.3	A
Total		390	392	101	2.2	A

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Existing (2018) Plus Project*
Time Period: *Evening Peak Hour*
Project #: *UT18-1304*

Intersection: Suncrest Drive & Road A
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	109	107	98	11.3	*B*
	R	7	8	110	3.0	*A*
	Subtotal	***116***	***115***	***99***	***10.7***	***B***
EB	L	12	12	98	7.3	*A*
	T	368	367	100	3.5	*A*
	Subtotal	380	379	100	3.6	*A*
WB	T	378	388	103	0.6	*A*
	R	185	192	104	1.4	*A*
	Subtotal	563	580	103	0.9	*A*
Total		1,060	1,074	101	2.9	*A*

Intersection:
Type:

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
Total						

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #1 5:00

Movement	EBL	EBT	WBL	WBT	NBR	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.5	0.1	0.0	0.0	0.1		0.1
Total Delay (hr)	0.0	0.2	0.0	0.2	0.0	0.0	0.4
Total Del/Veh (s)	4.1	8.9	5.4	7.9	0.1		8.0
Vehicles Entered	1	86	9	88	6	0	190
Vehicles Exited	1	88	9	88	6	0	192
Hourly Exit Rate	4	352	36	352	24	0	768
Input Volume	5	338	34	337	25	1	741
% of Volume	80	104	106	104	96	0	104

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #2 5:15

Movement	EBL	EBT	WBL	WBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1			0.1
Total Delay (hr)	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.4
Total Del/Veh (s)	8.0	8.9	5.4	7.8	0.0			7.9
Vehicles Entered	1	83	8	83	6	0	0	181
Vehicles Exited	1	82	8	83	6	0	0	180
Hourly Exit Rate	4	328	32	332	24	0	0	720
Input Volume	5	338	34	337	25	1	1	741
% of Volume	80	97	94	99	96	0	0	97

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #3 5:30

Movement	EBL	EBT	WBL	WBT	NBR	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1		0.1
Total Delay (hr)	0.0	0.3	0.0	0.2	0.0	0.0	0.5
Total Del/Veh (s)	6.6	9.2	5.8	8.2	0.1		8.3
Vehicles Entered	1	101	8	103	7	0	220
Vehicles Exited	1	100	8	103	7	0	219
Hourly Exit Rate	4	400	32	412	28	0	876
Input Volume	6	397	39	394	29	1	867
% of Volume	67	101	82	105	97	0	101

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #4 5:45

Movement	EBL	EBT	WBL	WBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1			0.1
Total Delay (hr)	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.4
Total Del/Veh (s)	5.4	8.9	5.5	8.0	0.1			8.0
Vehicles Entered	2	83	9	88	5	0	0	187
Vehicles Exited	2	84	9	88	5	0	0	188
Hourly Exit Rate	8	336	36	352	20	0	0	752
Input Volume	5	338	34	337	25	1	1	741
% of Volume	160	99	106	104	80	0	0	101

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Entire Run

Movement	EBL	EBT	WBL	WBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.1		0.1	0.1
Total Delay (hr)	0.0	0.9	0.1	0.8	0.0	0.0	0.0	1.8
Total Del/Veh (s)	5.9	9.1	5.5	8.2	0.0		0.1	8.2
Vehicles Entered	5	352	34	363	25	0	1	780
Vehicles Exited	5	353	34	363	25	0	1	781
Hourly Exit Rate	5	353	34	363	25	0	1	781
Input Volume	5	353	35	351	26	1	1	772
% of Volume	95	100	96	103	96	0	100	101

101: Lakeview Drive & Treeline Drive Performance by movement Interval #1 5:00

Movement	WBL	WBT	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.1	0.0	0.4	0.0	0.0	2.4
Vehicles Entered	12	1	1	6	1	21
Vehicles Exited	12	1	1	6	1	21
Hourly Exit Rate	48	4	4	24	4	84
Input Volume	45	3	5	23	5	81
% of Volume	107	133	80	104	80	104

101: Lakeview Drive & Treeline Drive Performance by movement Interval #2 5:15

Movement	WBL	WBT	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.0	0.0	0.1	0.1	0.0	2.4
Vehicles Entered	10	1	1	4	1	17
Vehicles Exited	10	1	1	4	1	17
Hourly Exit Rate	40	4	4	16	4	68
Input Volume	45	3	5	23	5	81
% of Volume	89	133	80	70	80	84

101: Lakeview Drive & Treeline Drive Performance by movement Interval #3 5:30

Movement	WBL	WBT	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.9	0.0	0.3	0.1	0.0	2.1
Vehicles Entered	12	1	2	8	1	24
Vehicles Exited	13	1	2	8	1	25
Hourly Exit Rate	52	4	8	32	4	100
Input Volume	53	3	6	27	6	95
% of Volume	98	133	133	119	67	105

101: Lakeview Drive & Treeline Drive Performance by movement Interval #4 5:45

Movement	WBL	WBT	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.1	0.1	0.0	0.0	0.0	2.4
Vehicles Entered	11	1	1	5	1	19
Vehicles Exited	11	1	1	5	1	19
Hourly Exit Rate	44	4	4	20	4	76
Input Volume	45	3	5	23	5	81
% of Volume	98	133	80	87	80	94

101: Lakeview Drive & Treeline Drive Performance by movement Entire Run

Movement	WBL	WBT	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.1	0.0
Total Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.0	0.0	0.2	0.1	0.0	2.3
Vehicles Entered	46	4	5	24	4	83
Vehicles Exited	46	4	5	23	4	82
Hourly Exit Rate	46	4	5	23	4	82
Input Volume	47	3	5	24	5	84
% of Volume	98	133	95	96	76	97

102: Eagleview Drive & Treeline Drive Performance by movement Interval #1 5:00

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.2	1.5	0.3	0.0	1.6
Vehicles Entered	7	13	2	2	24
Vehicles Exited	6	13	2	2	23
Hourly Exit Rate	24	52	8	8	92
Input Volume	26	48	9	6	89
% of Volume	92	108	89	133	103

102: Eagleview Drive & Treeline Drive Performance by movement Interval #2 5:15

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.3	1.6	0.2	0.0	1.5
Vehicles Entered	5	10	3	2	20
Vehicles Exited	5	10	3	1	19
Hourly Exit Rate	20	40	12	4	76
Input Volume	26	48	9	6	89
% of Volume	77	83	133	67	85

102: Eagleview Drive & Treeline Drive Performance by movement Interval #3 5:30

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.4	1.6	0.2	0.0	1.7
Vehicles Entered	9	14	2	2	27
Vehicles Exited	9	14	2	2	27
Hourly Exit Rate	36	56	8	8	108
Input Volume	30	56	9	7	102
% of Volume	120	100	89	114	106

102: Eagleview Drive & Treeline Drive Performance by movement Interval #4 5:45

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.2	1.5	0.2	0.0	1.5
Vehicles Entered	6	12	2	2	22
Vehicles Exited	5	12	2	2	21
Hourly Exit Rate	20	48	8	8	84
Input Volume	26	48	9	6	89
% of Volume	77	100	89	133	94

102: Eagleview Drive & Treeline Drive Performance by movement Entire Run

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.4	1.5	0.2	0.0	1.5
Vehicles Entered	26	49	9	7	91
Vehicles Exited	26	49	9	7	91
Hourly Exit Rate	26	49	9	7	91
Input Volume	27	50	9	6	92
% of Volume	96	98	100	112	99

103: Eagleview Drive & International Way Performance by movement Interval #1 5:00

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.8	0.3	0.1	0.2	0.8
Vehicles Entered	4	14	4	9	31
Vehicles Exited	4	15	4	9	32
Hourly Exit Rate	16	60	16	36	128
Input Volume	17	56	16	32	121
% of Volume	94	107	100	112	106

103: Eagleview Drive & International Way Performance by movement Interval #2 5:15

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.2	0.3	0.2	0.2	0.9
Vehicles Entered	4	14	4	6	28
Vehicles Exited	4	13	4	6	27
Hourly Exit Rate	16	52	16	24	108
Input Volume	17	56	16	32	121
% of Volume	94	93	100	75	89

103: Eagleview Drive & International Way Performance by movement Interval #3 5:30

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.6	0.5	0.2	0.2	0.8
Vehicles Entered	4	16	5	10	35
Vehicles Exited	4	16	5	10	35
Hourly Exit Rate	16	64	20	40	140
Input Volume	20	65	19	37	141
% of Volume	80	98	105	108	99

103: Eagleview Drive & International Way Performance by movement Interval #4 5:45

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.7	0.3	0.0	0.2	0.7
Vehicles Entered	4	14	4	7	29
Vehicles Exited	4	14	4	7	29
Hourly Exit Rate	16	56	16	28	116
Input Volume	17	56	16	32	121
% of Volume	94	100	100	88	96

103: Eagleview Drive & International Way Performance by movement Entire Run

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.3	0.4	0.1	0.2	0.8
Vehicles Entered	16	58	16	33	123
Vehicles Exited	16	58	16	33	123
Hourly Exit Rate	16	58	16	33	123
Input Volume	18	58	17	33	126
% of Volume	90	100	96	99	98

104: Eagleview Drive & Hillside Circle Performance by movement Interval #1 5:00

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1		0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.4		0.0	0.1	1.2	0.2	0.4
Vehicles Entered	3	0	18	3	1	12	37
Vehicles Exited	3	0	18	3	1	12	37
Hourly Exit Rate	12	0	72	12	4	48	148
Input Volume	6	1	71	12	4	45	139
% of Volume	200	0	101	100	100	107	106

104: Eagleview Drive & Hillside Circle Performance by movement Interval #2 5:15

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.8	2.0	0.1	0.0	1.5	0.3	0.5
Vehicles Entered	2	1	17	3	1	10	34
Vehicles Exited	2	1	17	3	1	10	34
Hourly Exit Rate	8	4	68	12	4	40	136
Input Volume	6	1	71	12	4	45	139
% of Volume	133	400	96	100	100	89	98

104: Eagleview Drive & Hillside Circle Performance by movement Interval #3 5:30

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1		0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.9		0.1	0.0	1.4	0.2	0.4
Vehicles Entered	2	0	21	4	1	14	42
Vehicles Exited	2	0	21	4	1	14	42
Hourly Exit Rate	8	0	84	16	4	56	168
Input Volume	7	1	83	15	4	54	164
% of Volume	114	0	101	107	100	104	102

104: Eagleview Drive & Hillside Circle Performance by movement Interval #4 5:45

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1		0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.4		0.1	0.0	1.5	0.2	0.4
Vehicles Entered	1	0	17	4	2	9	33
Vehicles Exited	1	0	17	4	2	9	33
Hourly Exit Rate	4	0	68	16	8	36	132
Input Volume	6	1	71	12	4	45	139
% of Volume	67	0	96	133	200	80	95

104: Eagleview Drive & Hillside Circle Performance by movement Entire Run

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.4	3.6	0.1	0.0	1.8	0.2	0.4
Vehicles Entered	7	1	74	14	4	45	145
Vehicles Exited	7	1	73	14	4	45	144
Hourly Exit Rate	7	1	73	14	4	45	144
Input Volume	6	1	74	13	4	47	145
% of Volume	112	100	99	110	100	95	99

105: 400 West/Eagleview Drive & 600 North Performance by movement Interval #1 5:00

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.0	1.7	0.3	0.1	0.4
Vehicles Entered	1	2	21	16	40
Vehicles Exited	1	2	21	16	40
Hourly Exit Rate	4	8	84	64	160
Input Volume	7	9	83	51	151
% of Volume	57	89	101	125	106

105: 400 West/Eagleview Drive & 600 North Performance by movement Interval #2 5:15

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.1	1.8	0.3	0.1	0.6
Vehicles Entered	2	3	20	12	37
Vehicles Exited	2	3	20	12	37
Hourly Exit Rate	8	12	80	48	148
Input Volume	7	9	83	51	151
% of Volume	114	133	96	94	98

105: 400 West/Eagleview Drive & 600 North Performance by movement Interval #3 5:30

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0		0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.2	2.2	0.4	0.1		0.5
Vehicles Entered	2	2	25	15	0	44
Vehicles Exited	2	2	25	15	0	44
Hourly Exit Rate	8	8	100	60	0	176
Input Volume	8	10	98	59	1	176
% of Volume	100	80	102	102	0	100

105: 400 West/Eagleview Drive & 600 North Performance by movement Interval #4 5:45

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0		0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.6	2.0	0.2	0.1		0.4
Vehicles Entered	2	1	21	10	0	34
Vehicles Exited	2	1	21	10	0	34
Hourly Exit Rate	8	4	84	40	0	136
Input Volume	7	9	83	51	1	151
% of Volume	114	44	101	78	0	90

105: 400 West/Eagleview Drive & 600 North Performance by movement Entire Run

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0		0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.6	1.7	0.3	0.1		0.4
Vehicles Entered	8	9	87	53	0	157
Vehicles Exited	8	9	87	53	0	157
Hourly Exit Rate	8	9	87	53	0	157
Input Volume	7	9	87	53	1	157
% of Volume	110	97	100	100	0	100

106: 400 West & Lupine Drive Performance by movement Interval #1 5:00

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		2.4	7.5	2.1	2.2	0.8	0.4	0.1	0.0	0.8
Vehicles Entered	0	1	1	1	1	23	4	15	1	47
Vehicles Exited	0	1	1	1	1	23	4	16	1	48
Hourly Exit Rate	0	4	4	4	4	92	16	64	4	192
Input Volume	1	2	6	1	7	91	12	55	2	177
% of Volume	0	200	67	400	57	101	133	116	200	108

106: 400 West & Lupine Drive Performance by movement Interval #2 5:15

Movement	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.1	4.2		1.6	0.7	0.5	0.1	0.2	0.8
Vehicles Entered	1	2	0	2	23	3	13	1	45
Vehicles Exited	1	2	0	2	23	3	13	1	45
Hourly Exit Rate	4	8	0	8	92	12	52	4	180
Input Volume	2	6	1	7	91	12	55	2	177
% of Volume	200	133	0	114	101	100	95	200	102

106: 400 West & Lupine Drive Performance by movement Interval #3 5:30

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.1		0.0	0.0	0.0	0.0		0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		3.4	4.3		1.8	0.7	0.7	0.1		0.9
Vehicles Entered	0	1	3	0	2	26	3	16	0	51
Vehicles Exited	0	1	3	0	2	27	3	16	0	52
Hourly Exit Rate	0	4	12	0	8	108	12	64	0	208
Input Volume	1	2	7	1	8	106	15	64	2	206
% of Volume	0	200	171	0	100	102	80	100	0	101

106: 400 West & Lupine Drive Performance by movement Interval #4 5:45

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.1		0.0	0.0	0.0	0.0		0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		1.8	4.3		2.4	0.5	0.3	0.1		0.6
Vehicles Entered	0	1	1	0	2	22	3	12	0	41
Vehicles Exited	0	1	1	0	2	23	3	12	0	42
Hourly Exit Rate	0	4	4	0	8	92	12	48	0	168
Input Volume	1	2	6	1	7	91	12	55	2	177
% of Volume	0	200	67	0	114	101	100	87	0	95

106: 400 West & Lupine Drive Performance by movement Entire Run

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.4	2.7	4.7	2.4	2.0	0.7	0.5	0.1	0.1	0.8
Vehicles Entered	1	4	7	2	7	95	13	57	2	188
Vehicles Exited	1	4	7	2	7	95	13	57	2	188
Hourly Exit Rate	1	4	7	2	7	95	13	57	2	188
Input Volume	1	2	6	1	7	95	13	57	2	184
% of Volume	100	200	112	200	97	100	102	100	100	102

107: Westfield Road & 400 West/200 North Performance by movement Interval #1 5:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.2	1.8	0.6	5.7	3.6	2.2
Vehicles Entered	13	5	23	20	8	26	95
Vehicles Exited	12	5	23	20	8	27	95
Hourly Exit Rate	48	20	92	80	32	108	380
Input Volume	45	18	90	78	32	111	374
% of Volume	107	111	102	103	100	97	102

107: Westfield Road & 400 West/200 North Performance by movement Interval #2 5:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.7	0.3	1.9	0.5	5.1	3.3	2.0
Vehicles Entered	12	5	24	21	8	28	98
Vehicles Exited	12	5	24	21	8	27	97
Hourly Exit Rate	48	20	96	84	32	108	388
Input Volume	45	18	90	78	32	111	374
% of Volume	107	111	107	108	100	97	104

107: Westfield Road & 400 West/200 North Performance by movement Interval #3 5:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.1	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.8	0.5	2.1	0.6	4.7	3.4	2.1
Vehicles Entered	13	7	25	23	9	33	110
Vehicles Exited	13	7	25	23	8	32	108
Hourly Exit Rate	52	28	100	92	32	128	432
Input Volume	52	21	106	91	37	130	437
% of Volume	100	133	94	101	86	98	99

107: Westfield Road & 400 West/200 North Performance by movement Interval #4 5:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.5	0.5	1.8	0.5	5.3	3.8	2.4
Vehicles Entered	9	4	23	18	8	29	91
Vehicles Exited	10	4	23	18	8	30	93
Hourly Exit Rate	40	16	92	72	32	120	372
Input Volume	45	18	90	78	32	111	374
% of Volume	89	89	102	92	100	108	99

107: Westfield Road & 400 West/200 North Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.1	0.0	0.1	0.1	0.2
Total Del/Veh (s)	0.6	0.4	1.9	0.6	5.5	3.6	2.2
Vehicles Entered	47	21	94	82	33	116	393
Vehicles Exited	47	21	94	82	32	116	392
Hourly Exit Rate	47	21	94	82	32	116	392
Input Volume	47	19	94	81	33	116	390
% of Volume	101	112	100	101	96	100	101

200: Suncrest Drive & Road A Performance by movement Interval #1 5:00

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	2.9	0.2	3.6	0.6
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	6.2	3.4	0.6	1.5	9.0	2.9	2.6
Vehicles Entered	4	91	94	46	25	2	262
Vehicles Exited	3	90	94	48	25	2	262
Hourly Exit Rate	12	360	376	192	100	8	1048
Input Volume	12	353	362	177	105	7	1016
% of Volume	100	102	104	108	95	114	103

200: Suncrest Drive & Road A Performance by movement Interval #2 5:15

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	3.0	0.2	3.0	0.7
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	6.5	3.3	0.5	1.4	10.5	2.4	2.7
Vehicles Entered	3	86	89	48	25	2	253
Vehicles Exited	3	87	89	47	25	2	253
Hourly Exit Rate	12	348	356	188	100	8	1012
Input Volume	12	353	362	177	105	7	1016
% of Volume	100	99	98	106	95	114	100

200: Suncrest Drive & Road A Performance by movement Interval #3 5:30

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.2	2.7	0.2	3.8	0.6
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.3
Total Del/Veh (s)	6.0	3.5	0.7	1.4	13.4	3.1	3.2
Vehicles Entered	3	104	110	52	31	2	302
Vehicles Exited	3	103	109	52	31	2	300
Hourly Exit Rate	12	412	436	208	124	8	1200
Input Volume	13	414	425	208	122	8	1190
% of Volume	92	100	103	100	102	100	101

200: Suncrest Drive & Road A Performance by movement Interval #4 5:45

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	3.0	0.2	4.9	0.6
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	6.4	3.4	0.7	1.3	11.1	3.7	2.9
Vehicles Entered	3	86	94	44	26	2	255
Vehicles Exited	3	87	95	44	27	2	258
Hourly Exit Rate	12	348	380	176	108	8	1032
Input Volume	12	353	362	177	105	7	1016
% of Volume	100	99	105	99	103	114	102

200: Suncrest Drive & Road A Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.2	0.0	0.0	0.2
Denied Del/Veh (s)	0.0	0.0	0.2	2.9	0.2	3.8	0.6
Total Delay (hr)	0.0	0.4	0.1	0.1	0.3	0.0	0.9
Total Del/Veh (s)	7.3	3.5	0.6	1.4	11.3	3.0	2.9
Vehicles Entered	12	367	388	190	107	8	1072
Vehicles Exited	12	367	388	192	107	8	1074
Hourly Exit Rate	12	367	388	192	107	8	1074
Input Volume	12	368	378	185	109	7	1060
% of Volume	98	100	103	104	98	110	101

Total Network Performance By Interval

Interval Start	5:00	5:15	5:30	5:45	All
Denied Delay (hr)	0.1	0.1	0.1	0.1	0.2
Denied Del/Veh (s)	0.5	0.6	0.5	0.5	0.5
Total Delay (hr)	0.8	0.8	1.0	0.8	3.4
Total Del/Veh (s)	7.5	7.4	8.1	7.7	8.0
Vehicles Entered	360	356	420	353	1493
Vehicles Exited	367	352	413	361	1497
Hourly Exit Rate	1468	1408	1652	1444	1497
Input Volume	4372	4372	5113	4372	4557
% of Volume	34	32	32	33	33

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #1

Movement	EB	EB	WB	WB
Directions Served	LT	T	LT	TR
Maximum Queue (ft)	56	37	48	48
Average Queue (ft)	40	28	34	31
95th Queue (ft)	59	47	53	48
Link Distance (ft)	515	515	1102	1102
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #2

Movement	EB	EB	WB	WB
Directions Served	LT	T	LT	TR
Maximum Queue (ft)	54	33	48	58
Average Queue (ft)	40	23	33	33
95th Queue (ft)	59	44	50	60
Link Distance (ft)	515	515	1102	1102
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #3

Movement	EB	EB	WB	WB	NB
Directions Served	LT	T	LT	TR	LTR
Maximum Queue (ft)	70	39	51	55	1
Average Queue (ft)	47	29	34	37	0
95th Queue (ft)	74	46	54	61	3
Link Distance (ft)	515	515	1102	1102	219
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #4

Movement	EB	EB	WB	WB
Directions Served	LT	T	LT	TR
Maximum Queue (ft)	62	37	47	47
Average Queue (ft)	40	24	33	33
95th Queue (ft)	63	48	50	53
Link Distance (ft)	515	515	1102	1102
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, All Intervals

Movement	EB	EB	WB	WB	NB
Directions Served	LT	T	LT	TR	LTR
Maximum Queue (ft)	78	47	57	67	1
Average Queue (ft)	42	26	33	33	0
95th Queue (ft)	65	47	52	56	1
Link Distance (ft)	515	515	1102	1102	219
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 101: Lakeview Drive & Treeline Drive, Interval #1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	46
Average Queue (ft)	26
95th Queue (ft)	53
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101: Lakeview Drive & Treeline Drive, Interval #2

Movement	WB
Directions Served	LR
Maximum Queue (ft)	41
Average Queue (ft)	22
95th Queue (ft)	48
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101: Lakeview Drive & Treeline Drive, Interval #3

Movement	WB
Directions Served	LR
Maximum Queue (ft)	48
Average Queue (ft)	27
95th Queue (ft)	57
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101: Lakeview Drive & Treeline Drive, Interval #4

Movement	WB
Directions Served	LR
Maximum Queue (ft)	41
Average Queue (ft)	23
95th Queue (ft)	47
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101: Lakeview Drive & Treeline Drive, All Intervals

Movement	WB
Directions Served	LR
Maximum Queue (ft)	58
Average Queue (ft)	25
95th Queue (ft)	51
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 102: Eagleview Drive & Treeline Drive, Interval #1

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	27	9
Average Queue (ft)	14	1
95th Queue (ft)	34	11
Link Distance (ft)	345	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 102: Eagleview Drive & Treeline Drive, Interval #2

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	27	3
Average Queue (ft)	13	0
95th Queue (ft)	34	6
Link Distance (ft)	345	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 102: Eagleview Drive & Treeline Drive, Interval #3

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	27	3
Average Queue (ft)	17	0
95th Queue (ft)	36	6
Link Distance (ft)	345	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 102: Eagleview Drive & Treeline Drive, Interval #4

Movement	EB
Directions Served	LR
Maximum Queue (ft)	25
Average Queue (ft)	12
95th Queue (ft)	32
Link Distance (ft)	345
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 102: Eagleview Drive & Treeline Drive, All Intervals

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	32	12
Average Queue (ft)	14	1
95th Queue (ft)	34	7
Link Distance (ft)	345	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 103: Eagleview Drive & International Way, Interval #1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	33
Average Queue (ft)	14
95th Queue (ft)	40
Link Distance (ft)	382
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 103: Eagleview Drive & International Way, Interval #2

Movement	WB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	14
95th Queue (ft)	39
Link Distance (ft)	382
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 103: Eagleview Drive & International Way, Interval #3

Movement	WB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	14
95th Queue (ft)	40
Link Distance (ft)	382
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 103: Eagleview Drive & International Way, Interval #4

Movement	WB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	12
95th Queue (ft)	36
Link Distance (ft)	382
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 103: Eagleview Drive & International Way, All Intervals

Movement	WB
Directions Served	LR
Maximum Queue (ft)	33
Average Queue (ft)	13
95th Queue (ft)	39
Link Distance (ft)	382
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 104: Eagleview Drive & Hillside Circle, Interval #1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	25
Average Queue (ft)	9
95th Queue (ft)	32
Link Distance (ft)	380
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 104: Eagleview Drive & Hillside Circle, Interval #2

Movement	WB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	8
95th Queue (ft)	30
Link Distance (ft)	380
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 104: Eagleview Drive & Hillside Circle, Interval #3

Movement	WB
Directions Served	LR
Maximum Queue (ft)	22
Average Queue (ft)	6
95th Queue (ft)	25
Link Distance (ft)	380
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 104: Eagleview Drive & Hillside Circle, Interval #4

Movement	WB
Directions Served	LR
Maximum Queue (ft)	24
Average Queue (ft)	5
95th Queue (ft)	24
Link Distance (ft)	380
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 104: Eagleview Drive & Hillside Circle, All Intervals

Movement	WB
Directions Served	LR
Maximum Queue (ft)	33
Average Queue (ft)	7
95th Queue (ft)	28
Link Distance (ft)	380
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 105: 400 West/Eagleview Drive & 600 North, Interval #1

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	24	3
Average Queue (ft)	4	0
95th Queue (ft)	20	6
Link Distance (ft)	370	537
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 105: 400 West/Eagleview Drive & 600 North, Interval #2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	9
95th Queue (ft)	30
Link Distance (ft)	370
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 105: 400 West/Eagleview Drive & 600 North, Interval #3

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	24	3
Average Queue (ft)	7	0
95th Queue (ft)	27	6
Link Distance (ft)	370	537
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 105: 400 West/Eagleview Drive & 600 North, Interval #4

Movement	EB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	7
95th Queue (ft)	27
Link Distance (ft)	370
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 105: 400 West/Eagleview Drive & 600 North, All Intervals

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	6
Average Queue (ft)	6	0
95th Queue (ft)	27	4
Link Distance (ft)	370	537
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 106: 400 West & Lupine Drive, Interval #1

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	24	27
Average Queue (ft)	4	7
95th Queue (ft)	22	28
Link Distance (ft)	441	379
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 106: 400 West & Lupine Drive, Interval #2

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	27	30
Average Queue (ft)	5	8
95th Queue (ft)	24	30
Link Distance (ft)	441	379
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 106: 400 West & Lupine Drive, Interval #3

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	28	30	3
Average Queue (ft)	4	11	0
95th Queue (ft)	22	35	7
Link Distance (ft)	441	379	1471
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 106: 400 West & Lupine Drive, Interval #4

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	24	15
Average Queue (ft)	3	4
95th Queue (ft)	19	21
Link Distance (ft)	441	379
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 106: 400 West & Lupine Drive, All Intervals

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	33	31	3
Average Queue (ft)	4	7	0
95th Queue (ft)	22	29	3
Link Distance (ft)	441	379	1471
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 107: Westfield Road & 400 West/200 North, Interval #1

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	24	55
Average Queue (ft)	5	40
95th Queue (ft)	24	58
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 107: Westfield Road & 400 West/200 North, Interval #2

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	26	56
Average Queue (ft)	6	38
95th Queue (ft)	28	57
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 107: Westfield Road & 400 West/200 North, Interval #3

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	38	57
Average Queue (ft)	10	40
95th Queue (ft)	34	59
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 107: Westfield Road & 400 West/200 North, Interval #4

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	19	63
Average Queue (ft)	4	43
95th Queue (ft)	21	71
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 107: Westfield Road & 400 West/200 North, All Intervals

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	43	67
Average Queue (ft)	6	40
95th Queue (ft)	27	62
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 200: Suncrest Drive & Road A, Interval #1

Movement	EB	WB	SB	SB
Directions Served	L	R	L	R
Maximum Queue (ft)	25	2	64	21
Average Queue (ft)	6	0	37	5
95th Queue (ft)	25	5	61	23
Link Distance (ft)			422	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	100		100
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 200: Suncrest Drive & Road A, Interval #2

Movement	EB	WB	SB	SB
Directions Served	L	R	L	R
Maximum Queue (ft)	20	4	59	18
Average Queue (ft)	5	1	38	4
95th Queue (ft)	22	7	63	20
Link Distance (ft)			422	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	100		100
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 200: Suncrest Drive & Road A, Interval #3

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	25	82	24
Average Queue (ft)	6	46	6
95th Queue (ft)	24	83	25
Link Distance (ft)		422	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)		1	
Queuing Penalty (veh)		0	

Intersection: 200: Suncrest Drive & Road A, Interval #4

Movement	EB	WB	SB	SB
Directions Served	L	R	L	R
Maximum Queue (ft)	20	7	83	27
Average Queue (ft)	5	1	41	7
95th Queue (ft)	22	10	85	26
Link Distance (ft)			422	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	100		100
Storage Blk Time (%)			1	
Queuing Penalty (veh)			0	

Intersection: 200: Suncrest Drive & Road A, All Intervals

Movement	EB	WB	SB	SB
Directions Served	L	R	L	R
Maximum Queue (ft)	29	9	99	27
Average Queue (ft)	5	1	41	6
95th Queue (ft)	23	6	75	23
Link Distance (ft)			422	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	100		100
Storage Blk Time (%)			1	
Queuing Penalty (veh)			0	

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, Interval #3: 0
Network wide Queuing Penalty, Interval #4: 0
Network wide Queuing Penalty, All Intervals: 0

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Future (2024) Background*
Time Period: *Evening Peak Hour*
Project #: *UT18-1304*

Intersection: Suncrest Drive & Mercer Hollow Cove
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	5	95	1.5	A
	R	35	33	94	0.1	A
	Subtotal	40	38	95	0.3	A
SB	L	5	5	95	1.6	A
	R	5	5	95	0.1	A
	Subtotal	10	10	100	0.9	A
EB	L	5	5	95	8.1	A
	T	365	360	99	9.3	A
	Subtotal	***370***	***365***	***99***	***9.3***	***A***
WB	L	40	42	106	6.2	A
	T	360	366	102	8.4	A
	Subtotal	400	408	102	8.2	A
Total		821	821	100	8.2	A

Intersection: Lakeview Drive & Treeline Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	5	6	114	0.0	A
	Subtotal	5	6	120	0.0	A
WB	L	5	4	76	4.1	A
	Subtotal	***5***	***4***	***80***	***4.1***	***A***
Total		10	10	95	1.7	A

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Future (2024) Background*
Time Period: *Evening Peak Hour* **Project #:** *UT18-1304*

Intersection: Eagleview Drive & Treeline Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	L	5	4	76	1.6	A
	T	5	6	114	0.0	A
	Subtotal	10	10	100	0.6	A
SB	T	5	5	95	0.0	A
	Subtotal	5	5	100	0.0	A
EB	R	10	10	98	2.5	A
	Subtotal	***10***	***10***	***100***	***2.5***	***A***
Total		26	25	96	1.3	A

Intersection: Eagleview Drive & International Way
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	T	10	10	95	0.2	A
	R	25	23	92	0.1	A
	Subtotal	35	33	94	0.1	A
SB	L	5	5	95	1.3	A
	T	10	10	98	0.2	A
	Subtotal	15	15	100	0.6	A
WB	L	25	27	108	3.9	A
	Subtotal	***25***	***27***	***108***	***3.9***	***A***
Total		76	75	99	1.6	A

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Future (2024) Background*
Time Period: *Evening Peak Hour*
Project #: *UT18-1304*

Intersection: Eagleview Drive & Hillside Circle
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	30	28	92	0.1	A
	R	15	15	102	0.0	A
	Subtotal	45	43	96	0.1	A
SB	L	5	5	95	2.1	A
	T	30	32	106	0.5	A
	Subtotal	35	37	106	0.7	A
WB	L	10	9	88	4.2	A
	R	5	5	95	2.9	A
	Subtotal	***15***	***14***	***93***	***3.7***	***A***
Total		96	94	98	0.9	A

Intersection: 400 West/Eagleview Drive & 600 North
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	10	10	98	1.6	A
	T	45	43	95	0.4	A
	Subtotal	55	53	96	0.6	A
SB	T	35	36	102	0.2	A
	R	5	5	95	0.1	A
	Subtotal	40	41	103	0.2	A
EB	R	10	9	88	2.8	A
	Subtotal	***10***	***9***	***90***	***2.8***	***A***
Total		106	103	97	0.6	A

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Future (2024) Background*
Time Period: *Evening Peak Hour*
Project #: *UT18-1304*

Intersection: 400 West & Lupine Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	10	9	88	2.0	*A*
	T	45	43	95	0.6	*A*
	R	20	20	101	0.6	*A*
	Subtotal	75	72	96	0.8	*A*
SB	T	40	40	99	0.1	*A*
	R	5	5	95	0.1	*A*
	Subtotal	45	45	100	0.1	*A*
EB	L	5	4	76	4.6	*A*
	R	5	5	95	2.7	*A*
	Subtotal	***10***	***9***	***90***	***3.5***	***A***
WB	L	5	4	76	4.3	*A*
	R	5	6	114	2.6	*A*
	Subtotal	10	10	100	3.3	*A*
Total		142	136	96	0.9	*A*

Intersection: Westfield Road & 400 West/200 North
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	28	93	5.7	*A*
	R	120	120	100	3.5	*A*
	Subtotal	***150***	***148***	***99***	***3.9***	***A***
EB	T	30	30	98	0.6	*A*
	R	20	18	91	0.2	*A*
	Subtotal	50	48	96	0.5	*A*
WB	L	95	95	100	1.8	*A*
	T	45	44	98	0.5	*A*
	Subtotal	140	139	99	1.4	*A*
Total		340	335	98	2.4	*A*

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #1 5:00

Movement	EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.1	0.1		0.1	0.1
Total Delay (hr)	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.4
Total Del/Veh (s)	6.6	8.9	5.6	8.1	2.1	0.1		0.1	8.0
Vehicles Entered	2	82	10	92	1	8	0	1	196
Vehicles Exited	2	81	10	92	1	8	0	1	195
Hourly Exit Rate	8	324	40	368	4	32	0	4	780
Input Volume	5	350	38	345	5	34	5	5	787
% of Volume	160	93	105	107	80	94	0	80	99

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #2 5:15

Movement	EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Total Delay (hr)	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.4
Total Del/Veh (s)		9.0	6.0	8.3	1.2	0.1	1.9	0.0	8.1
Vehicles Entered	0	85	9	85	1	8	1	1	190
Vehicles Exited	0	85	10	86	1	8	1	1	192
Hourly Exit Rate	0	340	40	344	4	32	4	4	768
Input Volume	5	350	38	345	5	34	5	5	787
% of Volume	0	97	105	100	80	94	80	80	98

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #3 5:30

Movement	EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.1	0.0	0.0	0.1	0.2	0.1	0.1	0.1
Total Delay (hr)	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.5
Total Del/Veh (s)	6.9	9.4	6.0	8.3	1.2	0.1	1.6	0.2	8.2
Vehicles Entered	2	102	11	101	2	9	2	2	231
Vehicles Exited	2	102	10	100	2	8	2	2	228
Hourly Exit Rate	8	408	40	400	8	32	8	8	912
Input Volume	6	410	45	404	6	39	6	6	922
% of Volume	133	100	89	99	133	82	133	133	99

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #4 5:45

Movement	EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.5	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Total Delay (hr)	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.5
Total Del/Veh (s)	10.5	9.1	6.1	8.2	1.7	0.1	2.1	0.0	8.2
Vehicles Entered	1	92	11	87	1	8	1	1	202
Vehicles Exited	1	91	11	88	1	8	1	1	202
Hourly Exit Rate	4	364	44	352	4	32	4	4	808
Input Volume	5	350	38	345	5	34	5	5	787
% of Volume	80	104	116	102	80	94	80	80	103

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Entire Run

Movement	EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Total Delay (hr)	0.0	0.9	0.1	0.9	0.0	0.0	0.0	0.0	1.9
Total Del/Veh (s)	8.1	9.3	6.2	8.4	1.5	0.1	1.6	0.1	8.2
Vehicles Entered	5	361	42	365	5	33	5	5	821
Vehicles Exited	5	360	42	366	5	33	5	5	821
Hourly Exit Rate	5	360	42	366	5	33	5	5	821
Input Volume	5	365	40	360	5	35	5	5	821
% of Volume	95	99	106	102	95	94	95	95	100

201: Lakeview Drive & Treeline Drive Performance by movement Interval #1 5:00

Movement	WBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	3.7	0.0	1.3
Vehicles Entered	1	2	3
Vehicles Exited	1	2	3
Hourly Exit Rate	4	8	12
Input Volume	5	5	10
% of Volume	80	160	120

201: Lakeview Drive & Treeline Drive Performance by movement Interval #2 5:15

Movement	WBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	4.1	0.0	2.1
Vehicles Entered	1	1	2
Vehicles Exited	1	1	2
Hourly Exit Rate	4	4	8
Input Volume	5	5	10
% of Volume	80	80	80

201: Lakeview Drive & Treeline Drive Performance by movement Interval #3 5:30

Movement	WBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	3.9	0.0	1.3
Vehicles Entered	1	2	3
Vehicles Exited	1	2	3
Hourly Exit Rate	4	8	12
Input Volume	6	6	12
% of Volume	67	133	100

201: Lakeview Drive & Treeline Drive Performance by movement Interval #4 5:45

Movement	WBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	4.9	0.0	2.4
Vehicles Entered	1	1	2
Vehicles Exited	1	1	2
Hourly Exit Rate	4	4	8
Input Volume	5	5	10
% of Volume	80	80	80

201: Lakeview Drive & Treeline Drive Performance by movement Entire Run

Movement	WBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	4.1	0.0	1.7
Vehicles Entered	4	6	10
Vehicles Exited	4	6	10
Hourly Exit Rate	4	6	10
Input Volume	5	5	10
% of Volume	76	114	95

202: Eagleview Drive & Treeline Drive Performance by movement Interval #1 5:00

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.7	1.6	0.0	0.0	1.6
Vehicles Entered	3	1	1	1	6
Vehicles Exited	3	1	1	1	6
Hourly Exit Rate	12	4	4	4	24
Input Volume	10	5	5	5	25
% of Volume	120	80	80	80	96

202: Eagleview Drive & Treeline Drive Performance by movement Interval #2 5:15

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.9	1.5	0.0	0.0	1.2
Vehicles Entered	2	1	2	1	6
Vehicles Exited	2	1	2	1	6
Hourly Exit Rate	8	4	8	4	24
Input Volume	10	5	5	5	25
% of Volume	80	80	160	80	96

202: Eagleview Drive & Treeline Drive Performance by movement Interval #3 5:30

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.1	1.4	0.0	0.0	1.1
Vehicles Entered	3	1	2	1	7
Vehicles Exited	3	1	2	1	7
Hourly Exit Rate	12	4	8	4	28
Input Volume	11	6	6	6	29
% of Volume	109	67	133	67	97

202: Eagleview Drive & Treeline Drive Performance by movement Interval #4 5:45

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.2	1.9	0.0	0.0	1.3
Vehicles Entered	2	1	1	1	5
Vehicles Exited	2	1	1	1	5
Hourly Exit Rate	8	4	4	4	20
Input Volume	10	5	5	5	25
% of Volume	80	80	80	80	80

202: Eagleview Drive & Treeline Drive Performance by movement Entire Run

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.5	1.6	0.0	0.0	1.3
Vehicles Entered	10	4	6	5	25
Vehicles Exited	10	4	6	5	25
Hourly Exit Rate	10	4	6	5	25
Input Volume	10	5	5	5	26
% of Volume	98	76	114	95	96

203: Eagleview Drive & International Way Performance by movement Interval #1 5:00

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.3	0.1	0.2	0.9	0.2	1.7
Vehicles Entered	6	2	4	2	3	17
Vehicles Exited	6	2	4	2	3	17
Hourly Exit Rate	24	8	16	8	12	68
Input Volume	24	10	24	5	10	73
% of Volume	100	80	67	160	120	93

203: Eagleview Drive & International Way Performance by movement Interval #2 5:15

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.8	0.1	0.2	1.0	0.2	1.4
Vehicles Entered	6	3	6	1	2	18
Vehicles Exited	6	3	6	1	2	18
Hourly Exit Rate	24	12	24	4	8	72
Input Volume	24	10	24	5	10	73
% of Volume	100	120	100	80	80	99

203: Eagleview Drive & International Way Performance by movement Interval #3 5:30

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.9	0.2	0.1	1.3	0.2	1.9
Vehicles Entered	9	2	6	2	2	21
Vehicles Exited	9	2	6	2	2	21
Hourly Exit Rate	36	8	24	8	8	84
Input Volume	28	12	28	6	11	85
% of Volume	129	67	86	133	73	99

203: Eagleview Drive & International Way Performance by movement Interval #4 5:45

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.7	0.7	0.2	0.9	0.2	1.5
Vehicles Entered	5	2	6	1	2	16
Vehicles Exited	6	2	6	1	2	17
Hourly Exit Rate	24	8	24	4	8	68
Input Volume	24	10	24	5	10	73
% of Volume	100	80	100	80	80	93

203: Eagleview Drive & International Way Performance by movement Entire Run

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.9	0.2	0.1	1.3	0.2	1.6
Vehicles Entered	26	10	23	5	10	74
Vehicles Exited	27	10	23	5	10	75
Hourly Exit Rate	27	10	23	5	10	75
Input Volume	25	10	25	5	10	76
% of Volume	108	95	92	95	98	99

204: Eagleview Drive & Hillside Circle Performance by movement Interval #1 5:00

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.7	2.3	0.1	0.0	1.7	0.6	1.1
Vehicles Entered	4	1	6	3	2	8	24
Vehicles Exited	4	1	6	3	2	8	24
Hourly Exit Rate	16	4	24	12	8	32	96
Input Volume	10	5	29	14	5	29	92
% of Volume	160	80	83	86	160	110	104

204: Eagleview Drive & Hillside Circle Performance by movement Interval #2 5:15

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.8	3.5	0.1	0.1	1.4	0.4	0.8
Vehicles Entered	2	1	8	4	2	7	24
Vehicles Exited	2	1	8	4	2	7	24
Hourly Exit Rate	8	4	32	16	8	28	96
Input Volume	10	5	29	14	5	29	92
% of Volume	80	80	110	114	160	97	104

204: Eagleview Drive & Hillside Circle Performance by movement Interval #3 5:30

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	7.2	4.0	0.0	0.0	2.6	0.5	0.8
Vehicles Entered	1	1	8	4	1	10	25
Vehicles Exited	1	1	8	4	1	10	25
Hourly Exit Rate	4	4	32	16	4	40	100
Input Volume	11	6	35	17	6	34	109
% of Volume	36	67	91	94	67	118	92

204: Eagleview Drive & Hillside Circle Performance by movement Interval #4 5:45

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.2	2.4	0.1	0.0	1.9	0.6	0.9
Vehicles Entered	2	2	7	4	1	7	23
Vehicles Exited	2	2	7	4	1	7	23
Hourly Exit Rate	8	8	28	16	4	28	92
Input Volume	10	5	29	14	5	29	92
% of Volume	80	160	97	114	80	97	100

204: Eagleview Drive & Hillside Circle Performance by movement Entire Run

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.2	2.9	0.1	0.0	2.1	0.5	0.9
Vehicles Entered	9	5	28	15	5	32	94
Vehicles Exited	9	5	28	15	5	32	94
Hourly Exit Rate	9	5	28	15	5	32	94
Input Volume	10	5	30	15	5	30	96
% of Volume	88	95	92	102	95	106	98

205: 400 West/Eagleview Drive & 600 North Performance by movement Interval #1 5:00

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.6	1.2	0.2	0.2	0.2	0.5
Vehicles Entered	2	2	9	10	2	25
Vehicles Exited	2	2	9	10	2	25
Hourly Exit Rate	8	8	36	40	8	100
Input Volume	10	10	43	34	5	102
% of Volume	80	80	84	118	160	98

205: 400 West/Eagleview Drive & 600 North Performance by movement Interval #2 5:15

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.3	1.6	0.5	0.1	0.2	0.8
Vehicles Entered	2	4	12	8	1	27
Vehicles Exited	2	4	12	8	1	27
Hourly Exit Rate	8	16	48	32	4	108
Input Volume	10	10	43	34	5	102
% of Volume	80	160	112	94	80	106

205: 400 West/Eagleview Drive & 600 North Performance by movement Interval #3 5:30

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.6	1.3	0.2	0.1	0.0	0.5
Vehicles Entered	3	2	12	10	1	28
Vehicles Exited	3	2	11	10	1	27
Hourly Exit Rate	12	8	44	40	4	108
Input Volume	11	11	52	39	6	119
% of Volume	109	73	85	103	67	91

205: 400 West/Eagleview Drive & 600 North Performance by movement Interval #4 5:45

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.8	1.5	0.3	0.2	0.0	0.6
Vehicles Entered	2	3	11	8	1	25
Vehicles Exited	2	3	11	8	1	25
Hourly Exit Rate	8	12	44	32	4	100
Input Volume	10	10	43	34	5	102
% of Volume	80	120	102	94	80	98

205: 400 West/Eagleview Drive & 600 North Performance by movement Entire Run

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.8	1.6	0.4	0.2	0.1	0.6
Vehicles Entered	9	10	43	36	5	103
Vehicles Exited	9	10	43	36	5	103
Hourly Exit Rate	9	10	43	36	5	103
Input Volume	10	10	45	35	5	106
% of Volume	88	98	95	102	95	97

206: 400 West & Lupine Drive Performance by movement Interval #1 5:00

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.9	3.5	3.9	2.4	2.2	0.5	0.5	0.1	0.2	0.9
Vehicles Entered	1	1	1	2	2	9	5	11	1	33
Vehicles Exited	1	1	1	2	2	8	5	11	1	32
Hourly Exit Rate	4	4	4	8	8	32	20	44	4	128
Input Volume	5	5	5	5	10	43	19	39	5	136
% of Volume	80	80	80	160	80	74	105	113	80	94

206: 400 West & Lupine Drive Performance by movement Interval #2 5:15

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.1	1.9	5.1	2.6	2.1	0.6	0.8	0.1	0.1	1.0
Vehicles Entered	1	1	1	2	3	12	5	9	1	35
Vehicles Exited	1	1	1	2	3	13	5	9	1	36
Hourly Exit Rate	4	4	4	8	12	52	20	36	4	144
Input Volume	5	5	5	5	10	43	19	39	5	136
% of Volume	80	80	80	160	120	121	105	92	80	106

206: 400 West & Lupine Drive Performance by movement Interval #3 5:30

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.6	2.1	4.1	2.9	1.7	0.6	0.5	0.1	0.2	0.8
Vehicles Entered	1	1	1	1	2	12	6	11	2	37
Vehicles Exited	1	1	1	1	2	11	6	11	2	36
Hourly Exit Rate	4	4	4	4	8	44	24	44	8	144
Input Volume	6	6	6	6	11	52	22	45	6	160
% of Volume	67	67	67	67	73	85	109	98	133	90

206: 400 West & Lupine Drive Performance by movement Interval #4 5:45

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.8	2.1	4.3	2.9	2.0	0.6	0.5	0.1	0.0	1.0
Vehicles Entered	1	2	1	1	2	11	5	9	1	33
Vehicles Exited	1	2	1	1	2	11	5	9	1	33
Hourly Exit Rate	4	8	4	4	8	44	20	36	4	132
Input Volume	5	5	5	5	10	43	19	39	5	136
% of Volume	80	160	80	80	80	102	105	92	80	97

206: 400 West & Lupine Drive Performance by movement Entire Run

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.6	2.7	4.3	2.6	2.0	0.6	0.6	0.1	0.1	0.9
Vehicles Entered	4	5	4	6	9	43	20	40	5	136
Vehicles Exited	4	5	4	6	9	43	20	40	5	136
Hourly Exit Rate	4	5	4	6	9	43	20	40	5	136
Input Volume	5	5	5	5	10	45	20	40	5	142
% of Volume	76	95	76	114	88	95	101	99	95	96

207: Westfield Road & 400 West/200 North Performance by movement Interval #1 5:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.6	0.1	2.0	0.5	5.0	3.1	2.2
Vehicles Entered	7	6	23	11	5	27	79
Vehicles Exited	7	5	23	10	6	27	78
Hourly Exit Rate	28	20	92	40	24	108	312
Input Volume	29	19	91	43	29	115	326
% of Volume	97	105	101	93	83	94	96

207: Westfield Road & 400 West/200 North Performance by movement Interval #2 5:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.2	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.1	1.8	0.4	5.1	3.3	2.3
Vehicles Entered	8	4	23	11	8	30	84
Vehicles Exited	7	4	23	12	8	30	84
Hourly Exit Rate	28	16	92	48	32	120	336
Input Volume	29	19	91	43	29	115	326
% of Volume	97	84	101	112	110	104	103

207: Westfield Road & 400 West/200 North Performance by movement Interval #3 5:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.2	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.5	0.1	1.8	0.5	5.4	3.6	2.4
Vehicles Entered	8	5	28	12	8	34	95
Vehicles Exited	8	5	28	11	8	34	94
Hourly Exit Rate	32	20	112	44	32	136	376
Input Volume	35	22	107	51	34	135	384
% of Volume	91	91	105	86	94	101	98

207: Westfield Road & 400 West/200 North Performance by movement Interval #4 5:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.7	0.5	1.8	0.4	5.5	3.4	2.4
Vehicles Entered	8	4	22	10	7	30	81
Vehicles Exited	8	4	22	11	8	30	83
Hourly Exit Rate	32	16	88	44	32	120	332
Input Volume	29	19	91	43	29	115	326
% of Volume	110	84	97	102	110	104	102

207: Westfield Road & 400 West/200 North Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.2	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.2
Total Del/Veh (s)	0.6	0.2	1.8	0.5	5.7	3.5	2.4
Vehicles Entered	30	18	95	44	28	121	336
Vehicles Exited	30	18	95	44	28	120	335
Hourly Exit Rate	30	18	95	44	28	120	335
Input Volume	30	20	95	45	30	120	340
% of Volume	98	91	100	98	93	100	98

Total Network Performance By Interval

Interval Start	5:00	5:15	5:30	5:45	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1
Total Delay (hr)	0.7	0.7	0.8	0.7	2.9
Total Del/Veh (s)	8.1	8.0	8.3	8.2	8.5
Vehicles Entered	284	281	335	291	1194
Vehicles Exited	284	285	331	291	1192
Hourly Exit Rate	1136	1140	1324	1164	1192
Input Volume	3481	3481	4081	3481	3631
% of Volume	33	33	32	33	33

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #1

Movement	EB	EB	WB	WB	NB
Directions Served	LT	T	LT	TR	LTR
Maximum Queue (ft)	65	34	50	54	2
Average Queue (ft)	41	26	37	35	0
95th Queue (ft)	66	44	56	58	4
Link Distance (ft)	515	515	1113	1113	219
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #2

Movement	EB	EB	WB	WB
Directions Served	LT	T	LT	TR
Maximum Queue (ft)	66	41	49	49
Average Queue (ft)	43	27	33	34
95th Queue (ft)	68	49	51	53
Link Distance (ft)	515	515	1113	1113
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #3

Movement	EB	EB	WB	WB	SB
Directions Served	LT	T	LT	TR	LTR
Maximum Queue (ft)	65	38	55	56	6
Average Queue (ft)	47	29	36	38	1
95th Queue (ft)	71	49	57	61	9
Link Distance (ft)	515	515	1113	1113	702
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #4

Movement	EB	EB	WB	WB	NB
Directions Served	LT	T	LT	TR	LTR
Maximum Queue (ft)	67	45	54	54	1
Average Queue (ft)	46	29	37	32	0
95th Queue (ft)	70	50	58	56	2
Link Distance (ft)	515	515	1113	1113	219
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, All Intervals

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	T	LT	TR	LTR	LTR
Maximum Queue (ft)	80	54	61	65	3	6
Average Queue (ft)	44	28	36	35	0	0
95th Queue (ft)	69	48	56	57	2	4
Link Distance (ft)	515	515	1113	1113	219	702
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 201: Lakeview Drive & Treeline Drive, Interval #1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	17
Average Queue (ft)	4
95th Queue (ft)	20
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 201: Lakeview Drive & Treeline Drive, Interval #2

Movement	WB
Directions Served	LR
Maximum Queue (ft)	15
Average Queue (ft)	2
95th Queue (ft)	16
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 201: Lakeview Drive & Treeline Drive, Interval #3

Movement	WB
Directions Served	LR
Maximum Queue (ft)	17
Average Queue (ft)	3
95th Queue (ft)	18
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 201: Lakeview Drive & Treeline Drive, Interval #4

Movement	WB
Directions Served	LR
Maximum Queue (ft)	26
Average Queue (ft)	5
95th Queue (ft)	23
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 201: Lakeview Drive & Treeline Drive, All Intervals

Movement	WB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	4
95th Queue (ft)	19
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 202: Eagleview Drive & Treeline Drive, Interval #1

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	22	3
Average Queue (ft)	9	0
95th Queue (ft)	28	0
Link Distance (ft)	345	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 202: Eagleview Drive & Treeline Drive, Interval #2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	22
Average Queue (ft)	7
95th Queue (ft)	26
Link Distance (ft)	345
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 202: Eagleview Drive & Treeline Drive, Interval #3

Movement	EB
Directions Served	LR
Maximum Queue (ft)	22
Average Queue (ft)	8
95th Queue (ft)	27
Link Distance (ft)	345
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 202: Eagleview Drive & Treeline Drive, Interval #4

Movement	EB
Directions Served	LR
Maximum Queue (ft)	20
Average Queue (ft)	4
95th Queue (ft)	19
Link Distance (ft)	345
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 202: Eagleview Drive & Treeline Drive, All Intervals

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	27	3
Average Queue (ft)	7	0
95th Queue (ft)	25	0
Link Distance (ft)	345	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 203: Eagleview Drive & International Way, Interval #1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	33
Average Queue (ft)	18
95th Queue (ft)	44
Link Distance (ft)	382
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 203: Eagleview Drive & International Way, Interval #2

Movement	WB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	16
95th Queue (ft)	41
Link Distance (ft)	382
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 203: Eagleview Drive & International Way, Interval #3

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	33	3
Average Queue (ft)	23	0
95th Queue (ft)	46	6
Link Distance (ft)	382	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 203: Eagleview Drive & International Way, Interval #4

Movement	WB
Directions Served	LR
Maximum Queue (ft)	33
Average Queue (ft)	17
95th Queue (ft)	43
Link Distance (ft)	382
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 203: Eagleview Drive & International Way, All Intervals

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	38	3
Average Queue (ft)	18	0
95th Queue (ft)	44	3
Link Distance (ft)	382	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 204: Eagleview Drive & Hillside Circle, Interval #1

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	30	3
Average Queue (ft)	12	1
95th Queue (ft)	36	9
Link Distance (ft)	377	520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 204: Eagleview Drive & Hillside Circle, Interval #2

Movement	WB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	11
95th Queue (ft)	34
Link Distance (ft)	377
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 204: Eagleview Drive & Hillside Circle, Interval #3

Movement	WB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	10
95th Queue (ft)	33
Link Distance (ft)	377
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 204: Eagleview Drive & Hillside Circle, Interval #4

Movement	WB
Directions Served	LR
Maximum Queue (ft)	24
Average Queue (ft)	10
95th Queue (ft)	35
Link Distance (ft)	377
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 204: Eagleview Drive & Hillside Circle, All Intervals

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	33	3
Average Queue (ft)	11	0
95th Queue (ft)	35	4
Link Distance (ft)	377	520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 205: 400 West/Eagleview Drive & 600 North, Interval #1

Movement	EB
Directions Served	LR
Maximum Queue (ft)	21
Average Queue (ft)	6
95th Queue (ft)	25
Link Distance (ft)	370
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 205: 400 West/Eagleview Drive & 600 North, Interval #2

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	5
Average Queue (ft)	9	1
95th Queue (ft)	31	13
Link Distance (ft)	370	537
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 205: 400 West/Eagleview Drive & 600 North, Interval #3

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	30	3	3
Average Queue (ft)	8	0	0
95th Queue (ft)	31	6	6
Link Distance (ft)	370	537	27
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 205: 400 West/Eagleview Drive & 600 North, Interval #4

Movement	EB
Directions Served	LR
Maximum Queue (ft)	24
Average Queue (ft)	8
95th Queue (ft)	30
Link Distance (ft)	370
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 205: 400 West/Eagleview Drive & 600 North, All Intervals

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	33	8	3
Average Queue (ft)	8	0	0
95th Queue (ft)	29	7	3
Link Distance (ft)	370	537	27
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 206: 400 West & Lupine Drive, Interval #1

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	30	27
Average Queue (ft)	7	10
95th Queue (ft)	28	34
Link Distance (ft)	441	379
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 206: 400 West & Lupine Drive, Interval #2

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	31	30	6
Average Queue (ft)	9	10	1
95th Queue (ft)	31	34	9
Link Distance (ft)	441	379	1471
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 206: 400 West & Lupine Drive, Interval #3

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	24	27	3
Average Queue (ft)	6	8	0
95th Queue (ft)	26	29	7
Link Distance (ft)	441	379	1471
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 206: 400 West & Lupine Drive, Interval #4

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	27	24
Average Queue (ft)	8	7
95th Queue (ft)	30	28
Link Distance (ft)	441	379
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 206: 400 West & Lupine Drive, All Intervals

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	31	31	9
Average Queue (ft)	8	9	0
95th Queue (ft)	29	31	6
Link Distance (ft)	441	379	1471
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 207: Westfield Road & 400 West/200 North, Interval #1

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	32	52
Average Queue (ft)	6	36
95th Queue (ft)	28	52
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 207: Westfield Road & 400 West/200 North, Interval #2

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	21	54
Average Queue (ft)	4	38
95th Queue (ft)	22	56
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 207: Westfield Road & 400 West/200 North, Interval #3

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	29	59
Average Queue (ft)	6	42
95th Queue (ft)	29	64
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 207: Westfield Road & 400 West/200 North, Interval #4

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	27	56
Average Queue (ft)	6	39
95th Queue (ft)	27	58
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 207: Westfield Road & 400 West/200 North, All Intervals

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	49	61
Average Queue (ft)	6	39
95th Queue (ft)	27	58
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, Interval #3: 0
Network wide Queuing Penalty, Interval #4: 0
Network wide Queuing Penalty, All Intervals: 0

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Future (2024) Plus Project*
Time Period: *Evening Peak Hour* **Project #:** *UT18-1304*

Intersection: Suncrest Drive & Mercer Hollow Cove
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	6	114	1.4	A
	R	35	33	94	0.1	A
	Subtotal	40	39	98	0.3	A
SB	L	5	5	95	1.6	A
	R	5	5	95	0.0	A
	Subtotal	10	10	100	0.8	A
EB	L	5	5	95	7.4	A
	T	377	377	100	9.3	A
	Subtotal	***382***	***382***	***100***	***9.3***	***A***
WB	L	40	41	103	5.6	A
	T	368	364	99	8.2	A
	Subtotal	408	405	99	7.9	A
Total		840	836	99	8.1	A

Intersection: Lakeview Drive & Treeline Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	5	5	95	0.2	A
	R	29	32	109	0.1	A
	Subtotal	34	37	109	0.1	A
SB	T	5	6	114	0.0	A
	Subtotal	5	6	120	0.0	A
WB	L	50	46	92	4.1	A
	Subtotal	***50***	***46***	***92***	***4.1***	***A***
Total		90	89	99	2.2	A

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Future (2024) Plus Project*
Time Period: *Evening Peak Hour*
Project #: *UT18-1304*

Intersection: Eagleview Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	L	50	46	92	1.6	A
	T	11	10	91	0.3	A
	Subtotal	61	56	92	1.4	A
SB	T	10	10	98	0.0	A
	Subtotal	10	10	100	0.0	A
EB	R	34	37	108	2.5	A
	Subtotal	***34***	***37***	***109***	***2.5***	***A***
Total		106	103	98	1.6	A

Intersection: Eagleview Drive & International Way
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	T	60	56	93	0.5	A
	R	25	27	108	0.2	A
	Subtotal	85	83	98	0.4	A
SB	L	5	5	95	1.7	A
	T	40	43	109	0.2	A
	Subtotal	45	48	107	0.4	A
WB	L	25	26	104	4.5	A
	Subtotal	***25***	***26***	***104***	***4.5***	***A***
Total		155	157	101	1.1	A

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Future (2024) Plus Project*
Time Period: *Evening Peak Hour*
Project #: *UT18-1304*

Intersection: Eagleview Drive & Hillside Circle
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	80	79	98	0.1	*A*
	R	15	16	108	0.0	*A*
	Subtotal	95	95	100	0.1	*A*
SB	L	5	4	76	2.6	*A*
	T	60	64	108	0.3	*A*
	Subtotal	65	68	105	0.4	*A*
WB	L	10	8	78	4.6	*A*
	R	5	4	76	3.1	*A*
	Subtotal	***15***	***12***	***80***	***4.1***	***A***
Total		175	175	100	0.5	*A*

Intersection: 400 West/Eagleview Drive & 600 North
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	10	11	107	1.9	*A*
	T	95	96	101	0.4	*A*
	Subtotal	105	107	102	0.6	*A*
SB	T	64	68	105	0.1	*A*
	R	5	5	95	0.1	*A*
	Subtotal	69	73	106	0.1	*A*
EB	R	10	8	78	2.9	*A*
	Subtotal	***10***	***8***	***80***	***2.9***	***A***
Total		186	188	101	0.5	*A*

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Future (2024) Plus Project*
Time Period: *Evening Peak Hour*
Project #: *UT18-1304*

Intersection: 400 West & Lupine Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	L	10	10	98	2.2	A
	T	95	96	101	1.0	A
	R	20	22	111	0.5	A
	Subtotal	125	128	102	1.0	A
SB	T	69	69	100	0.1	A
	R	5	5	95	0.0	A
	Subtotal	74	74	100	0.1	A
EB	L	5	5	95	4.7	A
	R	5	4	76	3.2	A
	Subtotal	***10***	***9***	***90***	***4.0***	***A***
WB	L	5	4	76	4.8	A
	R	5	6	114	2.5	A
	Subtotal	10	10	100	3.4	A
Total		220	221	100	0.9	A

Intersection: Westfield Road & 400 West/200 North
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	L	42	44	105	6.3	A
	R	120	120	100	3.9	A
	Subtotal	***162***	***164***	***101***	***4.5***	***A***
EB	T	52	49	93	0.6	A
	R	27	28	104	0.6	A
	Subtotal	79	77	97	0.6	A
WB	L	95	90	95	1.9	A
	T	83	83	100	0.6	A
	Subtotal	178	173	97	1.3	A
Total		420	414	99	2.4	A

SimTraffic LOS Report

Project: Alpine-Draper Blue Bison Development TIS
Analysis Period: *Future (2024) Plus Project*
Time Period: *Evening Peak Hour* **Project #:** *UT18-1304*

Intersection: Suncrest Drive & Road A
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
SB	L	109	109	100	11.6	*B*
	R	7	6	83	3.3	*A*
	Subtotal	***116***	***115***	***99***	***11.2***	***B***
EB	L	12	11	90	7.2	*A*
	T	405	405	100	3.4	*A*
	Subtotal	417	416	100	3.5	*A*
WB	T	400	398	99	0.6	*A*
	R	185	188	102	1.4	*A*
	Subtotal	585	586	100	0.9	*A*
Total		1,119	1,117	100	2.9	*A*

Intersection:
Type:

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
Total						

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #1 5:00

Movement	EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.6	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Total Delay (hr)	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.4
Total Del/Veh (s)	7.8	9.0	5.0	7.9	1.9	0.1	2.2	0.0	7.8
Vehicles Entered	1	85	9	87	1	8	1	1	193
Vehicles Exited	1	85	9	87	1	8	1	1	193
Hourly Exit Rate	4	340	36	348	4	32	4	4	772
Input Volume	5	361	38	353	5	34	5	5	806
% of Volume	80	94	95	99	80	94	80	80	96

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #2 5:15

Movement	EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Total Delay (hr)	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.5
Total Del/Veh (s)	7.3	9.1	5.7	8.1	1.6	0.1	2.1	0.0	8.1
Vehicles Entered	1	99	9	89	1	8	1	1	209
Vehicles Exited	1	98	9	90	1	8	1	1	209
Hourly Exit Rate	4	392	36	360	4	32	4	4	836
Input Volume	5	361	38	353	5	34	5	5	806
% of Volume	80	109	95	102	80	94	80	80	104

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #3 5:30

Movement	EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.5	0.1	0.0	0.0	0.1	0.2	0.1	0.1	0.1
Total Delay (hr)	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.5
Total Del/Veh (s)	10.0	9.4	5.8	8.1	1.5	0.1	2.1	0.0	8.2
Vehicles Entered	1	107	13	98	2	9	1	1	232
Vehicles Exited	1	108	13	97	2	9	1	1	232
Hourly Exit Rate	4	432	52	388	8	36	4	4	928
Input Volume	6	424	45	412	6	39	6	6	944
% of Volume	67	102	116	94	133	92	67	67	98

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Interval #4 5:45

Movement	EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Total Delay (hr)	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.4
Total Del/Veh (s)	6.0	9.1	5.4	8.0	2.0	0.1	1.8	0.1	7.9
Vehicles Entered	2	85	10	88	1	8	1	1	196
Vehicles Exited	2	86	10	90	1	8	1	1	199
Hourly Exit Rate	8	344	40	360	4	32	4	4	796
Input Volume	5	361	38	353	5	34	5	5	806
% of Volume	160	95	105	102	80	94	80	80	99

100: Suncrest Drive & Mercer Hollow Cove Performance by movement Entire Run

Movement	EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.4	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Total Delay (hr)	0.0	1.0	0.1	0.8	0.0	0.0	0.0	0.0	1.9
Total Del/Veh (s)	7.4	9.3	5.6	8.2	1.4	0.1	1.6	0.0	8.1
Vehicles Entered	5	376	41	363	6	33	5	5	834
Vehicles Exited	5	377	41	364	6	33	5	5	836
Hourly Exit Rate	5	377	41	364	6	33	5	5	836
Input Volume	5	377	40	368	5	35	5	5	840
% of Volume	95	100	103	99	114	94	95	95	99

101: Lakeview Drive & Treeline Drive Performance by movement Interval #1 5:00

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.1	0.3	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.1	0.0	0.1	0.1	2.2
Vehicles Entered	10	1	7	1	19
Vehicles Exited	10	1	7	1	19
Hourly Exit Rate	40	4	28	4	76
Input Volume	48	5	28	5	86
% of Volume	83	80	100	80	88

101: Lakeview Drive & Treeline Drive Performance by movement Interval #2 5:15

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.1	0.1	0.1	0.0	2.3
Vehicles Entered	13	2	8	1	24
Vehicles Exited	13	2	8	1	24
Hourly Exit Rate	52	8	32	4	96
Input Volume	48	5	28	5	86
% of Volume	108	160	114	80	112

101: Lakeview Drive & Treeline Drive Performance by movement Interval #3 5:30

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.3	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.2	0.3	0.2	0.0	2.1
Vehicles Entered	12	1	10	2	25
Vehicles Exited	12	1	10	2	25
Hourly Exit Rate	48	4	40	8	100
Input Volume	56	6	33	6	101
% of Volume	86	67	121	133	99

101: Lakeview Drive & Treeline Drive Performance by movement Interval #4 5:45

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.4	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.2	0.7	0.0	0.0	2.3
Vehicles Entered	11	1	8	2	22
Vehicles Exited	11	1	7	2	21
Hourly Exit Rate	44	4	28	8	84
Input Volume	48	5	28	5	86
% of Volume	92	80	100	160	98

101: Lakeview Drive & Treeline Drive Performance by movement Entire Run

Movement	WBL	NBT	NBR	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.2	0.1	0.1	0.1
Total Delay (hr)	0.1	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.1	0.2	0.1	0.0	2.2
Vehicles Entered	46	5	32	6	89
Vehicles Exited	46	5	32	6	89
Hourly Exit Rate	46	5	32	6	89
Input Volume	50	5	29	5	90
% of Volume	92	95	109	114	99

102: Eagleview Drive Performance by movement Interval #1 5:00

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.4	1.4	0.3	0.0	1.5
Vehicles Entered	9	11	3	2	25
Vehicles Exited	8	11	3	3	25
Hourly Exit Rate	32	44	12	12	100
Input Volume	33	48	11	10	102
% of Volume	97	92	109	120	98

102: Eagleview Drive Performance by movement Interval #2 5:15

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.4	1.6	0.5	0.0	1.7
Vehicles Entered	9	12	2	2	25
Vehicles Exited	9	12	2	2	25
Hourly Exit Rate	36	48	8	8	100
Input Volume	33	48	11	10	102
% of Volume	109	100	73	80	98

102: Eagleview Drive Performance by movement Interval #3 5:30

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.5	1.6	0.4	0.1	1.7
Vehicles Entered	11	12	2	3	28
Vehicles Exited	11	12	2	3	28
Hourly Exit Rate	44	48	8	12	112
Input Volume	38	56	11	11	116
% of Volume	116	86	73	109	97

102: Eagleview Drive Performance by movement Interval #4 5:45

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.6	1.6	0.0	0.0	1.6
Vehicles Entered	8	11	2	3	24
Vehicles Exited	8	11	2	3	24
Hourly Exit Rate	32	44	8	12	96
Input Volume	33	48	11	10	102
% of Volume	97	92	73	120	94

102: Eagleview Drive Performance by movement Entire Run

Movement	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.5	1.6	0.3	0.0	1.6
Vehicles Entered	37	46	10	10	103
Vehicles Exited	37	46	10	10	103
Hourly Exit Rate	37	46	10	10	103
Input Volume	34	50	11	10	106
% of Volume	108	92	91	98	98

103: Eagleview Drive & International Way Performance by movement Interval #1 5:00

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.4	0.4	0.2	1.2	0.2	1.0
Vehicles Entered	6	13	6	2	9	36
Vehicles Exited	6	13	6	2	9	36
Hourly Exit Rate	24	52	24	8	36	144
Input Volume	24	58	24	5	38	149
% of Volume	100	90	100	160	95	97

103: Eagleview Drive & International Way Performance by movement Interval #2 5:15

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.3	0.6	0.2	1.1	0.2	1.0
Vehicles Entered	6	15	7	1	10	39
Vehicles Exited	6	15	7	1	10	39
Hourly Exit Rate	24	60	28	4	40	156
Input Volume	24	58	24	5	38	149
% of Volume	100	103	117	80	105	105

103: Eagleview Drive & International Way Performance by movement Interval #3 5:30

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.6	0.7	0.3	1.3	0.2	1.1
Vehicles Entered	7	15	7	1	13	43
Vehicles Exited	7	15	8	1	13	44
Hourly Exit Rate	28	60	32	4	52	176
Input Volume	28	68	28	6	44	174
% of Volume	100	88	114	67	118	101

103: Eagleview Drive & International Way Performance by movement Interval #4 5:45

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.5	0.3	0.3	2.6	0.2	1.1
Vehicles Entered	7	13	6	1	10	37
Vehicles Exited	7	13	6	1	10	37
Hourly Exit Rate	28	52	24	4	40	148
Input Volume	24	58	24	5	38	149
% of Volume	117	90	100	80	105	99

103: Eagleview Drive & International Way Performance by movement Entire Run

Movement	WBL	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.5	0.5	0.2	1.7	0.2	1.1
Vehicles Entered	26	56	27	5	43	157
Vehicles Exited	26	56	27	5	43	157
Hourly Exit Rate	26	56	27	5	43	157
Input Volume	25	60	25	5	40	155
% of Volume	104	93	108	95	109	101

104: Eagleview Drive & Hillside Circle Performance by movement Interval #1 5:00

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.8	3.1	0.1	0.0	2.5	0.3	0.6
Vehicles Entered	2	1	18	4	1	14	40
Vehicles Exited	2	1	18	4	1	15	41
Hourly Exit Rate	8	4	72	16	4	60	164
Input Volume	10	5	77	14	5	57	168
% of Volume	80	80	94	114	80	105	98

104: Eagleview Drive & Hillside Circle Performance by movement Interval #2 5:15

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.1	2.8	0.1	0.0	1.7	0.3	0.4
Vehicles Entered	2	1	21	4	1	15	44
Vehicles Exited	2	1	21	4	1	14	43
Hourly Exit Rate	8	4	84	16	4	56	172
Input Volume	10	5	77	14	5	57	168
% of Volume	80	80	109	114	80	98	102

104: Eagleview Drive & Hillside Circle Performance by movement Interval #3 5:30

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.7	4.7	0.2	0.0	3.5	0.3	0.5
Vehicles Entered	2	1	21	5	1	19	49
Vehicles Exited	2	1	21	5	1	20	50
Hourly Exit Rate	8	4	84	20	4	80	200
Input Volume	11	6	90	17	6	67	197
% of Volume	73	67	93	118	67	119	102

104: Eagleview Drive & Hillside Circle Performance by movement Interval #4 5:45

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.7	2.0	0.1	0.0	2.8	0.4	0.5
Vehicles Entered	2	1	19	3	1	16	42
Vehicles Exited	2	1	19	3	1	16	42
Hourly Exit Rate	8	4	76	12	4	64	168
Input Volume	10	5	77	14	5	57	168
% of Volume	80	80	99	86	80	112	100

104: Eagleview Drive & Hillside Circle Performance by movement Entire Run

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.6	3.1	0.1	0.0	2.6	0.3	0.5
Vehicles Entered	8	4	79	16	4	64	175
Vehicles Exited	8	4	79	16	4	64	175
Hourly Exit Rate	8	4	79	16	4	64	175
Input Volume	10	5	80	15	5	60	175
% of Volume	78	76	98	108	76	108	100

105: 400 West/Eagleview Drive & 600 North Performance by movement Interval #1 5:00

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.5	1.7	0.3	0.1	0.0	0.5
Vehicles Entered	3	2	22	16	1	44
Vehicles Exited	3	2	22	16	1	44
Hourly Exit Rate	12	8	88	64	4	176
Input Volume	10	10	91	62	5	178
% of Volume	120	80	97	103	80	99

105: 400 West/Eagleview Drive & 600 North Performance by movement Interval #2 5:15

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.1	1.8	0.4	0.1	0.3	0.5
Vehicles Entered	2	3	25	15	1	46
Vehicles Exited	2	3	25	14	1	45
Hourly Exit Rate	8	12	100	56	4	180
Input Volume	10	10	91	62	5	178
% of Volume	80	120	110	90	80	101

105: 400 West/Eagleview Drive & 600 North Performance by movement Interval #3 5:30

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.4	2.0	0.5	0.1	0.0	0.5
Vehicles Entered	2	4	28	20	2	56
Vehicles Exited	2	4	27	20	2	55
Hourly Exit Rate	8	16	108	80	8	220
Input Volume	11	11	108	72	6	208
% of Volume	73	145	100	111	133	106

105: 400 West/Eagleview Drive & 600 North Performance by movement Interval #4 5:45

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.3	1.9	0.4	0.1	0.0	0.4
Vehicles Entered	2	2	21	17	1	43
Vehicles Exited	2	2	22	17	1	44
Hourly Exit Rate	8	8	88	68	4	176
Input Volume	10	10	91	62	5	178
% of Volume	80	80	97	110	80	99

105: 400 West/Eagleview Drive & 600 North Performance by movement Entire Run

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.9	1.9	0.4	0.1	0.1	0.5
Vehicles Entered	8	11	95	68	5	187
Vehicles Exited	8	11	96	68	5	188
Hourly Exit Rate	8	11	96	68	5	188
Input Volume	10	10	95	64	5	186
% of Volume	78	107	101	105	95	101

106: 400 West & Lupine Drive Performance by movement Interval #1 5:00

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.6	2.3	2.9	3.8	2.1	0.8	0.5	0.2	0.0	0.8
Vehicles Entered	1	1	1	1	2	22	5	17	1	51
Vehicles Exited	1	1	1	1	2	21	6	17	1	51
Hourly Exit Rate	4	4	4	4	8	84	24	68	4	204
Input Volume	5	5	5	5	10	91	19	66	5	211
% of Volume	80	80	80	80	80	92	126	103	80	97

106: 400 West & Lupine Drive Performance by movement Interval #2 5:15

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.5	3.9	2.7	2.7	1.6	0.9	0.3	0.1	0.1	0.9
Vehicles Entered	1	1	1	2	1	24	5	15	1	51
Vehicles Exited	1	1	1	2	2	25	4	15	1	52
Hourly Exit Rate	4	4	4	8	8	100	16	60	4	208
Input Volume	5	5	5	5	10	91	19	66	5	211
% of Volume	80	80	80	160	80	110	84	91	80	99

106: 400 West & Lupine Drive Performance by movement Interval #3 5:30

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.9	4.2	5.4	3.4	2.5	1.2	0.5	0.1	0.0	1.1
Vehicles Entered	2	1	2	1	3	29	6	20	2	66
Vehicles Exited	2	1	2	1	3	28	7	20	2	66
Hourly Exit Rate	8	4	8	4	12	112	28	80	8	264
Input Volume	6	6	6	6	11	107	22	78	6	248
% of Volume	133	67	133	67	109	105	127	103	133	106

106: 400 West & Lupine Drive Performance by movement Interval #4 5:45

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.5	2.2	2.8	2.6	2.3	1.0	0.5	0.1	0.0	0.8
Vehicles Entered	1	1	1	1	3	21	5	17	1	51
Vehicles Exited	1	1	1	1	3	22	5	17	1	52
Hourly Exit Rate	4	4	4	4	12	88	20	68	4	208
Input Volume	5	5	5	5	10	91	19	66	5	211
% of Volume	80	80	80	80	120	97	105	103	80	99

106: 400 West & Lupine Drive Performance by movement Entire Run

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.7	3.2	4.8	2.5	2.2	1.0	0.5	0.1	0.0	0.9
Vehicles Entered	5	4	4	6	10	95	22	69	5	220
Vehicles Exited	5	4	4	6	10	96	22	69	5	221
Hourly Exit Rate	5	4	4	6	10	96	22	69	5	221
Input Volume	5	5	5	5	10	95	20	69	5	220
% of Volume	95	76	76	114	98	101	111	100	95	100

107: Westfield Road & 400 West/200 North Performance by movement Interval #1 5:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.7	0.9	1.9	0.5	6.6	3.8	2.4
Vehicles Entered	12	7	23	19	11	28	100
Vehicles Exited	12	7	23	19	11	28	100
Hourly Exit Rate	48	28	92	76	44	112	400
Input Volume	50	26	91	80	40	115	402
% of Volume	96	108	101	95	110	97	100

107: Westfield Road & 400 West/200 North Performance by movement Interval #2 5:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.4	1.8	0.4	5.6	3.5	2.1
Vehicles Entered	10	7	22	20	9	26	94
Vehicles Exited	10	7	22	20	10	26	95
Hourly Exit Rate	40	28	88	80	40	104	380
Input Volume	50	26	91	80	40	115	402
% of Volume	80	108	97	100	100	90	95

107: Westfield Road & 400 West/200 North Performance by movement Interval #3 5:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.6	0.5	1.9	0.6	6.5	4.0	2.5
Vehicles Entered	15	8	23	24	15	32	117
Vehicles Exited	15	8	23	24	15	31	116
Hourly Exit Rate	60	32	92	96	60	124	464
Input Volume	60	30	107	93	47	135	472
% of Volume	100	107	86	103	128	92	98

107: Westfield Road & 400 West/200 North Performance by movement Interval #4 5:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.5	0.4	2.0	0.7	6.0	4.0	2.5
Vehicles Entered	12	6	23	20	9	34	104
Vehicles Exited	12	6	23	20	8	34	103
Hourly Exit Rate	48	24	92	80	32	136	412
Input Volume	50	26	91	80	40	115	402
% of Volume	96	92	101	100	80	118	102

107: Westfield Road & 400 West/200 North Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.1	0.3
Total Del/Veh (s)	0.6	0.6	1.9	0.6	6.3	3.9	2.4
Vehicles Entered	50	28	90	82	44	121	415
Vehicles Exited	49	28	90	83	44	120	414
Hourly Exit Rate	49	28	90	83	44	120	414
Input Volume	52	27	95	83	42	120	420
% of Volume	93	104	95	100	105	100	99

200: Suncrest Drive & Road A Performance by movement Interval #1 5:00

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	2.8	0.2	3.2	0.6
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	5.0	3.3	0.4	1.3	10.2	2.5	2.6
Vehicles Entered	2	92	94	44	26	2	260
Vehicles Exited	2	93	94	44	26	2	261
Hourly Exit Rate	8	372	376	176	104	8	1044
Input Volume	12	388	384	177	105	7	1073
% of Volume	67	96	98	99	99	114	97

200: Suncrest Drive & Road A Performance by movement Interval #2 5:15

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	2.9	0.2	4.6	0.5
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	7.5	3.4	0.6	1.2	12.2	3.0	2.9
Vehicles Entered	3	104	97	42	25	1	272
Vehicles Exited	3	103	97	43	25	1	272
Hourly Exit Rate	12	412	388	172	100	4	1088
Input Volume	12	388	384	177	105	7	1073
% of Volume	100	106	101	97	95	57	101

200: Suncrest Drive & Road A Performance by movement Interval #3 5:30

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.2	2.9	0.2	4.2	0.6
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.3
Total Del/Veh (s)	6.8	3.4	0.6	1.6	13.1	3.8	3.1
Vehicles Entered	2	115	110	53	32	2	314
Vehicles Exited	3	116	109	53	31	2	314
Hourly Exit Rate	12	464	436	212	124	8	1256
Input Volume	13	457	449	208	122	8	1257
% of Volume	92	102	97	102	102	100	100

200: Suncrest Drive & Road A Performance by movement Interval #4 5:45

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	2.8	0.2	2.9	0.6
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	8.8	3.3	0.6	1.3	9.8	2.1	2.7
Vehicles Entered	3	92	96	48	27	2	268
Vehicles Exited	3	93	97	48	27	2	270
Hourly Exit Rate	12	372	388	192	108	8	1080
Input Volume	12	388	384	177	105	7	1073
% of Volume	100	96	101	108	103	114	101

200: Suncrest Drive & Road A Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.2
Denied Del/Veh (s)	0.0	0.0	0.2	2.9	0.2	4.2	0.6
Total Delay (hr)	0.0	0.4	0.1	0.1	0.4	0.0	0.9
Total Del/Veh (s)	7.2	3.4	0.6	1.4	11.6	3.3	2.9
Vehicles Entered	11	404	397	187	109	6	1114
Vehicles Exited	11	405	398	188	109	6	1117
Hourly Exit Rate	11	405	398	188	109	6	1117
Input Volume	12	405	400	185	109	7	1119
% of Volume	90	100	99	102	100	83	100

Total Network Performance By Interval

Interval Start	5:00	5:15	5:30	5:45	All
Denied Delay (hr)	0.1	0.0	0.1	0.1	0.2
Denied Del/Veh (s)	0.5	0.5	0.5	0.5	0.5
Total Delay (hr)	0.8	0.9	1.1	0.9	3.6
Total Del/Veh (s)	7.3	7.9	8.1	7.4	8.1
Vehicles Entered	373	383	448	388	1591
Vehicles Exited	375	386	440	394	1593
Hourly Exit Rate	1500	1544	1760	1576	1593
Input Volume	4785	4785	5601	4785	4989
% of Volume	31	32	31	33	32

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #1

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	T	LT	TR	LTR	LTR
Maximum Queue (ft)	63	42	45	49	2	6
Average Queue (ft)	42	26	30	32	0	1
95th Queue (ft)	65	48	45	51	4	8
Link Distance (ft)	515	515	1102	1102	219	702
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #2

Movement	EB	EB	WB	WB
Directions Served	LT	T	LT	TR
Maximum Queue (ft)	65	41	54	53
Average Queue (ft)	46	28	33	34
95th Queue (ft)	70	48	53	55
Link Distance (ft)	515	515	1102	1102
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #3

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	T	LT	TR	LTR	LTR
Maximum Queue (ft)	64	50	52	50	2	6
Average Queue (ft)	46	33	35	36	0	1
95th Queue (ft)	68	52	55	56	0	9
Link Distance (ft)	515	515	1102	1102	219	702
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, Interval #4

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	T	LT	TR	LTR	LTR
Maximum Queue (ft)	66	39	53	47	2	3
Average Queue (ft)	43	28	35	32	0	0
95th Queue (ft)	70	48	55	51	0	6
Link Distance (ft)	515	515	1102	1102	219	702
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 100: Suncrest Drive & Mercer Hollow Cove, All Intervals

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	T	LT	TR	LTR	LTR
Maximum Queue (ft)	77	53	62	55	4	12
Average Queue (ft)	44	29	34	34	0	1
95th Queue (ft)	69	49	53	54	2	7
Link Distance (ft)	515	515	1102	1102	219	702
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 101: Lakeview Drive & Treeline Drive, Interval #1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	37
Average Queue (ft)	24
95th Queue (ft)	47
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101: Lakeview Drive & Treeline Drive, Interval #2

Movement	WB
Directions Served	LR
Maximum Queue (ft)	39
Average Queue (ft)	26
95th Queue (ft)	51
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101: Lakeview Drive & Treeline Drive, Interval #3

Movement	WB
Directions Served	LR
Maximum Queue (ft)	52
Average Queue (ft)	27
95th Queue (ft)	56
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101: Lakeview Drive & Treeline Drive, Interval #4

Movement	WB
Directions Served	LR
Maximum Queue (ft)	50
Average Queue (ft)	27
95th Queue (ft)	54
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101: Lakeview Drive & Treeline Drive, All Intervals

Movement	WB
Directions Served	LR
Maximum Queue (ft)	56
Average Queue (ft)	26
95th Queue (ft)	52
Link Distance (ft)	388
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 102: Eagleview Drive, Interval #1

Movement	EB
Directions Served	LR
Maximum Queue (ft)	34
Average Queue (ft)	18
95th Queue (ft)	39
Link Distance (ft)	345
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 102: Eagleview Drive, Interval #2

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	29	6
Average Queue (ft)	15	1
95th Queue (ft)	36	9
Link Distance (ft)	345	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 102: Eagleview Drive, Interval #3

Movement	EB
Directions Served	LR
Maximum Queue (ft)	32
Average Queue (ft)	19
95th Queue (ft)	40
Link Distance (ft)	345
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 102: Eagleview Drive, Interval #4

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	32	6
Average Queue (ft)	18	1
95th Queue (ft)	39	9
Link Distance (ft)	345	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 102: Eagleview Drive, All Intervals

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	41	12
Average Queue (ft)	18	0
95th Queue (ft)	39	6
Link Distance (ft)	345	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 103: Eagleview Drive & International Way, Interval #1

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	36	6
Average Queue (ft)	18	1
95th Queue (ft)	45	9
Link Distance (ft)	382	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 103: Eagleview Drive & International Way, Interval #2

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	31	6
Average Queue (ft)	17	1
95th Queue (ft)	42	9
Link Distance (ft)	382	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 103: Eagleview Drive & International Way, Interval #3

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	31	3
Average Queue (ft)	20	0
95th Queue (ft)	44	7
Link Distance (ft)	382	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 103: Eagleview Drive & International Way, Interval #4

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	31	9
Average Queue (ft)	20	1
95th Queue (ft)	44	12
Link Distance (ft)	382	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 103: Eagleview Drive & International Way, All Intervals

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	36	21
Average Queue (ft)	19	1
95th Queue (ft)	44	9
Link Distance (ft)	382	130
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 104: Eagleview Drive & Hillside Circle, Interval #1

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	27	5
Average Queue (ft)	11	1
95th Queue (ft)	35	13
Link Distance (ft)	377	520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 104: Eagleview Drive & Hillside Circle, Interval #2

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	30	3
Average Queue (ft)	8	0
95th Queue (ft)	30	7
Link Distance (ft)	377	520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 104: Eagleview Drive & Hillside Circle, Interval #3

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	30	6
Average Queue (ft)	12	1
95th Queue (ft)	36	9
Link Distance (ft)	377	520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 104: Eagleview Drive & Hillside Circle, Interval #4

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	30	3
Average Queue (ft)	10	0
95th Queue (ft)	33	6
Link Distance (ft)	377	520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 104: Eagleview Drive & Hillside Circle, All Intervals

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	30	18
Average Queue (ft)	10	1
95th Queue (ft)	34	9
Link Distance (ft)	377	520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 105: 400 West/Eagleview Drive & 600 North, Interval #1

Movement	EB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	7
95th Queue (ft)	29
Link Distance (ft)	370
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 105: 400 West/Eagleview Drive & 600 North, Interval #2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	8
95th Queue (ft)	29
Link Distance (ft)	370
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 105: 400 West/Eagleview Drive & 600 North, Interval #3

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	21	15
Average Queue (ft)	6	2
95th Queue (ft)	25	15
Link Distance (ft)	370	537
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 105: 400 West/Eagleview Drive & 600 North, Interval #4

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	24	6
Average Queue (ft)	8	1
95th Queue (ft)	29	9
Link Distance (ft)	370	537
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 105: 400 West/Eagleview Drive & 600 North, All Intervals

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	21
Average Queue (ft)	7	1
95th Queue (ft)	28	9
Link Distance (ft)	370	537
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 106: 400 West & Lupine Drive, Interval #1

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	24	30
Average Queue (ft)	8	8
95th Queue (ft)	30	30
Link Distance (ft)	441	379
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 106: 400 West & Lupine Drive, Interval #2

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	28	30	6
Average Queue (ft)	8	8	1
95th Queue (ft)	30	29	9
Link Distance (ft)	441	379	1471
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 106: 400 West & Lupine Drive, Interval #3

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	27	24	6
Average Queue (ft)	10	11	1
95th Queue (ft)	32	35	9
Link Distance (ft)	441	379	1471
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 106: 400 West & Lupine Drive, Interval #4

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	24	21	6
Average Queue (ft)	6	7	1
95th Queue (ft)	26	28	9
Link Distance (ft)	441	379	1471
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 106: 400 West & Lupine Drive, All Intervals

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	31	31	16
Average Queue (ft)	8	8	1
95th Queue (ft)	30	31	8
Link Distance (ft)	441	379	1471
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 107: Westfield Road & 400 West/200 North, Interval #1

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	34	64
Average Queue (ft)	8	41
95th Queue (ft)	34	69
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 107: Westfield Road & 400 West/200 North, Interval #2

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	18	55
Average Queue (ft)	3	39
95th Queue (ft)	18	59
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 107: Westfield Road & 400 West/200 North, Interval #3

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	39	68
Average Queue (ft)	8	47
95th Queue (ft)	34	73
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 107: Westfield Road & 400 West/200 North, Interval #4

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	34	69
Average Queue (ft)	8	44
95th Queue (ft)	32	69
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 107: Westfield Road & 400 West/200 North, All Intervals

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	52	80
Average Queue (ft)	7	43
95th Queue (ft)	30	68
Link Distance (ft)	534	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 200: Suncrest Drive & Road A, Interval #1

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	16	61	24
Average Queue (ft)	3	40	6
95th Queue (ft)	16	64	24
Link Distance (ft)		422	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 200: Suncrest Drive & Road A, Interval #2

Movement	EB	WB	SB	SB
Directions Served	L	R	L	R
Maximum Queue (ft)	20	4	70	13
Average Queue (ft)	5	1	42	3
95th Queue (ft)	22	6	73	17
Link Distance (ft)			422	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	100		100
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 200: Suncrest Drive & Road A, Interval #3

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	22	88	27
Average Queue (ft)	5	47	7
95th Queue (ft)	22	82	27
Link Distance (ft)		422	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 200: Suncrest Drive & Road A, Interval #4

Movement	EB	WB	SB	SB
Directions Served	L	R	L	R
Maximum Queue (ft)	23	4	68	21
Average Queue (ft)	7	1	39	5
95th Queue (ft)	26	7	70	21
Link Distance (ft)			422	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	100		100
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 200: Suncrest Drive & Road A, All Intervals

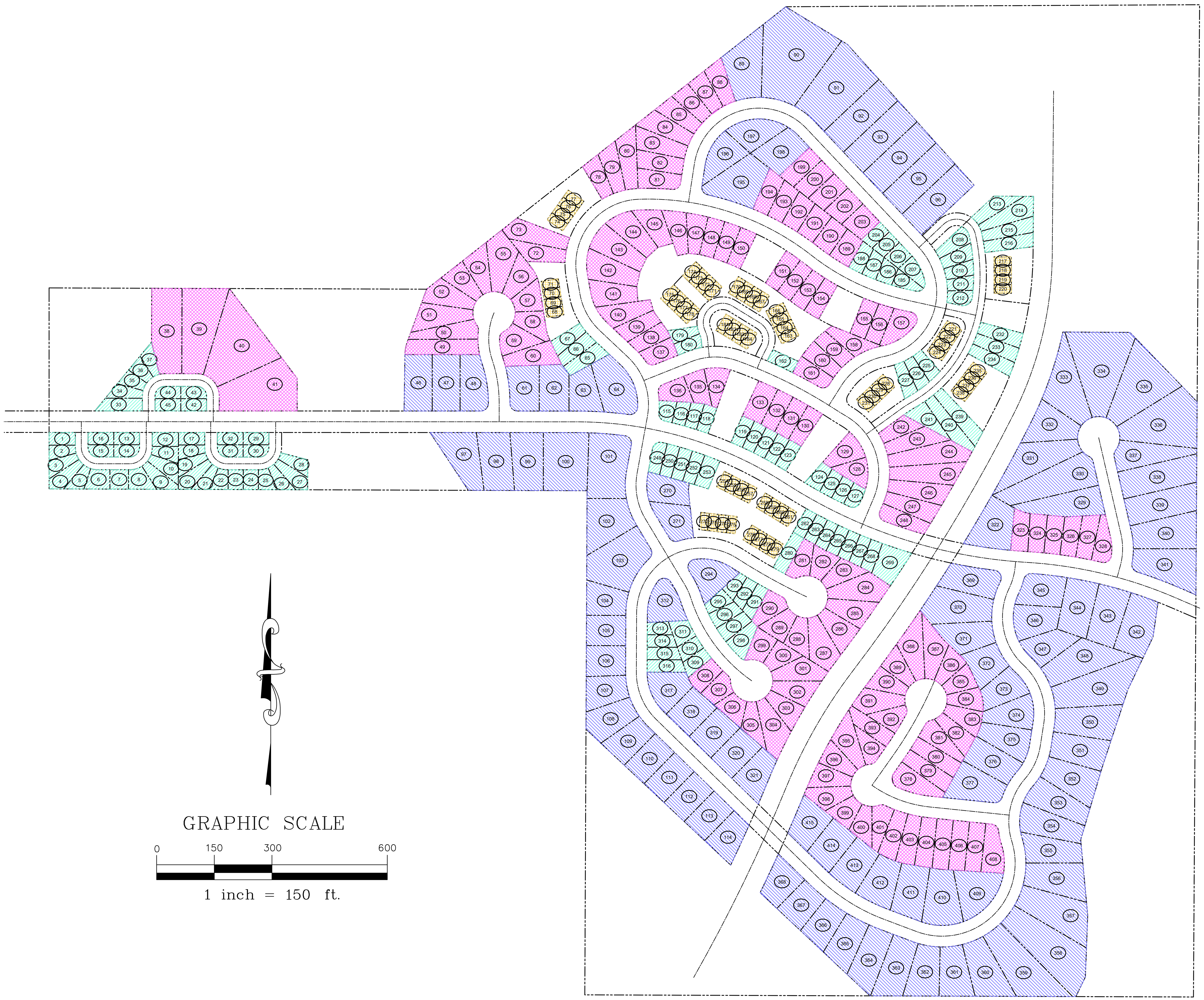
Movement	EB	WB	SB	SB
Directions Served	L	R	L	R
Maximum Queue (ft)	29	8	94	27
Average Queue (ft)	5	0	42	5
95th Queue (ft)	22	4	73	23
Link Distance (ft)			422	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	100		100
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, Interval #3: 0
Network wide Queuing Penalty, Interval #4: 0
Network wide Queuing Penalty, All Intervals: 0

APPENDIX C

Site Plan



GRAPHIC SCALE

0 150 300 600

1 inch = 150 ft.

SITE DATA TABLE

	ACRES	% TOT.	# UNITS	AVG. SIZE
OVERALL	110	100	415	6,260 S.F.
TOWN-HOMES	1.5	1.4	60	1,090 S.F.
VILLAGE LOTS	9.0	7.9	114	3,440 S.F.
COTTAGE LOTS	19.4	17.7	138	6,120 S.F.
ESTATE LOTS	29.7	27.1	103	12,560 S.F
ROADS	17.5	15.9		
OPEN	32.9	30.0		

LICENSED PROFESSIONAL ENGINEER
No. 4770481
PAUL S. FESER
CIVIL
STATE OF UTAH

DESCRIPTION:

REV.:

DATE: 6/5/2018

SCALE:

DRAWN BY: SJ

CHECKED BY: PSF

PROJECT NO.: se1811

DEVELOPED BY:
BLUE BISON DEVELOPMENT
JACOB SATTERFIELD TEL 801-755-0452

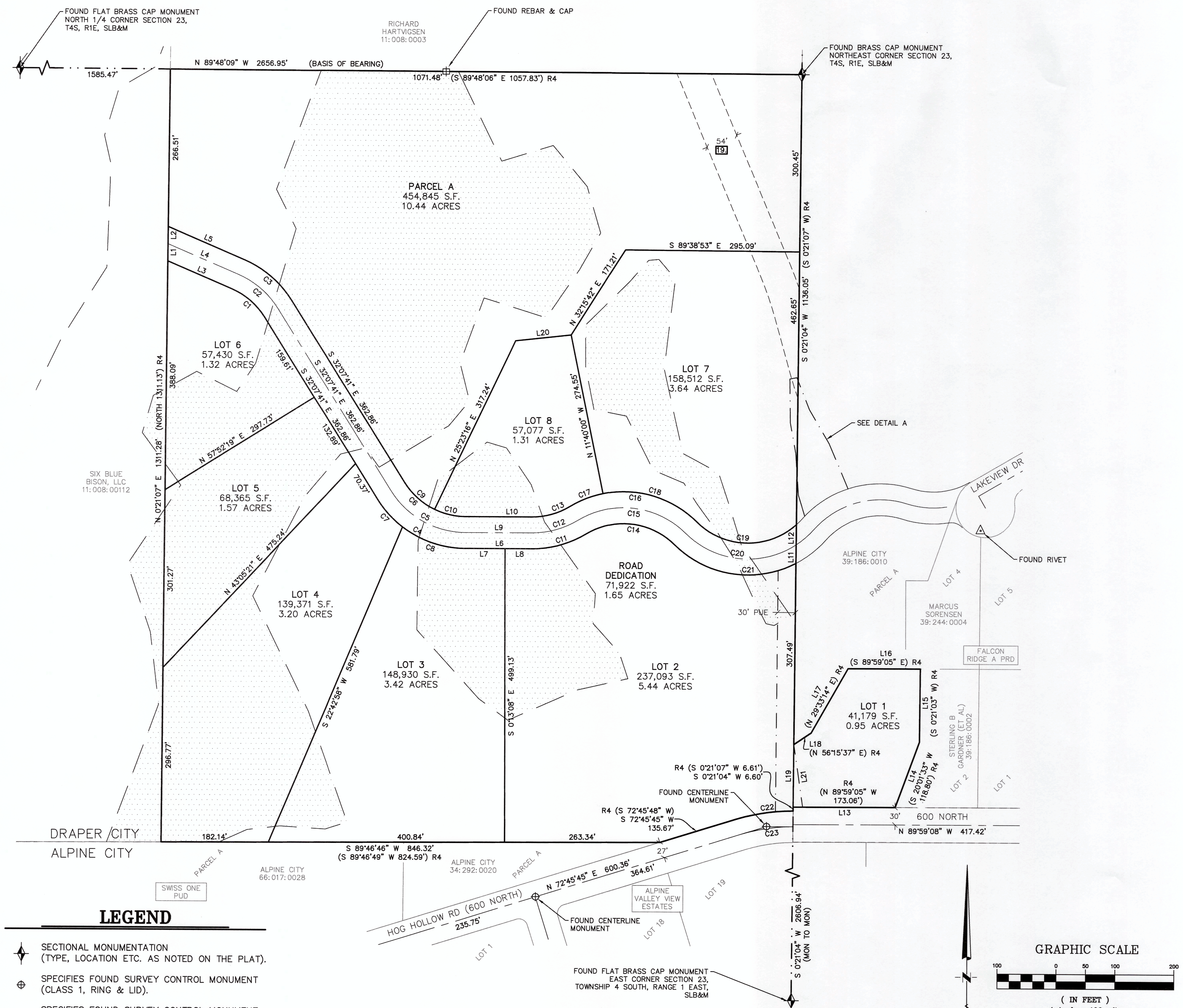
ENGINEERED BY:
S.E. SCIENCE, LLC
P.O. BOX 2412
SALT LAKE CITY, UT 84110 TEL 801-433-2498

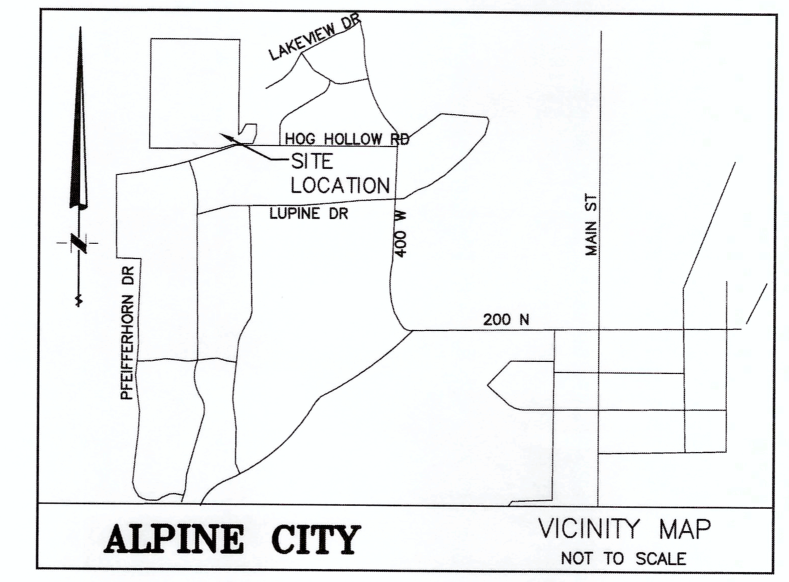
SEQUOIAS SUBDIVISION
DRAPER CITY, UTAH
CONCEPTUAL LAYOUT

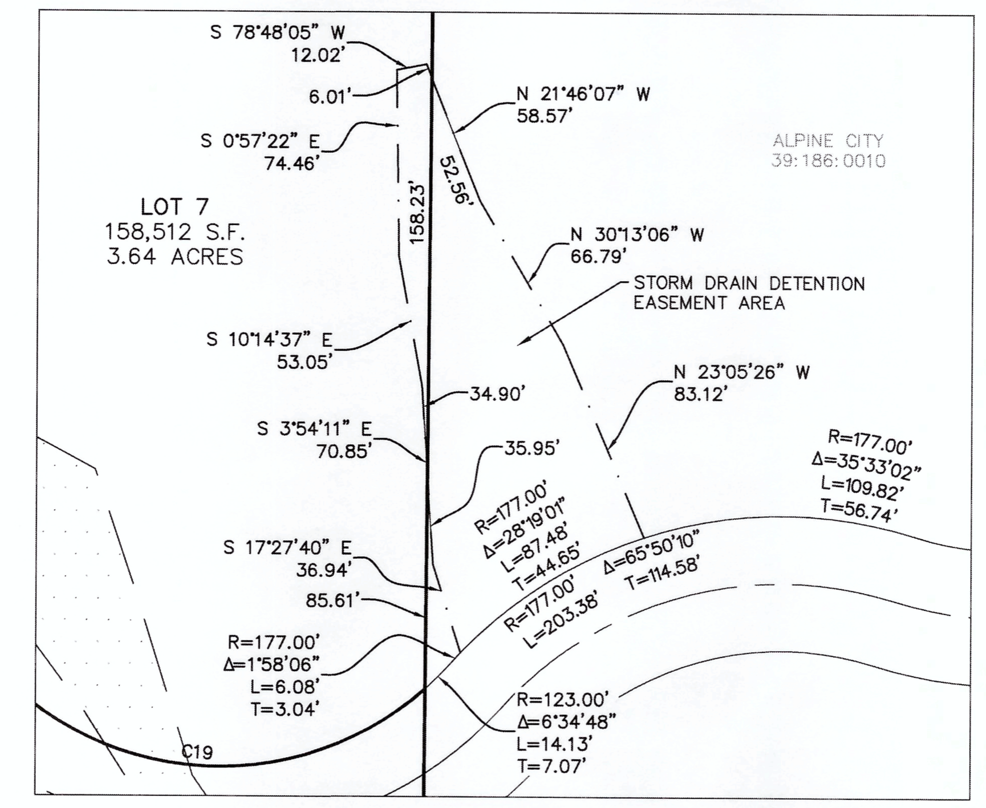
CONCEPTUAL SITE PLAN

SHEET
C100

P:\se1811 Satterfield\Dwg\x-base 28.dwg Jun 07, 2018 - 7:05am







DETAIL A
1" = 60'

LEGEND

- SECTIONAL MONUMENTATION (TYPE, LOCATION ETC. AS NOTED ON THE PLAT).
- SPECIFIES FOUND SURVEY CONTROL MONUMENT (CLASS 1, RING & LID).
- SPECIFIES FOUND SURVEY CONTROL MONUMENT (CLASS II, REBAR & ALUM. CAP).
- SET 5/8" REBAR AND PLASTIC CAP (STAMPED BUSH & GUDGELL), UNLESS OTHERWISE NOTED ON THE PLAT.
- SPECIFIES FOUND SURVEY CONTROL MONUMENT (RIVET).
- BUILDABLE AREA

BUSH & GUDGELL, INC.
Engineers - Planners - Surveyors
655 East 4500 South
Salt Lake City, Utah 84107
Phone (801) 685-6194 / Fax (801) 685-6195
www.bushandgudgell.com

DATE: 6-11-18
FILE: 172177 PRELIM
SHEET 1 OF 1

SURVEYOR'S CERTIFICATE

I, DAVID T MORTENSEN, DO HEREBY CERTIFY THAT I AM A REGISTERED LAND SURVEYOR, AND THAT I HOLD LICENSE NO. 6436557 AS PRESCRIBED UNDER THE LAWS OF THE STATE OF UTAH. I FURTHER CERTIFY THAT BY AUTHORITY OF THE OWNER, I HAVE MADE A SURVEY OF THE TRACT OF LAND SHOWN ON THIS PLAT AND DESCRIBED BELOW, AND HAVE SUBDIVIDED SAID TRACT OF LAND INTO LOTS, HEREAFTER TO BE KNOWN AS THE SUMMIT POINTE AMENDED AND THAT THE SAME HAS BEEN CORRECTLY SURVEYED AND STAKED ON THE GROUND AS SHOWN ON THIS PLAT.

6-11-18
DATE:
BUSH AND GUDGELL INC.

STATE OF UTAH — DAVID T MORTENSEN — 6-11-18 — Expires 03-31-19 — PLS-6436557 — PROFESSIONAL LAND SURVEYOR

DAVID T MORTENSEN
REGISTERED LAND SURVEYOR
UTAH LICENSE NUMBER 6436557

BOUNDARY DESCRIPTION

LOTS 1, 2, 3 AND 4, PLAT "A" SUMMIT POINTE, INCLUDING A VACATION OF LOT 3 OF FALCON RIDGE SUBDIVISION PLAT "A", ACCORDING TO THE OFFICIAL PLAT THEREOF, AS RECORDED IN OFFICE OF THE COUNTY RECORDER, UTAH COUNTY, STATE OF UTAH

CONTAINS 1,434,724 SQ FT, 32.94 ACRES, MORE OR LESS

NOTES

1. NO ATTEMPT HAS BEEN MADE AS A PART OF THIS PRELIMINARY PLAT TO OBTAIN OR SHOW DATA CONCERNING EXISTENCE, SIZE, DEPTH, CONDITION, CAPACITY, OR LOCATION OF ANY UTILITY OR MUNICIPAL/PUBLIC SERVICE FACILITY. FOR INFORMATION REGARDING THESE UTILITIES OR FACILITIES, PLEASE CONTACT THE APPROPRIATE AGENCIES OR OTHER.

2. SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP, TITLE EVIDENCE, OR ANY OTHER FACTS WHICH AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.

3. ALL COURSES SHOWN IN PARENTHESIS ARE RECORD INFORMATION TAKEN FROM DEED DESCRIPTION OR OFFICIAL MAPS OR PLATS OF RECORD. ALL OTHER COURSES ARE THE RESULT OF ACTUAL FIELD MEASUREMENTS.

4. ALL CURVES ARE TANGENT CURVES UNLESS OTHERWISE STATED. IF NEEDED A CENTER BEARING WILL BE SHOWN.

NARRATIVE

THE PURPOSE OF THIS SURVEY IS TO COMBINE FOUR EXISTING PARCELS TO CREATE A 8 LOT AND A PARCEL "A" RESIDENTIAL DEVELOPMENT. THE SURVEY WAS PERFORMED AT THE REQUEST OF OUR CLIENT. THE BASIS OF BEARING FOR THIS SURVEY IS N 89°48'09" E ALONG THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 23, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE & MERIDIAN; BETWEEN TWO SECTIONAL MONUMENTS, TYPE AND LOCATIONS OF WHICH ARE SHOWN ON THIS PLAT.

WITH THAT SAID THIS SURVEY BY NO MEANS STATES OR IMPLIES THAT WE HAVE RESOLVED ANY CURRENT OR FUTURE BOUNDARY LINE ISSUES WITH THIS SUBJECT PROPERTIES BOUNDARY. IF THE OWNERS WOULD LIKE TO RESOLVE THESE ISSUES WE SUGGESTS THAT AN EXTENSIVE TITLE REPORT AND ALONG WITH AN ABSTRACT TITLE SEARCH WITH A SURVEY COVERING ALL EFFECTED PARCELS BE COMPLETED IN ORDER TO START THIS PROCESS.

THE FOLLOWING MAPS WERE USED AS REFERENCES TO PRODUCE THIS INFORMATION ALL OF WHICH ARE RECORDED AND ON FILE AT THE UTAH COUNTY RECORDERS OFFICE, STATE OF UTAH.

R1 ALPINE VALLEY VIEW ESTATES SUBDIVISION, MAP FILING # 8128, RECORDED JULY 01, 1999.

R2 FALCON RIDGE A PRD SUBDIVISIONS, MAP FILING # 10623, RECORDED AUGUST 10, 2004.

R3 LONE PEAK ESTATES, MAP FILING # 5609, RECORDED JULY 11, 1994.

R4 SUMMIT POINTE INCLUDING A VACATION OF LOT 3 OF FALCON RIDGE SUBDIVISION PLAT "A", MAP FILING # 15620, RECORDED JULY 13, 2017.

R5 SUNRISE POINT SUBDIVISION PHASE II, MAP FILING # 6580, RECORDED MAY 7, 1996.

R6 SWISS ONE PLANNED RESIDENTIAL DEVELOPMENT PHASE 3, MAP FILING # 10399, RECORDED MARCH 23, 2004.

EASEMENT NOTES

$\boxed{18.}$ ANY AND ALL MATTERS DISCLOSED ON THE OFFICIAL RECORDED PLAT OF SAID SUBDIVISION, INCLUDING, BUT NOT LIMITED TO, PUBLIC UTILITIES AND DRAINAGE EASEMENTS, SEWER EASEMENTS, BUILDING SET-BACK LINES AND/OR BUILDABLE AREA LIMIT LINES, NOTES AND RECITALS, PRIVATE DRIVEWAY, CROSS ACCESS AND UTILITY EASEMENT, SEWER EASEMENT, AND THE TERMS AND CONDITIONS THEREOF, RECORDED: JULY 10, 2017, ENTRY NO.: 67625:2017. **(TO BE VACATED UPON RECORDATION OF THIS PLAT)**

$\boxed{19.}$ EASEMENT, AND THE TERMS AND CONDITIONS GRANTEE: ALPINE CITY FOR THE PURPOSE OF A PERMANENT EASEMENT FOR THE LOCATION, CONSTRUCTION AND MAINTENANCE OF A PUBLIC ROAD RIGHT OF WAY AND RELATED FACILITIES RECORDED: JULY 10, 2017 ENTRY NO.: 66480:2017 **(AS SHOWN)**

$\boxed{20}$ EASEMENT, AND THE TERMS AND CONDITIONS THEREOF: GRANTEE: RICHARD HARTVIGSEN PURPOSE: ACCESS RECORDED: JULY 28, 2017, ENTRY NO.: 72701:2017 **(TO BE VACATED UPON RECORDATION OF THIS PLAT)**

PLAT VACATION NOTICE

THE CITY OF ALPINE IS SATISFIED THAT NEITHER THE PUBLIC NOR ANY PERSON WILL BE MATERIALLY INJURED BY THE VACATION OF SUMMIT POINTE, PLAT "A" AND THAT THERE IS GOOD CAUSE FOR THE VACATION. SUMMIT POINTE, PLAT "A" IS HEREBY VACATED.

Parcel Line Table

Line #	Direction	Length
L1	N0° 21' 07"E	29.31
L2	N0° 21' 07"E	29.31
L3	S66° 43' 43"E	118.98
L4	S66° 43' 43"E	130.39
L5	S66° 43' 43"E	141.81
L6	N90° 00' 00"E	113.05
L7	N90° 00' 00"E	67.28
L8	N90° 00' 00"E	45.77
L9	N90° 00' 00"E	113.05
L10	N90° 00' 00"E	113.05
L11	N0° 25' 46"E	31.38
L12	N0° 16' 44"E	34.07
L13	N89° 58' 57"W	173.05
L14	S20° 01' 30"W	118.81
L15	S0° 21' 00"W	124.12
L16	S89° 59' 08"E	122.64
L17	N29° 33' 11"E	125.60
L18	N56° 15' 34"E	35.18
L19	S0° 21' 04"W	106.93
L20	N83° 45' 20"E	94.71
L21	S8° 10' 47"E	108.02

PARCEL CURVE DATA

SEGMENT	LENGTH	RADIUS	DELTA	TANGENT
C1	74.28	123.00	34°36'02"	38.31
C2	90.58	150.00	34°36'02"	46.72
C3	106.89	177.00	34°36'02"	55.13
C4	178.78	177.00	57°52'19"	97.85
C5	151.51	150.00	57°52'19"	82.93
C6	124.24	123.00	57°52'19"	68.00
C7	63.90	177.00	20°41'04"	32.30
C8	114.88	177.00	37°11'15"	59.55
C9	69.74	123.00	32°29'03"	35.83
C10	54.50	123.00	25°23'16"	27.71
C11	96.58	177.00	31°15'44"	49.52
C12	81.84	150.00	31°15'44"	41.97
C13	67.11	123.00	31°15'44"	34.41
C14	162.58	123.00	75°44'00"	95.64
C15	198.27	150.00	75°44'00"	116.63
C16	233.96	177.00	75°44'00"	137.63
C17	60.54	177.00	19°35'44"	30.57
C18	173.42	177.00	56°08'16"	94.39
C19	185.44	123.00	86°22'47"	115.46
C20	203.12	150.00	77°35'10"	120.57
C21	222.36	177.00	71°58'51"	128.55
C22	97.45	324.00	17°13'56"	49.09
C23	89.16	297.00	17°11'59"	44.92

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT THE UNDERSIGNED OWNERS OF ALL OF THE ABOVE DESCRIBED TRACT OF LAND, HAVING CAUSED THE SAME TO BE SUBDIVIDED INTO EIGHT (8) LOTS, PARCEL A AND ROAD DEDICATION TO BE HEREAFTER KNOWS AS THE SUMMIT POINTE AMENDED, DO HEREBY DEDICATED FOR PERPETUAL USE OF ALL THE PUBLIC ALL PARCELS OF LAND SHOW ON THIS PLAT AS INTENDED FOR PUBLIC USE

IN WITNESS WHEREOF _______ HAVE HEREUNTO SET ___________ THIS _______ DAY OF _________ A.D., 20____.

BY:

ACKNOWLEDGMENT

STATE OF ________________ }
COUNTY OF ______________ } S.S.

ON THE ____ DAY OF ________________ 20___, PERSONALLY APPEARED BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC IN AND FOR SAID STATE AND COUNTY, ____________ WHO BEING BY ME DULY SWORN, DID SAY THAT HE IS THE ____________ OF ______________, AND THAT HE EXECUTED THE FOREGOING OWNER'S DEDICATION IN BEHALF OF SAID ________________ BEING AUTHORIZED AND EMPOWERED TO DO SO BY THE OPERATING AGREEMENT OF COMPANY, LLC, AND HE DID DULY ACKNOWLEDGE TO ME THAT SUCH LIMITED LIABILITY COMPANY EXECUTED THE SAME FOR THE USES AND PURPOSES STATED THEREIN.

MY COMMISSION EXPIRES:
NOTARY PUBLIC
RESIDES IN:

PLANNING COMMISSION APPROVAL

APPROVED THIS __________ DAY OF _____________, A.D. 20___, BY THE ALPINE CITY PLANNING COMMISSION.

DIRECTOR – SECRETARY
CHAIRMAN, PLANNING COMMISSION

APPROVAL AS TO FORM

APPROVED AS TO FORM THIS __________ DAY OF _____________, A.D. 20___,

CITY ATTORNEY

ACCEPTANCE BY LEGISLATIVE BODY

THE ___________ OF _________________, COUNTY OF UTAH, APPROVES THIS SUBDIVISION AND HEREBY ACCEPTS THE DEDICATION OF _________________ ALL STREETS, EASEMENTS, AND OTHER PARCELS OF LAND INTENDED FOR PUBLIC PURPOSES FOR THE PERPETUAL USE OF THE PUBLIC THIS __________ DAY _____________, A.D. 20___

APPROVED
ENGINEER (SEE SEAL BELOW)

ATTEST
CLERK – RECORDER (SEE SEAL BELOW)

PLAT "B"

SUMMIT POINTE AMENDED

INCLUDING A VACATION OF SUMMIT POINTE, PLAT "A"

LOCATED IN

NORTHEAST 1/4 OF SECTION 23,
TOWNSHIP 4 SOUTH, RANGE 1 EAST,
SALT LAKE BASE AND MERIDIAN

PREPARED FOR:

SIX BLUE BISON, LLC

SHEET 1 OF 1

SURVEYOR'S SEAL	NOTARY PUBLIC SEAL	CITY ENGINEERS SEAL	CLERK-RECORDER SEAL

APPENDIX D

95th Percentile Queue Length Reports

SimTraffic Queueing Report

Project: Alpine-Draper Blue Bison Development TIS

Analysis: Existing (2018) Background

Time Period: Evening Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
Innovative transportation solutions

Project #: UT18-1304

Intersection	EB				NB			SB	WB			
	LR	LT	LTR	T	LR	LT	LTR	LT	LR	LT	LTR	TR
400 West & Lupine Drive	--	--	17	--	--	--	--	--	--	--	29	--
400 West/Eagleview Drive & 600 North	27	--	--	--	--	8	--	--	--	--	--	--
Eagleview Drive & Hillside Circle	--	--	--	--	--	--	--	7	27	--	--	--
Eagleview Drive & International Way	--	--	--	--	--	--	--	--	39	--	--	--
Eagleview Drive & Treeline Drive	12	--	--	--	--	--	--	--	--	--	--	--
Lakeview Drive & Treeline Drive	--	--	--	--	--	--	--	--	9	--	--	--
Suncrest Drive & Mercer Hollow Cove	--	64	--	44	--	--	1	--	--	53	--	53
Westfield Road & 400 West/200 North	--	--	--	--	60	--	--	--	--	24	--	--

SimTraffic Queueing Report

Project: Alpine-Draper Blue Bison Development TIS

Analysis: Existing (2018) Plus Project

Time Period: Evening Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
Innovative transportation solutions

Project #: UT18-1304

Intersection	EB					NB			SB		WB				
	L	LR	LT	LTR	T	LR	LT	LTR	L	R	LR	LT	LTR	R	TR
400 West & Lupine Drive	--	--	--	22	--	--	--	3	--	--	--	--	29	--	--
400 West/Eagleview Drive & 600 North	--	27	--	--	--	--	4	--	--	--	--	--	--	--	--
Eagleview Drive & Hillside Circle	--	--	--	--	--	--	--	--	--	--	28	--	--	--	--
Eagleview Drive & International Way	--	--	--	--	--	--	--	--	--	--	39	--	--	--	--
Eagleview Drive & Treeline Drive	--	34	--	--	--	--	7	--	--	--	--	--	--	--	--
Lakeview Drive & Treeline Drive	--	--	--	--	--	--	--	--	--	--	51	--	--	--	--
Suncrest Drive & Mercer Hollow Cove	--	--	65	--	47	--	--	1	--	--	--	52	--	--	56
Suncrest Drive & Road A	23	--	--	--	--	--	--	--	75	23	--	--	--	6	--
Westfield Road & 400 West/200 North	--	--	--	--	--	62	--	--	--	--	--	27	--	--	--

SimTraffic Queueing Report

Project: Alpine-Draper Blue Bison Development TIS

Analysis: Future (2024) Background

Time Period: Evening Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
Innovative transportation solutions

Project #: UT18-1304

Intersection	EB				NB			SB			WB			
	LR	LT	LTR	T	LR	LT	LTR	LT	LTR	TR	LR	LT	LTR	TR
400 West & Lupine Drive	--	--	29	--	--	--	6	--	--	--	--	--	31	--
400 West/Eagleview Drive & 600 North	29	--	--	--	--	7	--	--	--	3	--	--	--	--
Eagleview Drive & Hillside Circle	--	--	--	--	--	--	--	4	--	--	35	--	--	--
Eagleview Drive & International Way	--	--	--	--	--	--	--	3	--	--	44	--	--	--
Eagleview Drive & Treeline Drive	25	--	--	--	--	0	--	--	--	--	--	--	--	--
Lakeview Drive & Treeline Drive	--	--	--	--	--	--	--	--	--	--	19	--	--	--
Suncrest Drive & Mercer Hollow Cove	--	69	--	48	--	--	2	--	4	--	--	56	--	57
Westfield Road & 400 West/200 North	--	--	--	--	58	--	--	--	--	--	--	27	--	--

SimTraffic Queueing Report

Project: Alpine-Draper Blue Bison Development TIS

Analysis: Future (2024) Plus Project

Time Period: Evening Peak Hour

95th Percentile Queue Length (feet)

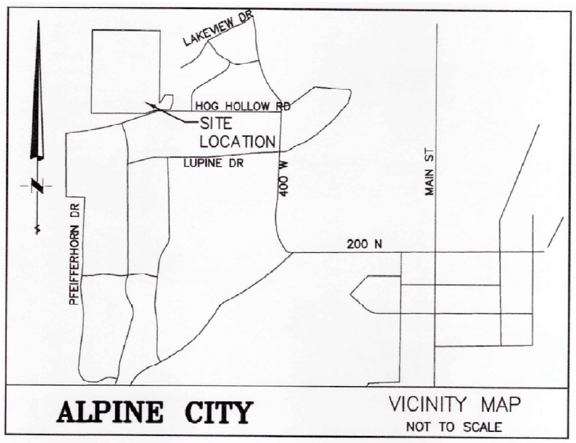
Project #: UT18-1304

Intersection	EB					NB			SB				WB				
	L	LR	LT	LTR	T	LR	LT	LTR	L	LT	LTR	R	LR	LT	LTR	R	TR
400 West & Lupine Drive	--	--	--	30	--	--	--	8	--	--	--	--	--	--	31	--	--
400 West/Eagleview Drive & 600 North	--	28	--	--	--	--	9	--	--	--	--	--	--	--	--	--	--
Eagleview Drive	--	39	--	--	--	--	6	--	--	--	--	--	--	--	--	--	--
Eagleview Drive & Hillside Circle	--	--	--	--	--	--	--	--	--	9	--	--	34	--	--	--	--
Eagleview Drive & International Way	--	--	--	--	--	--	--	--	--	9	--	--	44	--	--	--	--
Lakeview Drive & Treeline Drive	--	--	--	--	--	--	--	--	--	--	--	--	52	--	--	--	--
Suncrest Drive & Mercer Hollow Cove	--	--	69	--	49	--	--	2	--	--	7	--	--	53	--	--	54
Suncrest Drive & Road A	22	--	--	--	--	--	--	--	73	--	--	23	--	--	--	4	--
Westfield Road & 400 West/200 North	--	--	--	--	--	68	--	--	--	--	--	--	--	30	--	--	--

SUMMIT POINTE AMENDED SUBDIVISION

LOCATED IN THE NORTHEAST QUARTER OF SECTION 23,
TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN
ALPINE CITY, SALT LAKE COUNTY, UTAH

CONSTRUCTION DRAWINGS



DEVELOPED BY:
BLUE BISON DEVELOPMENT

ENGINEERED BY:
s.e. science
spinnaker engineering science, llc
P.O. BOX 2412
SALT LAKE CITY, UT 84110

CONTACT LIST

ENTITY	CONTACT:	PHONE:
CITY OF ALPINE ENGINEERING	JED MUHLESTEIN	756-6347
CITY OF ALPINE PLANNING	AUSTIN ROY	756-6347
S.E. SCIENCE	PAUL FESER	433-2498
CITY SERVICE DISTRICT	DAVID BARLOW	763-5932
UTAH POWER & LIGHT	WENDY CARTER	576-6222
QUESTAR GAS COMPANY	BONNIE ZIEMSKI	324-3448
QWEST	MARILEE RICHARDS	974-8112
CABLE TV	SHERYL PEHRSON	401-3023
SOUTH VALLEY SEWER DISTRICT	MICHAEL FOERSTER	571-1166

DRAWING INDEX

SHEET	DESCRIPTION
C000	COVER SHEET
1 OF 1	AMENDED SUBDIVISION PLAT
C001	ROAD SECTIONS
C002	GENERAL NOTES
P001 - P005	PLAN AND PROFILES

CONSTRUCTION NOTES

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF ALPINE, LAND DISTURBANCE DESIGN AND CONSTRUCTION STANDARDS. MATERIALS AND CONSTRUCTION NOT COVERED IN SAID STANDARD SHALL COMPLY WITH PUBLISHED REQUIREMENTS OF THE UTAH CHAPTER OF THE APWA. CONTRACTOR SHALL CONFORM TO ALPINE CITY STANDARDS AND SPECIFICATIONS IN PUBLIC RIGHT OF WAY. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH ALPINE CITY STANDARDS AND SPECIFICATIONS, LATEST EDITION. SEE SEWER AND WATERLINE NOTES FOR ADDITIONAL REQUIREMENTS. CONTRACTOR TO OBTAIN CURRENT OF SAID STANDARDS.
2. CONTRACTOR RESPONSIBLE FOR PROTECTION OF ALL UTILITIES SHOWN OR NOT SHOWN. CALL "BLUE STAKES" BEFORE DIGGING.
3. CONTRACTORS SHALL ATTEND ALL PRE-CONSTRUCTION CONFERENCES AND ABIDE BY DIRECTIVES AND DECISIONS MADE THEREIN.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PUBLIC SAFETY AND OSHA STANDARDS.
5. LOCATION AND INSTALLATION OF GAS, POWER, TELEPHONE, AND CABLE LINES TO BE DONE IN ACCORDANCE WITH EACH AGENCY'S GUIDELINES, LATEST EDITION.
6. CONTRACTOR TO FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
7. HANDICAP RAMPS AS SHOWN IN THIS DRAWING SET SHALL BE ADA APPROVED.
8. CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS FOR WORK.
9. CONTRACTOR IS RESPONSIBLE TO KEEP A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN(SWPPP) AND THE UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT ON SITE BEFORE BEGINNING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THESE STATE REQUIRED DOCUMENTS.
10. WHEN INSTALLING PROPOSED UTILITIES, CONTRACTOR TO IDENTIFY POTENTIAL CONFLICTS BETWEEN STORM DRAIN AND WATERLINES.
11. WHEREVER PROPOSED IMPROVEMENTS MEET EXISTING IMPROVEMENTS CONTRACTOR TO SAWCUT EXISTING ASPHALT FOR MATCH.
12. CONTRACTOR TO FOLLOW ALL RECOMMENDATIONS GIVEN IN A SOILS REPORT.
13. ALL RETAINING WALL SLOPES TO BE REVEGETATED PER CITY ORDINANCE

WATERLINE NOTES:

1. CULINARY WATER SYSTEMS TO BE CONSTRUCTED PER CITY STANDARDS AND SPECIFICATIONS.
2. CULINARY WATERLINES TO BE P.V.C. C-900 (DR-18) UNLESS CALLED OUT DIFFERENTLY ON PLANS OR DETAILS
3. ALL WATERLINES SHALL BE 48" BELOW FINISHED GRADE TO TOP OF PIPE AND AVOID HIGH POINTS ON THE WATERLINE.
4. ALL VALVE COVERS TO BE RAISED OR LOWERED TO FINISHED GRADE.
5. CONTRACTOR TO NOTIFY CITY FOR CHLORINE TEST PRIOR TO FLUSHING LINES. CHLORINE TESTING TO BE DONE IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS.
6. CONTRACTOR TO ADJUST DEPTH OF WATERLINE PER CITY STDS. TO CLEAR STORM DRAIN, SEWER LINES, OR OTHER UTILITIES PER CITY STD. SUCH LOOPS SHOULD BE MADE PER CITY STDS. BY ADJUSTING GRADES GRADUALLY WITHOUT BENDS WHERE POSSIBLE. IF FITTINGS ARE NEEDED THEN THE LOOP SHALL COMPLY WITH CITY STANDARD DETAIL FOR WATERLINE LOOPS. CONTRACTOR SHALL CONTACT CITY INSPECTOR IN ALL CASES AND CITY INSPECTOR HAS FINAL SAY IF LINES ARE LOOPED OR ROPED.
7. FILL MATERIAL BENEATH THE WATERLINE SHALL BE COMPACTED AS REQUIRED BY CITY
8. COMPACTION TESTS SHALL BE PERFORMED AT REGULAR INTERVALS PER CITY STANDARDS AND SUBMITTED TO CITY AND CITY INSPECTORS.
9. (RPZ) REDUCED PRESSURE ZONE BACKFLOW PREVENTER IS REQUIRED FOR OUTDOOR WATERING CONNECTION, PER MANUFACTURE'S. CONTRACTOR TO REFER TO LANDSCAPING PLAN FOR ALL IRRIGATION SERVICE LATERALS.
10. FIRE HOSE TO BE BROUGHT TO THE FLANGE IN BUILDING. SEE ARCHITECTURAL DRAWINGS.

SEWER NOTES:

1. ALL SANITARY SEWER CONSTRUCTION AND MATERIALS SHALL CONFORM TO CITY SERVICE DISTRICT STANDARDS AND SPECIFICATIONS.
2. ALL MANHOLE LIDS TO BE RAISED OR LOWERED TO FINISHED GRADE PER CITY SERVICE DISTRICT STANDARDS AND SPECIFICATIONS.
3. ALL GRAVITY FLOW SEWER LATERALS ARE SDR-35 PVC PIPE.
4. ALL SEWER TO BE BACKFILLED WITH DISTRICT APPROVED SELECT BACKFILL, AND COMPACTED PER CITY SERVICE DISTRICT STANDARDS AND SPECIFICATIONS.
5. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND INVERT ELEVATIONS OF EXISTING MANHOLES AND OTHER UTILITIES BEFORE STAKING OR CONSTRUCTING ANY NEW SEWER LINES.
6. A MINIMUM OF FOUR (4) FEET OF COVER WILL BE REQUIRED OVER ALL SEWER LINES.

STORM DRAIN NOTES:

1. ALL STORM DRAIN PIPE WITHIN THE PROPERTY SHALL BE RCP IN PUBLIC R.O.W. UNLESS OTHERWISE NOTED.
2. ALL STORM DRAIN JOINTS ARE TO BE RATED TO 20 PSI.
3. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALPINE CITY STANDARDS.

CALL BEFORE YOU DIG! IT'S THE LAW DIAL 811

DATE:	11/16/2018	REV.:	DESCRIPTION:
SCALE:	AS SHOWN		
DRAWN BY:	SJ		
CHECKED BY:	PSF		
PROJECT NO.:	se1811		

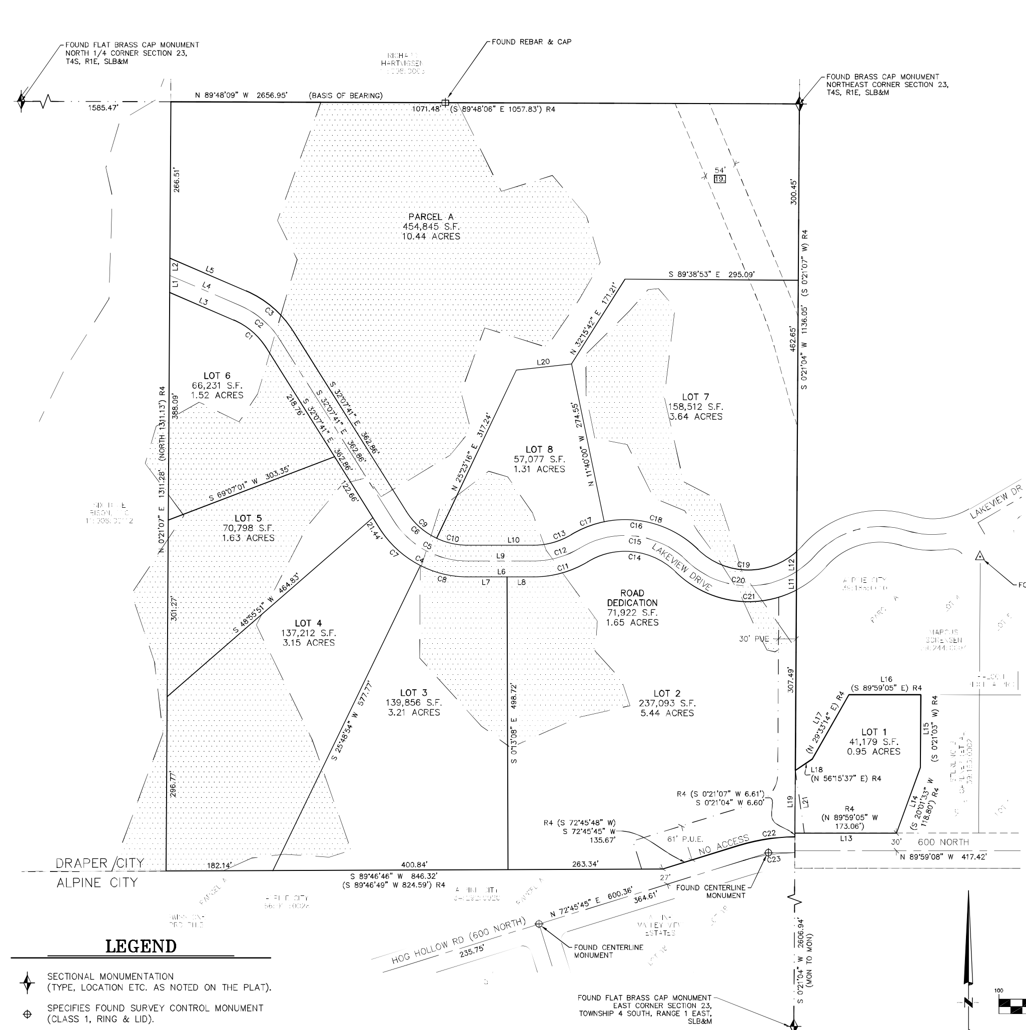
DEVELOPED BY:
BLUE BISON DEVELOPMENT
JACOB SATTERFIELD TEL 801-755-8452

ENGINEERED BY:
S.E. SCIENCE, LLC
P.O. BOX 2412
SALT LAKE CITY, UT 84110 TEL 801-433-2498

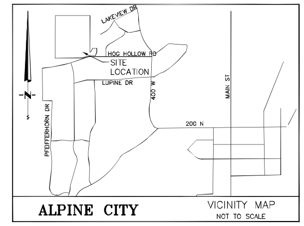
SUMMIT POINTE SUBDIVISION
ALPINE CITY, UTAH
PLAT APPLICATION
COVER SHEET

SHEET
C000

P:\se1811 Satterfield\Dwg\alpine-base 38.dwg Nov 16, 2018 - 9:10am



FOUND FLAT BRASS CAP MONUMENT EAST CORNER SECTION 23, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SLB&M



ADDRESS TABLE	
LOT	ADDRESS
1	754 W 600 N
2	823 W LAKEVIEW DR
3	891 W LAKEVIEW DR
4	915 W LAKEVIEW DR
5	931 W LAKEVIEW DR
6	957 W LAKEVIEW DR
7	812 W LAKEVIEW DR
8	872 W LAKEVIEW DR
PARCEL A	950 W LAKEVIEW DR

Parcel Line Table

Line #	Direction	Length
L1	N0° 21' 07"E	29.31
L2	N0° 21' 07"E	29.31
L3	S66° 43' 43"E	118.98
L4	S66° 43' 43"E	130.39
L5	S66° 43' 43"E	141.81
L6	N90° 00' 00"E	113.05
L7	N90° 00' 00"E	67.28
L8	N90° 00' 00"E	45.77
L9	N90° 00' 00"E	113.05
L10	N90° 00' 00"E	113.05
L11	N0° 25' 46"E	31.38
L12	N0° 16' 44"E	34.07
L13	N89° 58' 57"W	173.05
L14	S20° 01' 30"W	118.81
L15	S0° 21' 00"W	124.12
L16	S89° 59' 08"E	122.64
L17	N29° 33' 11"E	125.60
L18	N56° 15' 34"E	35.18
L19	S0° 21' 04"W	106.93
L20	N83° 45' 20"E	94.71
L21	S8° 10' 47"E	108.02

PARCEL CURVE DATA

SEGMENT	LENGTH	RADIUS	DELTA	TANGENT
C1	74.28	123.00	34°36'02"	38.31
C2	90.58	150.00	34°36'02"	46.72
C3	106.89	177.00	34°36'02"	55.13
C4	178.78	177.00	57°52'19"	97.85
C5	151.51	150.00	57°52'19"	82.93
C6	124.24	123.00	57°52'19"	68.00
C7	95.59	177.00	30°56'39"	48.99
C8	83.19	177.00	26°55'40"	42.38
C9	69.74	123.00	32°29'03"	35.83
C10	54.50	123.00	25°23'16"	27.71
C11	96.58	177.00	31°15'44"	49.52
C12	81.84	150.00	31°15'44"	41.97
C13	67.11	123.00	31°15'44"	34.41
C14	162.58	123.00	75°44'00"	95.64
C15	198.27	150.00	75°44'00"	116.63
C16	233.96	177.00	75°44'00"	137.63
C17	60.54	177.00	19°35'44"	30.57
C18	173.42	177.00	56°08'16"	94.39
C19	185.44	123.00	86°22'47"	115.46
C20	203.12	150.00	77°35'10"	120.57
C21	222.36	177.00	71°58'51"	128.55
C22	97.45	324.00	17°13'56"	49.09
C23	89.16	297.00	17°11'59"	44.92

GRAPHIC SCALE

100 0 50 100 200

(IN FEET)
1 inch = 100 ft.

LEGEND

- SECTIONAL MONUMENTATION (TYPE, LOCATION ETC. AS NOTED ON THE PLAT).
- SPECIFIES FOUND SURVEY CONTROL MONUMENT (CLASS 1, RING & LID).
- SPECIFIES FOUND SURVEY CONTROL MONUMENT (CLASS II, REBAR & ALUM. CAP).
- SET 5/8" REBAR AND PLASTIC CAP (STAMPED BUSH & GUDGELL), UNLESS OTHERWISE NOTED ON THE PLAT.
- SPECIFIES FOUND SURVEY CONTROL MONUMENT (RIVET).
- BUILDABLE AREA

BUSH & GUDGELL, INC.
Engineers - Planners - Surveyors
655 East 4500 South
Salt Lake City, Utah 84107
Phone (801) 685-6194 / Fax (801) 685-6195
www.bushandgudgell.com

DATE: 12-6-18
FILE: 172177 FINAL
SHEET 1 OF 1

PLANNING COMMISSION APPROVAL

APPROVED THIS __________ DAY OF _____________, A.D. 20__, BY THE ALPINE CITY PLANNING COMMISSION.

DIRECTOR – SECRETARY
CHAIRMAN, PLANNING COMMISSION

APPROVAL AS TO FORM

APPROVED AS TO FORM THIS __________ DAY OF _____________, A.D. 20__,

CITY ATTORNEY

ACCEPTANCE BY LEGISLATIVE BODY

THE ___________ OF __________________, COUNTY OF UTAH, APPROVES THIS SUBDIVISION AND HEREBY ACCEPTS THE DEDICATION OF ___________________ ALL STREETS, EASEMENTS, AND OTHER PARCELS OF LAND INTENDED FOR PUBLIC PURPOSES FOR THE PERPETUAL USE OF THE PUBLIC THIS __________ DAY _____________, A.D. 20__

APPROVED
ENGINEER (SEE SEAL BELOW)
ATTEST
CLERK – RECORDER (SEE SEAL BELOW)

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT THE UNDERSIGNED OWNERS OF ALL OF THE ABOVE DESCRIBED TRACT OF LAND, HAVING CAUSED THE SAME TO BE SUBDIVIDED INTO EIGHT (8) LOTS, PARCEL A AND ROAD DEDICATION TO BE HEREAFTER KNOWS AS THE SUMMIT POINTE AMENDED, DO HEREBY DEDICATED FOR PERPETUAL USE OF ALL THE PUBLIC ALL PARCELS OF LAND SHOW ON THIS PLAT AS INTENDED FOR PUBLIC USE

IN WITNESS WHEREOF _______ HAVE HEREUNTO SET ____________ THIS _______ DAY OF _________ A.D., 20___.

BY:
____

ACKNOWLEDGMENT

STATE OF ________________ } S.S.
COUNTY OF ________________ }

ON THE ____ DAY OF ___________________ 20__, PERSONALLY APPEARED BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC IN AND FOR SAID STATE AND COUNTY, ____________ WHO BEING BY ME DULY SWORN, DID SAY THAT HE IS THE ____________ OF ___________________, AND THAT HE EXECUTED THE FOREGOING OWNER'S DEDICATION IN BEHALF OF SAID _________________ BEING AUTHORIZED AND EMPOWERED TO DO SO BY THE OPERATING AGREEMENT OF COMPANY, LLC, AND HE DID DULY ACKNOWLEDGE TO ME THAT SUCH LIMITED LIABILITY COMPANY EXECUTED THE SAME FOR THE USES AND PURPOSES STATED THEREIN.

MY COMMISSION EXPIRES:
NOTARY PUBLIC RESIDES IN:

SURVEYOR'S CERTIFICATE

I, D. GREGG MEYERS, DO HEREBY CERTIFY THAT I AM A REGISTERED LAND SURVEYOR, AND THAT I HOLD LICENSE NO. 312770 AS PRESCRIBED UNDER THE LAWS OF THE STATE OF UTAH. I FURTHER CERTIFY THAT BY AUTHORITY OF THE OWNER, I HAVE MADE A SURVEY OF THE TRACT OF LAND SHOWN ON THIS PLAT AND DESCRIBED BELOW, AND HAVE SUBDIVIDED SAID TRACT OF LAND INTO LOTS, HEREAFTER TO BE KNOWN AS THE SUMMIT POINTE AMENDED AND THAT THE SAME HAS BEEN CORRECTLY SURVEYED AND STAKED ON THE GROUND AS SHOWN ON THIS PLAT.

12/6/2018
DATE:
BUSH AND GUDGELL INC.

PROFESSIONAL LAND SURVEYOR LICENSE #312770 D. GREGG MEYERS 12/6/2018 STATE OF UTAH

D. Gregg Meyers
D. GREGG MEYERS REGISTERED LAND SURVEYOR UTAH LICENSE NUMBER 312770

BOUNDARY DESCRIPTION

LOTS 1, 2, 3 AND 4, PLAT "A" SUMMIT POINTE, INCLUDING A VACATION OF LOT 3 OF FALCON RIDGE SUBDIVISION PLAT "A", ACCORDING TO THE OFFICIAL PLAT THEREOF, AS RECORDED IN OFFICE OF THE COUNTY RECORDER, UTAH COUNTY, STATE OF UTAH, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SECTION 23, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN, AND RUNNING THENCE SOUTH 00°21'04" WEST ALONG THE EAST LINE OF SAID SECTION 23 1136.05 FEET; THENCE NORTH 56°15'34" EAST 35.18 FEET; THENCE NORTH 29°33'11" EAST 125.60 FEET; THENCE SOUTH 89°59'08" EAST 122.64 FEET; THENCE SOUTH 00°21'00" WEST 124.12 FEET; THENCE SOUTH 20°01'30" WEST 118.81 FEET TO A POINT ON THE NORTH RIGHT-OF-WAY OF HOG HOLLOW ROAD; THENCE ALONG SAID RIGHT-OF-WAY THE FOLLOWING FOUR (4) COURSES; 1) NORTH 89°58'57" WEST 173.05 FEET; 2) SOUTH 00°21'04" WEST 6.60 FEET; 3) WESTERLY ALONG A 324.00 FOOT RADIUS NON-TANGENT CURVE TO THE LEFT, (LONG CHORD BEARS SOUTH 81°22'43" WEST A DISTANCE OF 97.08 FEET, CENTER POINT LIES SOUTH 00°00'19" EAST), THROUGH A CENTRAL ANGLE OF 17°13'56", A DISTANCE OF 97.45 FEET; 4) SOUTH 72°45'45" WEST 135.67 FEET; THENCE SOUTH 89°46'46" WEST ALONG THE NORTH BOUNDARIES OF ALPINE VALLEY VIEW ESTATES SUBDIVISION AND SWISS ONE PLANNED RESIDENTIAL DEVELOPMENT PHASE 3, OFFICIAL RECORDS, UTAH COUNTY, UTAH, 846.32 FEET; THENCE NORTH 00°21'07" EAST 1311.28 FEET; THENCE SOUTH 89°48'09" EAST 1071.48 FEET; TO THE POINT OF BEGINNING.

CONTAINS 1,434,724 SQ FT, 32.94 ACRES, MORE OR LESS

NOTES

1. NO ATTEMPT HAS BEEN MADE AS A PART OF THIS PRELIMINARY PLAT TO OBTAIN OR SHOW DATA CONCERNING EXISTENCE, SIZE, DEPTH, CONDITION, CAPACITY, OR LOCATION OF ANY UTILITY OR MUNICIPAL/PUBLIC SERVICE FACILITY. FOR INFORMATION REGARDING THESE UTILITIES OR FACILITIES, PLEASE CONTACT THE APPROPRIATE AGENCIES OR OTHER.

2. SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP, TITLE EVIDENCE, OR ANY OTHER FACTS WHICH AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.

3. ALL COURSES SHOWN IN PARENTHESIS ARE RECORD INFORMATION TAKEN FROM DEED DESCRIPTION OR OFFICIAL MAPS OR PLATS OF RECORD. ALL OTHER COURSES ARE THE RESULT OF ACTUAL FIELD MEASUREMENTS.

4. ALL CURVES ARE TANGENT CURVES UNLESS OTHERWISE STATED. IF NEEDED A CENTER BEARING WILL BE SHOWN.

NARRATIVE

THE PURPOSE OF THIS SURVEY IS TO COMBINE FOUR EXISTING PARCELS TO CREATE A 8 LOT AND A PARCEL "A" RESIDENTIAL DEVELOPMENT. THE SURVEY WAS PERFORMED AT THE REQUEST OF OUR CLIENT. THE BASIS OF BEARING FOR THIS SURVEY IS N 89°48'09" E ALONG THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 23, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE & MERIDIAN; BETWEEN TWO SECTIONAL MONUMENTS, TYPE AND LOCATIONS OF WHICH ARE SHOWN ON THIS PLAT.

WITH THAT SAID THIS SURVEY BY NO MEANS STATES OR IMPLIES THAT WE HAVE RESOLVED ANY CURRENT OR FUTURE BOUNDARY LINE ISSUES WITH THIS SUBJECT PROPERTIES BOUNDARY. IF THE OWNERS WOULD LIKE TO RESOLVE THESE ISSUES WE SUGGESTS THAT AN EXTENSIVE TITLE REPORT AND ALONG WITH AN ABSTRACT TITLE SEARCH WITH A SURVEY COVERING ALL EFFECTED PARCELS BE COMPLETED IN ORDER TO START THIS PROCESS.

THE FOLLOWING MAPS WERE USED AS REFERENCES TO PRODUCE THIS INFORMATION ALL OF WHICH ARE RECORDED AND ON FILE AT THE UTAH COUNTY RECORDERS OFFICE, STATE OF UTAH.

R1 ALPINE VALLEY VIEW ESTATES SUBDIVISION, MAP FILING # 8128, RECORDED JULY 01, 1999.

R2 FALCON RIDGE A PRD SUBDIVISIONS, MAP FILING # 10623, RECORDED AUGUST 10, 2004.

R3 LONE PEAK ESTATES, MAP FILING # 5609, RECORDED JULY 11, 1994.

R4 SUMMIT POINTE INCLUDING A VACATION OF LOT 3 OF FALCON RIDGE SUBDIVISION PLAT "A", MAP FILING # 15620, RECORDED JULY 13, 2017.

R5 SUNRISE POINT SUBDIVISION PHASE II, MAP FILING # 6580, RECORDED MAY 7, 1996.

R6 SWISS ONE PLANNED RESIDENTIAL DEVELOPMENT PHASE 3, MAP FILING # 10399, RECORDED MARCH 23, 2004.

EASEMENT NOTES

18. ANY AND ALL MATTERS DISCLOSED ON THE OFFICIAL RECORDED PLAT OF SAID SUBDIVISION, INCLUDING, BUT NOT LIMITED TO, PUBLIC UTILITIES AND DRAINAGE EASEMENTS, SEWER EASEMENTS, BUILDING SET-BACK LINES AND/OR BUILDABLE AREA LIMIT LINES, NOTES AND RECITALS, PRIVATE DRIVEWAY, CROSS ACCESS AND UTILITY EASEMENT, SEWER EASEMENT, AND THE TERMS AND CONDITIONS THEREOF, RECORDED: JULY 10, 2017, ENTRY NO.: 67625:2017. **(TO BE VACATED UPON RECORDATION OF THIS PLAT)**

19. EASEMENT, AND THE TERMS AND CONDITIONS GRANTEE: ALPINE CITY FOR THE PURPOSE OF A PERMANENT EASEMENT FOR THE LOCATION, CONSTRUCTION AND MAINTENANCE OF A PUBLIC ROAD RIGHT OF WAY AND RELATED FACILITIES RECORDED: JULY 10, 2017 ENTRY NO.: 66480:2017 **(AS SHOWN)**

20. EASEMENT, AND THE TERMS AND CONDITIONS THEREOF: GRANTEE: RICHARD HARTVIGSEN PURPOSE: ACCESS RECORDED: JULY 28, 2017, ENTRY NO.: 72701:2017 **(TO BE VACATED UPON RECORDATION OF THIS PLAT)**

PLAT VACATION NOTICE

THE CITY OF ALPINE IS SATISFIED THAT NEITHER THE PUBLIC NOR ANY PERSON WILL BE MATERIALLY INJURED BY THE VACATION OF SUMMIT POINTE, PLAT "A" AND THAT THERE IS GOOD CAUSE FOR THE VACATION. SUMMIT POINTE, PLAT "A" IS HEREBY VACATED.

PLAT "B"

SUMMIT POINTE AMENDED

INCLUDING A VACATION OF SUMMIT POINTE, PLAT "A"

LOCATED IN

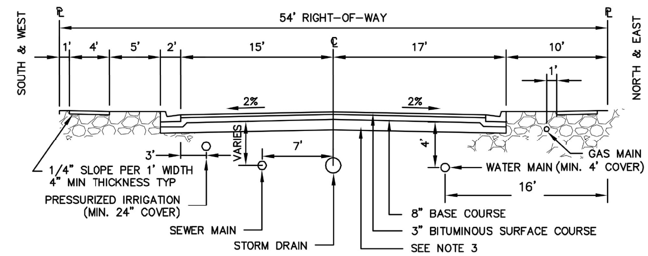
NORTHEAST 1/4 OF SECTION 23,
TOWNSHIP 4 SOUTH, RANGE 1 EAST,
SALT LAKE BASE AND MERIDIAN

PREPARED FOR:

SIX BLUE BISON, LLC

SHEET 1 OF 1

SURVEYOR'S SEAL	NOTARY PUBLIC SEAL	CITY ENGINEERS SEAL	CLERK–RECORDER SEAL

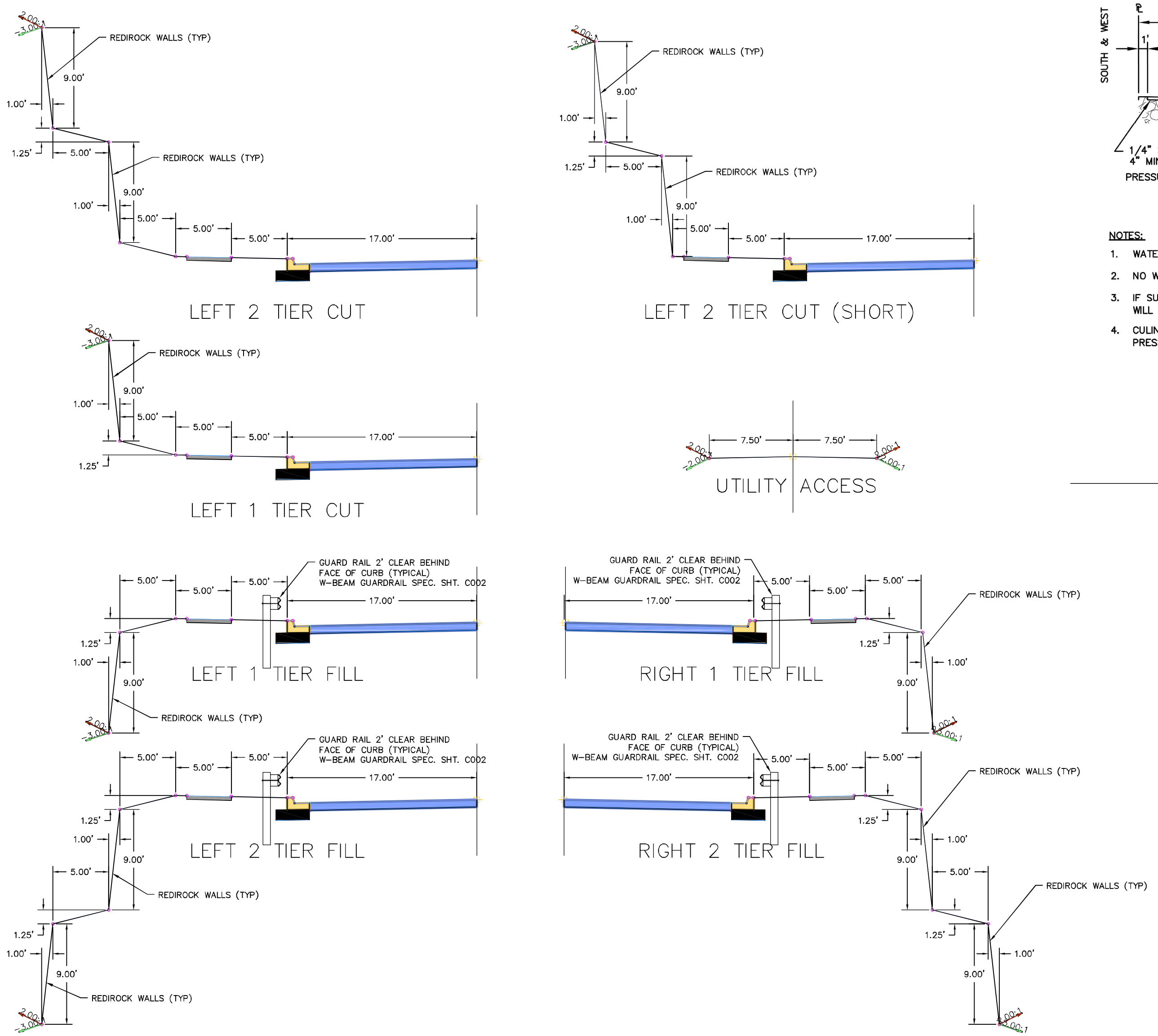


NOTES:

1. WATER VALVES AND 5-INCH VALVE OPENING MUELLER FIRE HYDRANTS SHALL BE LOCATED AS APPROVED.
2. NO WATER LINE SMALLER THAN 8-INCH DIA. SHALL BE INSTALLED WITHOUT APPROVAL OF CITY COUNCIL.
3. IF SUBGRADE SOILS ARE AASHTO CLASS A-3, A-4, OR A-5, 10" OF IMPORTED A-1 SUBBASE MATERIAL WILL BE REQUIRED. FOR A-6 OR A-7 SUBGRADE SOILS, 12" OF A-1 SUBBASE MATERIAL WILL BE REQUIRED.
4. CULINARY WATER MAINS SHALL BE ON THE NORTH AND EAST SIDES OF THE STREET. PRESSURIZED IRRIGATION AND SEWER LINES SHALL BE ON THE SOUTH AND WEST SIDES OF THE STREET.

STREET CROSS-SECTIONS & UTILITY LOCATIONS

N.T.S.



ROAD CROSS SECTIONS
USED FOR MODELING
SCALE: NONE

DATE:	11/16/2018
SCALE:	AS SHOWN
DRAWN BY:	SJ
CHECKED BY:	PSF
PROJECT NO.:	se1811
REV.:	
DESCRIPTION:	

DEVELOPED BY:
BLUE BISON DEVELOPMENT
JACOB SATTERFIELD TEL 801-755-0452

ENGINEERED BY:
S.E. SCIENCE, LLC
P.O. BOX 2412
SALT LAKE CITY, UT 84110 TEL 801-433-2498

SUMMIT POINTE SUBDIVISION
ALPINE CITY, UTAH
PLAT APPLICATION

ROAD SECTIONS

SHEET
C001

P:\se1811 Satterfield\Dwg\alpine-base 38.dwg Nov 16, 2018 - 9:11am

W-BEAM GUARDRAIL SPECIFICATION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. W-Beam guardrail, post and blocks, W-Beam guardrail transition element, W-Beam guardrail anchors, W-beam buried in back slope terminals, W-Beam curved guardrail elements, W-Beam nested guardrail, W-Beam guardrail delineation and certification requirements for installation of W-Beam guardrail systems.

1.2 RELATED SECTIONS

A. Section 01554: Traffic Control

B. Section 02056: Embankment, Borrow, and Backfill

C. Section 02842: Delineators

D. Section 02890: Retroreflective Sheeting

E. Section 03055: Portland Cement Concrete

F. Section 03211: Reinforcing Steel and Welded Wire

G. Section 06055: Timber and Timber Treatment

1.3 REFERENCES

A. AASHTO M 111: Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

B. AASHTO M 160: General Requirements for Rolled Structural Steel Bars, Plates, Shapes and Sheet Piling

C. AASHTO M 180: Corrugated Sheet Steel Beams for Highway Guardrail

D. AASHTO M 232: Zinc Coating (Hot-Dip) on Iron and Steel Hardware

E. AASHTO M 270: Carbon and High Strength Low Alloy Structural Steel, Shapes, Plates and Bars and Quenched-and Tempered Alloy Structural Steel Plates for Bridges

F. AASHTO M 298: Coatings of Zinc Mechanically Deposited on Iron and Steel

G. ASTM A 500: Cold Formed Welded and Seamless Carbon Steel Structure tubing in Rounds and Shapes

1.4 DEFINITIONS Not Used

1.5 SUBMITTALS

A. Manufacturer's certificate of compliance Acceptable
1. Certification to be included in project file.

PART 2 PRODUCTS

2.1 W-BEAM GUARDRAIL AND HARDWARE

A. W-Beam Rail – Refer to BA Series Standard Drawings.
1. Minimum galvanizing requirement: Refer to AASHTO M 180, Type 1, Class A.

B. Bottom W-Beam rail or steel rub rail – Refer to BA Series Standard Drawings.
1. W-Beam – Refer to requirements of this Section.
2. Channel rub rail – Refer to AASHTO M 160 and AASHTO M 270.
a. Refer to AASHTO M 111 after all punching and cutting is complete.

C. Hardware – Refer to BA Series Standard Drawings.
1. Manufacturer – Refer to AASHTO M 180.
2. Coatings – Refer to AASHTO M 232 or M 298.

2.2 W-BEAM GUARDRAIL POSTS AND OFFSET BLOCKS

A. All elements according to BA Series Standard Drawings.
1. Steel post – Refer to AASHTO M 270 and AASHTO M 160.
a. Refer to AASHTO M 111 after all punching and cutting is complete.
3. Wood Post and wood blocks – Refer to Section 06055.
4. Composite or plastic offset blocks for steel post installations.
a. Certify according to NCHRP 350 test requirements.
4. Visually inspected and accepted by the Engineer.

2.3 TRANSITION ELEMENTS

A. All elements according to BA Series Standard Drawings.
1. Refer to the requirements of this section for W-Beam guardrail, posts, blocks, and hardware.

B. Choose appropriate curb section according to plan requirement and BA Series Standard Drawings.

2.4 ANCHOR ELEMENTS

A. All elements according to BA Series Standard Drawings.
1. Refer to the requirements of this Section for W-Beam guardrail, posts, blocks, and hardware.
2. Anchor Plate – Refer to AASHTO M 270.
a. Refer to AASHTO M 111 after all punching, drilling, and cutting is complete.
3. Bearing Plate – Refer to AASHTO M 270.
a. Refer to AASHTO M 111 after all punching, drilling, and cutting is complete.
4. Anchor Post Foundation Tube and Plate.
a. Tube – Refer to ASTM A 500.
b. Plate – Refer to AASHTO M 270.
c. Refer to AASHTO M 111 after all punching, drilling, cutting, and welding is complete.

2.5 W-BEAM BURIED-IN-BACKSLOPE TERMINALS

A. All elements according to BA Series Standard Drawings.
1. Refer to plan set for terminal requirement.
2. Refer to BA Series Standard Drawings for Buried-In-Backslope Terminal Anchor options.
a. Steel Post with plate – Refer to AASHTO M 270 and AASHTO M 160. Refer to AASHTO M 111 after all punching, drilling, cutting, and welding is complete.
b. Concrete Block – Use Class A(AE) concrete. Refer to Section 03055. Refer to Section 03211 for reinforcement bar requirement.

2.6 W-BEAM CURVED GUARDRAIL

A. All elements according to BA Series Standard Drawings.
1. Refer to plan set for radius requirements.
2. Shop bend all curves.
3. Refer to this Section for W-Beam guardrail and anchor system.
4. Controlled Release Terminal Post (CRT) breakaway post according to wood post and block requirements of this Section.
a. Drill two 3½ inch holes center of post, 29 and 45 inches from top of post.

2.7 W-BEAM NESTED GUARDRAIL

A. All elements according to BA Series Standard Drawings.
1. W-Beam – Refer to requirements of this Section.
2. CRT breakaway post – Refer to wood post and block requirements of this section.
a. Drill two 3½ inch holes center of post, 29 and 45 inches from top of post.

2.8 W-BEAM MEDIAN BARRIER

A. All elements according to BA Series Standard Drawings.
1. Refer to requirements of this section for W-Beam guardrail, posts, blocks, rub rail channel, and hardware.

2.9 BARRIER DELINEATION

A. Sheeting – Refer to Section 02890.

B. Hardware – Refer to GW Series Standard Drawings.

PART 3 EXECUTION

3.1 TRAINING REQUIREMENT

A. Attend the Utah Department of Transportation Guardrail Installation Training Course (GRIT) and pass the UDOT Guardrail Training Final Examination.
1. Alternative to UDOT Grit Course is the American Traffic Safety Services Association (ATSSA) Guardrail Installation Training.

B. Supply Guardrail Training Certificate to the Engineer before beginning installation.

C. Have an installer who has attended one of the approved training courses on the job site at all times when guardrail or elements of a W-Beam guardrail system are being installed.

3.2 PREPARATION

A. Site Considerations
1. Complete grading requirements before installation of guardrail, guardrail end treatment, and crash cushions.
2. Protect work area when removing guardrail barriers, guardrail end treatment, or crash cushions until the barriers, guardrail end treatment, or crash cushion are reconstructed or the hazard is mitigated. Refer to Section 01554 and TC Series Standard Drawings.

3.3 POSTS AND BLOCKS

A. Drill all required holes in posts and blocks according to BA Series Standard Drawings before installation.
1. Field drilling post is acceptable when installing the bottom rail.
a. Coat all field drilled steel post with a field-applied cold zinc material.

B. Drive post if satisfactory results are obtained without damaging the post.
1. Do not drive posts through asphalt.

C. Excavate postholes when not driven.
1. Compact approved backfill material into bottom of hole if hole is over excavated.
2. Compact backfill material around post to an average of at least 96 percent of maximum laboratory density and dispose of excess material. Refer to Section 02056.

3.4 RAIL ELEMENTS

A. Drill or punch all required holes according to BA Series Standard Drawings before installation.
1. Field drilled holes in rail element permitted on a limited basis, when required.
a. Drill no more than three holes on three consecutive posts.
b. Coat all field drilled rail elements with a field-applied cold zinc material.

B. Shop bend all curved sections as required in BA Series Standard Drawings.

3.5 DELINEATION HARDWARE

A. Supply Barrier Reflectors – Refer to Section 02842 and GW Series Standard Drawings.

B. Attach Barrier Reflectors – Refer to BA Series Standard Drawings.

C. Application – Refer to GW Series Standard Drawings.

END OF SECTION

DATE:	11/16/2018
SCALE:	AS SHOWN
DRAWN BY:	SJ
CHECKED BY:	PSF
PROJECT NO.:	se1811
REV.:	DESCRIPTION:

DEVELOPED BY:
BLUE BISON DEVELOPMENT
JACOB SATTERFIELD TEL 801-755-8452
ENGINEERED BY:
S.E. SCIENCE, LLC
P.O. BOX 2412
SALT LAKE CITY, UT 84110 TEL 801-433-2498

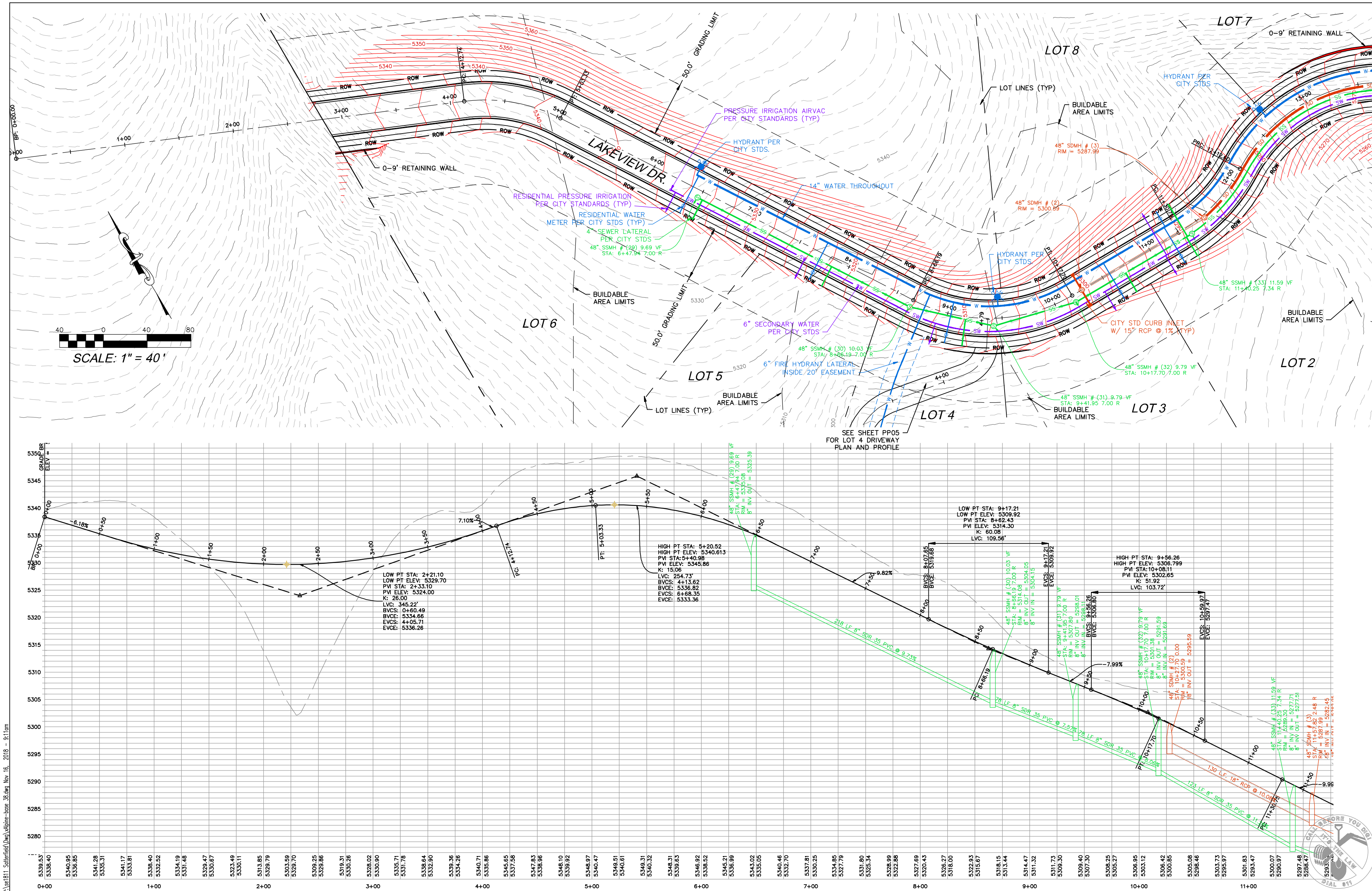
SUMMIT POINTE SUBDIVISION
ALPINE CITY, UTAH
PLAT APPLICATION

GENERAL NOTES

SHEET C002

CALL BEFORE YOU DIG! IT'S THE LAW DIAL 811

P:\se1811 Satterfield\Dwg\alpine-base_38.dwg Nov 16, 2018 - 9:11am



DEVELOPED BY:
BLUE BISON DEVELOPMENT
JACOB SATTERFIELD TEL 801-755-0452

ENGINEERED BY:
S.E. SCIENCE, LLC
P.O. BOX 2412
SALT LAKE CITY, UT 84110 TEL 801-433-2498

SUMMIT POINTE SUBDIVISION
ALPINE CITY, UTAH
PLAT APPLICATION

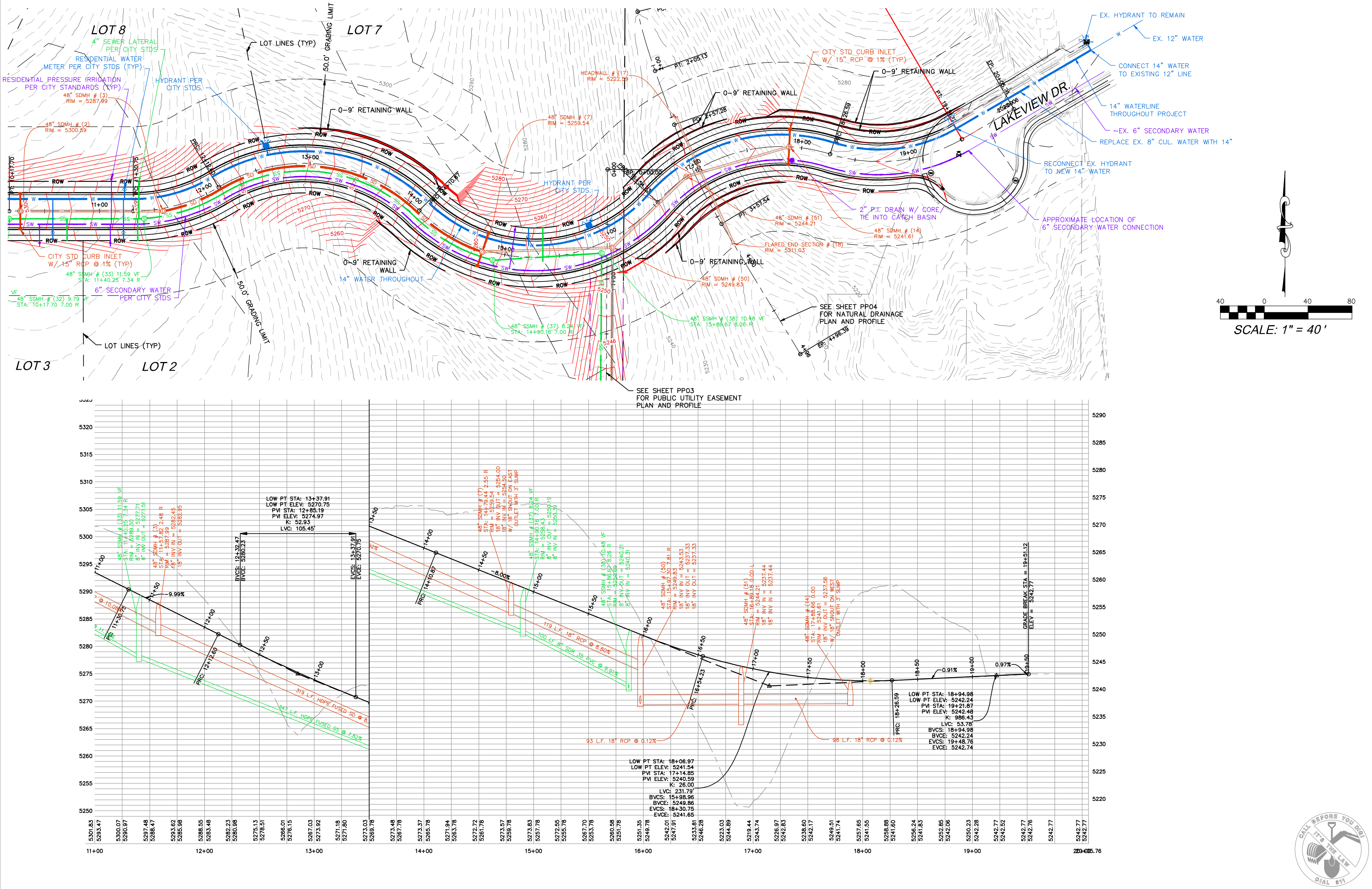
LAKEVIEW DR. PLAN & PROFILE

DATE:	11/16/2018
SCALE:	AS SHOWN
DRAWN BY:	SJ
CHECKED BY:	PSF
PROJECT NO.:	se1811

REV: DESCRIPTION:

SHEET PP01

P:\se1811 Satterfield\Dwg\alpine-base_38.dwg Nov 16, 2018 - 9:11am



DESCRIPTION: | REV: | DATE: 11/16/2018

SCALE: AS SHOWN

DRAWN BY: SJ

CHECKED BY: PSF

PROJECT NO.: se1811

DEVELOPED BY:
BLUE BISON DEVELOPMENT
JACOB SATTERFIELD TEL 801-755-6452

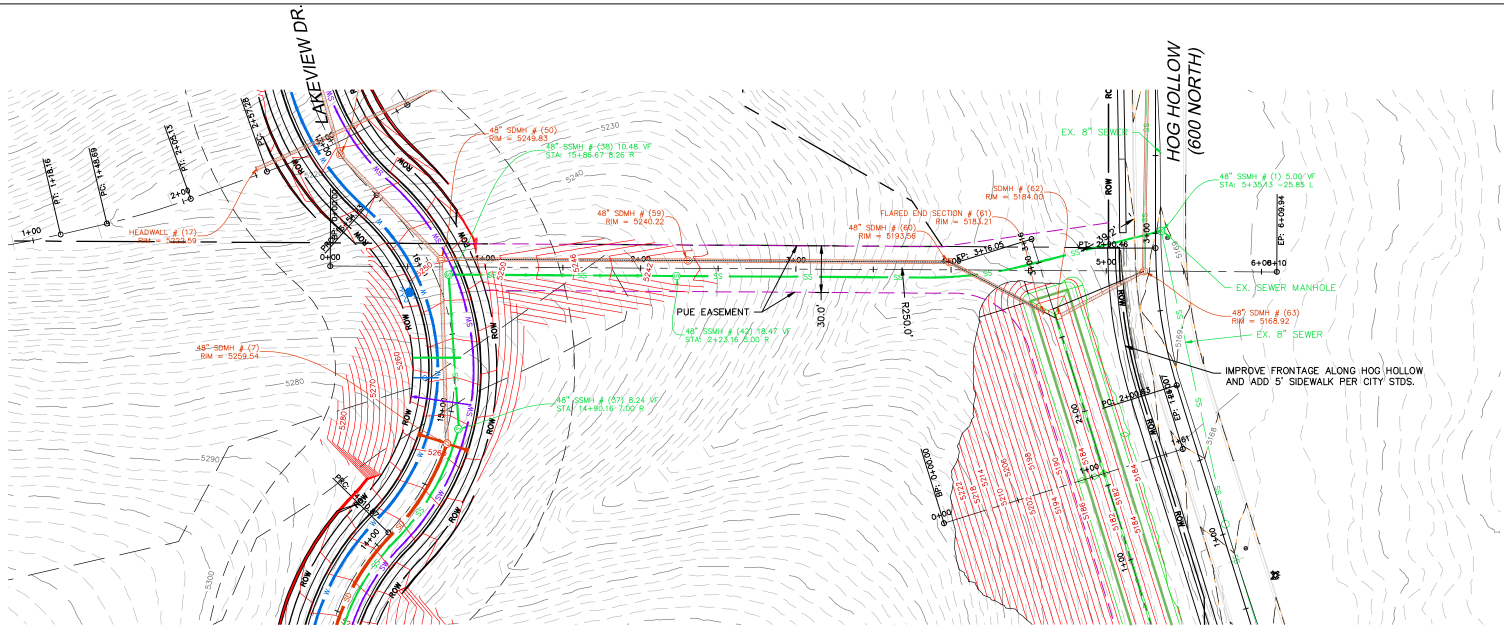
ENGINEERED BY:
S.E. SCIENCE, LLC
P.O. BOX 2412
SALT LAKE CITY, UT 84110 TEL 801-433-2498

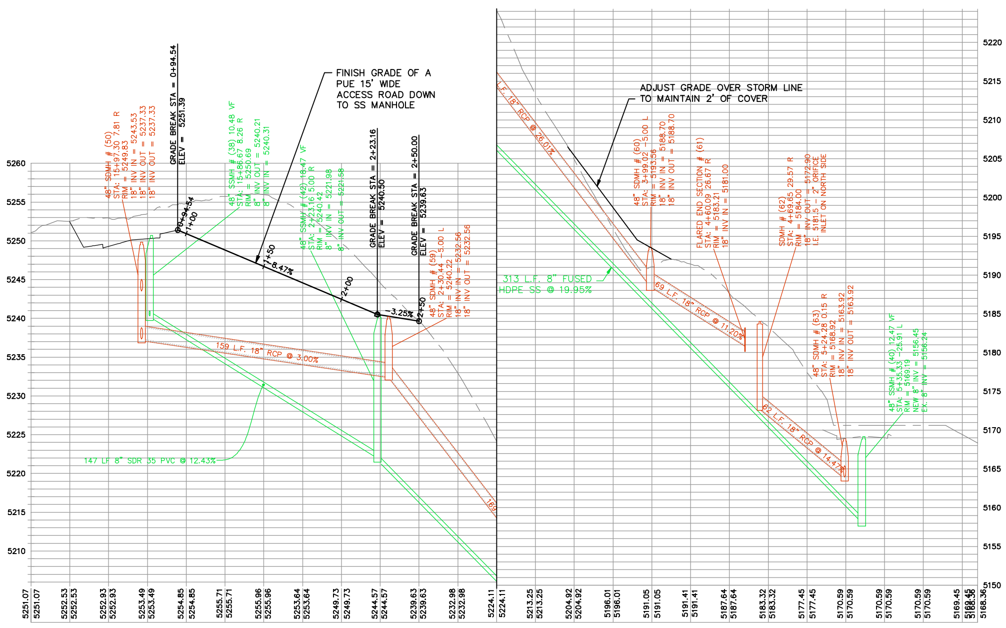
SUMMIT POINTE SUBDIVISION
ALPINE CITY, UTAH
PLAT APPLICATION

LAKEVIEW DR. PLAN & PROFILE

SHEET PP02

P:\se1811 Satterfield\Dwg\alpine-base_38.dwg Nov 16, 2018 - 9:11am





DATE:	11/16/2018	REV.:	DESCRIPTION:
SCALE:	AS SHOWN		
DRAWN BY:	SJ		
CHECKED BY:	PSF		
PROJECT NO.:	se1811		

DEVELOPED BY:
BLUE BISON DEVELOPMENT
JACOB SATTERFIELD TEL 801-755-0452

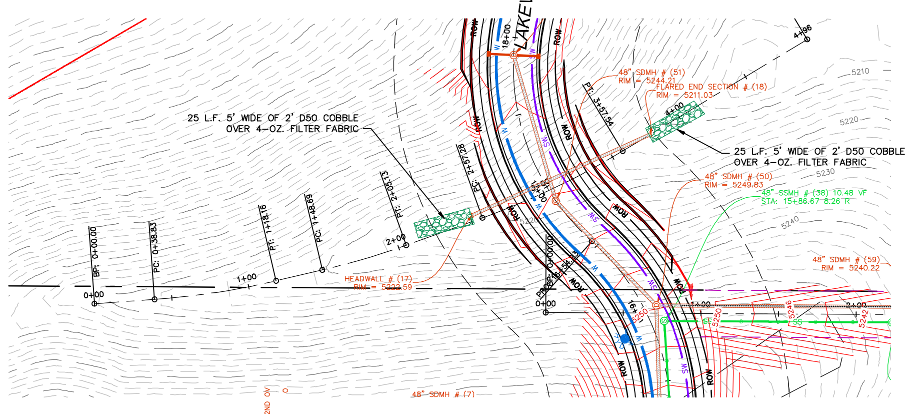
ENGINEERED BY:
S.E. SCIENCE, LLC
P.O. BOX 2412
SALT LAKE CITY, UT 84110 TEL 801-433-2498

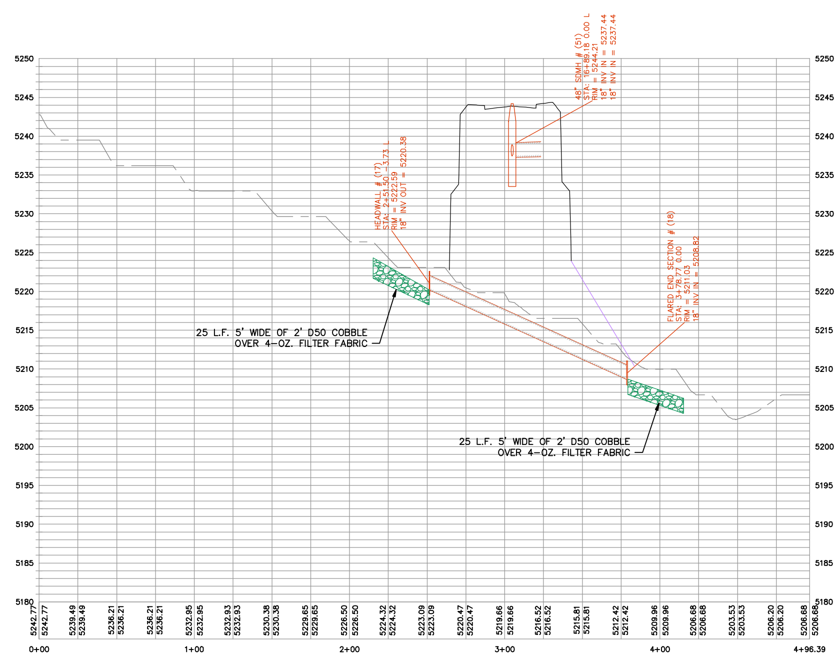
SUMMIT POINTE SUBDIVISION
ALPINE CITY, UTAH
PLAT APPLICATION

PUBLIC UTILITY EASEMENT P&P

SHEET
PP03

P:\se1811 Satterfield\Dwg\alpine-base_38.dwg Nov 16, 2018 - 9:12am





DATE: 11/16/2018
SCALE: AS SHOWN
DRAWN BY: SJ
CHECKED BY: PSF
PROJECT NO.: se1811
REV.:
DESCRIPTION:

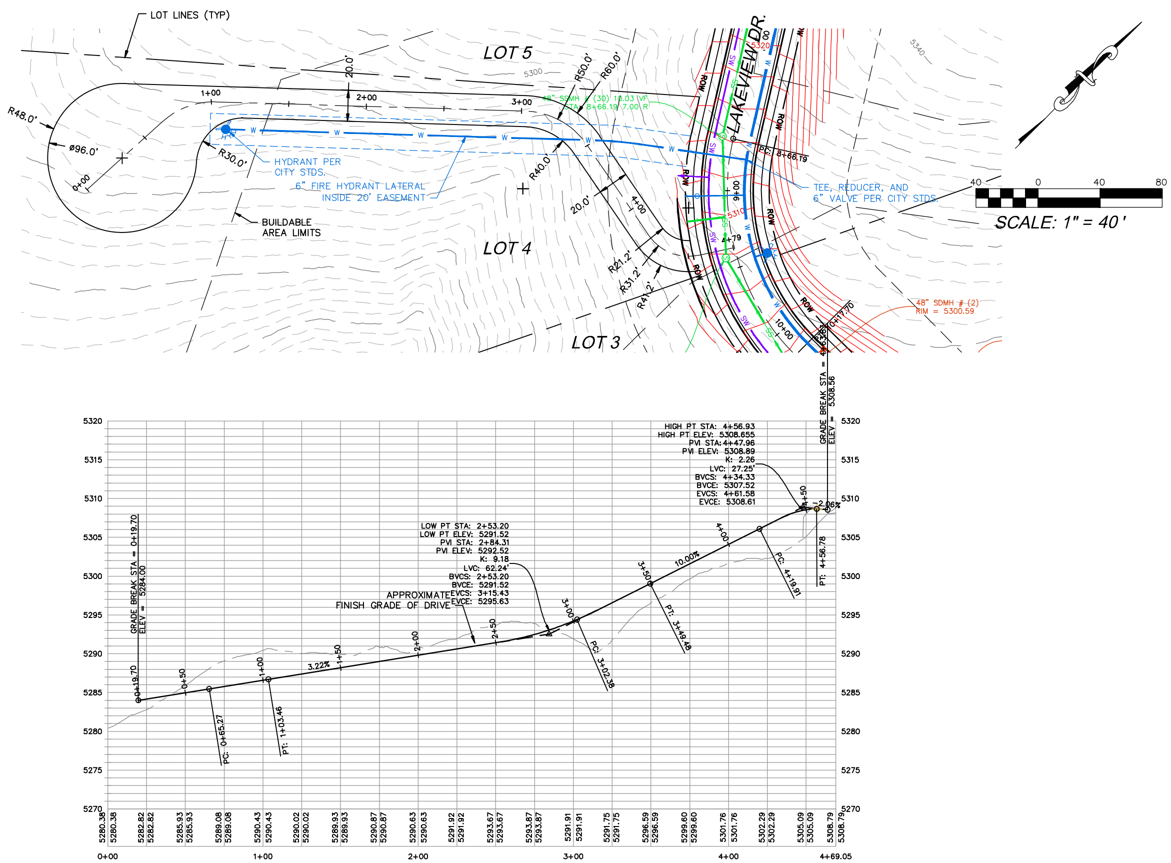
DEVELOPED BY:
BLUE BISON DEVELOPMENT
JACOB SATTERFIELD TEL 801-755-8452

ENGINEERED BY:
S.E. SCIENCE, LLC
P.O. BOX 2412
SALT LAKE CITY, UT 84110 TEL 801-433-2498

SUMMIT POINTE SUBDIVISION
ALPINE CITY, UTAH
PLAT APPLICATION
NATURAL DRAINAGE P&P

SHEET
PP04

P:\se1811 Satterfield\Dwg\alpine-base 38.dwg Nov 16, 2018 - 9:12am



DATE: 11/16/2018
SCALE: AS SHOWN
DRAWN BY: SJ
CHECKED BY: PSF
PROJECT NO.: se1811

REV.: | DESCRIPTION:

DEVELOPED BY:
BLUE BISON DEVELOPMENT
JACOB SATTERFIELD TEL 801-755-8452

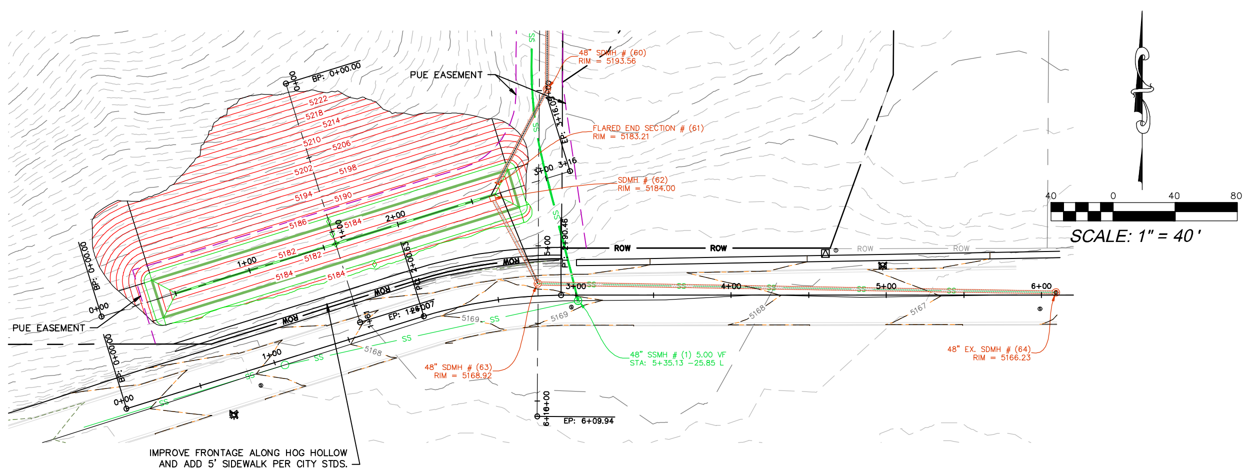
ENGINEERED BY:
S.E. SCIENCE, LLC
P.O. BOX 2412
SALT LAKE CITY, UT 84110 TEL 801-433-2498

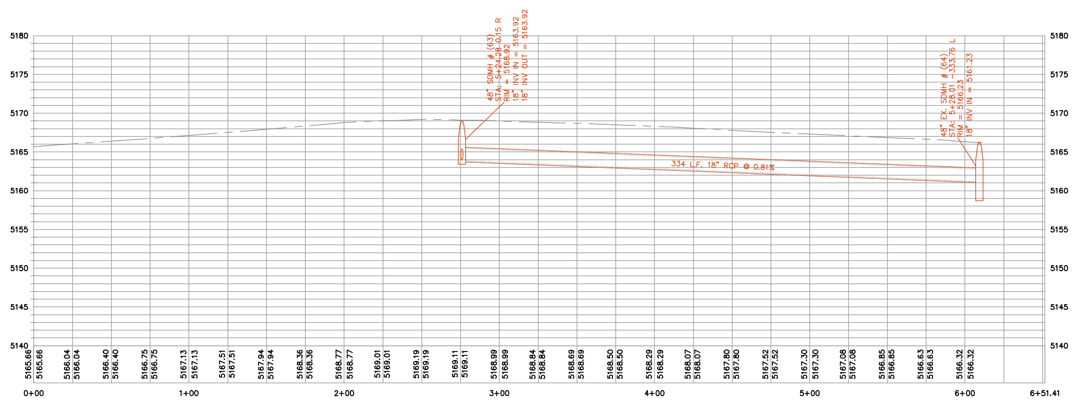
SUMMIT POINTE SUBDIVISION
ALPINE CITY, UTAH
PLAT APPLICATION

LOT 4 DRIVEWAY P&P

SHEET
PP05

P:\se1811 Satterfield\Dwg\alpine-base 38.dwg Nov 16, 2018 - 9:12am





HOG HOLLOW
H: 1"=40'
V: 1"=8'
STA: 0+00 TO STA: 6+51

DATE:	11/16/2018
SCALE:	AS SHOWN
DRAWN BY:	SJ
CHECKED BY:	PSF
PROJECT NO.:	se1811
REV.:	DESCRIPTION:

DEVELOPED BY:
BLUE BISON DEVELOPMENT
JACOB SATTERFIELD TEL 801-755-0452

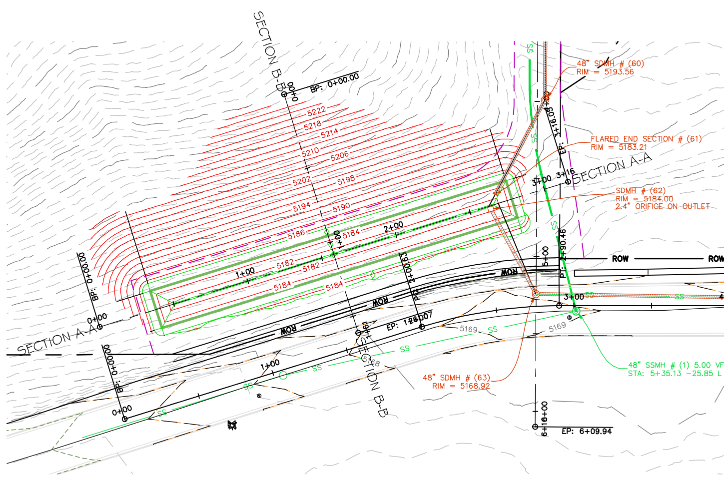
ENGINEERED BY:
S.E. SCIENCE, LLC
P.O. BOX 2412
SALT LAKE CITY, UT 84110 TEL 801-433-2498

SUMMIT POINTE SUBDIVISION
ALPINE CITY, UTAH
PLAT APPLICATION

HOG HOLLOW PLAN & PROFILE

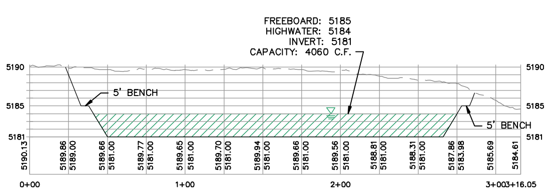
SHEET
PP06

P:\se1811 Satterfield\Dwg\alpine-base_38.dwg Nov 16, 2018 - 9:12am

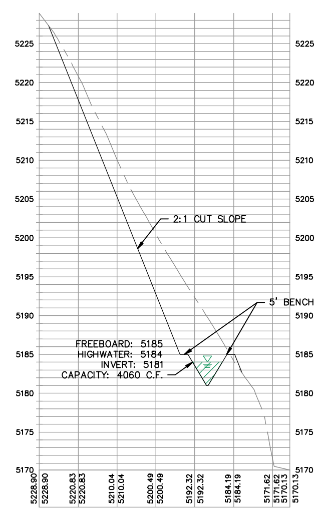


40 0 40 80

SCALE: 1" = 40'



SECTION A-A
H: 1"=40'
V: 1"=8'



SECTION B-B
H: 1"=40'
V: 1"=8'

Rational Method of Storm Detention Retention Calculation by Rainfall Precipitation

Project: Summit Pointe Subdivision
Date: 11/16/18
By: PSF

DRAINAGE AREA				
Developed Conditions				
	Area ft2	C	Land Use %	
Roadway	4,660	0.90	8.0%	
Lots	53,400	0.40	92.0%	(within 120' of right of way)
Total site	58,060			

Total (ac.):	1.33
C average:	0.44
Storm Data:	NOAA
Frequency:	10
City Rel. (cfs/acre)	0.07
Rel. Rate (cfs):	0.09

DETENTION CALCULATIONS

Time	Precipitation	Intensity	Acc.Vol	Rel.Vol.	Req. Stor.	Peak Flow
min	in	in/hr	ft3	ft3	ft3	cfs
5	0.30	3.60	634	28	606	2.1
10	0.45	2.70	950	56	894	1.6
15	0.56	2.24	1183	84	1099	1.3
30	0.76	1.52	1605	168	1437	0.9
60	0.94	0.94	1985	336	1649	0.6
120	1.09	0.55	2302	672	1630	0.3
180	1.21	0.40	2555	1008	1548	0.2
360	1.55	0.26	3273	2015	1258	0.2
720	2.02	0.17	4266	4031	235	0.1
1440	2.37	0.10	5005	8061	-3056	0.1

Basin Size	
Max. Stor. Req. (cf):	1,649

Peak Flow	
Flow (cfs):	0.09

Basin Size	
% of Total Site Area:	100.0%
Resulting Storage Req. (cf):	1,649
Surface Stor. Provided (cf):	4,060
Excess Storage (cf):	2,411

Orifice Size	
% of Total Site Release	100.0%
Resulting Flow through orifice (cfs):	0.09
Head from middle of basin to middle of orifice (h):	1
Orifice Coefficient Cd (0.62 for square corners):	0.62
Calc. Area of Orifice (in^2):	2.7
Calc. Dia. Of orifice (in):	1.9

DATE: 12/07/2018
SCALE: AS SHOWN
DRAWN BY: SJ
CHECKED BY: PSF
PROJECT NO.: se1811
REV.: DESCRIPTION:

DEVELOPED BY:
BLUE BISON DEVELOPMENT
JACOB SATTERFIELD TEL 801-755-0452
ENGINEERED BY:
S.E. SCIENCE, LLC
P.O. BOX 2412
SALT LAKE CITY, UT 84110 TEL 801-433-2498

SUMMIT POINTE SUBDIVISION
ALPINE CITY, UTAH
PLAT APPLICATION

DETENTION BASIN SECTIONS

SHEET
G300

P:\se1811 Satterfield\Dwg\alpine-base 38.dwg Dec 07, 2018 - 12:42pm

14425 South Center Point Way Bluffdale, Utah 84065
Phone (801) 501-0583 | Fax (801) 501-0584

Geologic Hazards Screening Assessment
Summit Pointe Subdivision
Alpine, Utah

GeoStrata Job No. 1312-005

October 17, 2018

Prepared for:

Six Blue Bison, LLC
c/o Jacob Satterfield
12543 Andreas Street
Riverton, Utah 84096
801-755-0452
jake@bluebisondev.com

Learn More

14425 S. Center Point Way, Utah 84065
T: (801) 501-0583 ~ F: (801) 501-0584

Prepared for:

Six Blue Bison, LLC
c/o Jacob Satterfield
12543 Andreas Street
Riverton, Utah 84096
801-755-0452
jake@bluebisondev.com

Geologic Hazards Screening Assessment
Summit Pointe Subdivision
Alpine, Utah
Parcel # 23-029-0047

GeoStrata Job No. 1312-005

Prepared by:

LICENSED PROFESSIONAL GEOLOGIST
5242839
TIMOTHY J. THOMPSON
10/17/2018
STATE OF UTAH

Sofia Agopian
Staff Geologist

Timothy J. Thompson, P.G.
Senior Geologist

GeoStrata
14425 South Center Point Way
Bluffdale, UT 84065
(801) 501-0583

October 17, 2018

TABLE OF CONTENTS

APPENDICES

1.0 EXECUTIVE SUMMARY

The purpose of this investigation and report is to assess the approximately 30.34 acres parcel located on a native hillside north of Hog Hollow Road in Alpine, Utah for the presence of geologic hazards that may impact the planned development of the site. The geologic hazards considered for this site are presented in Table 2 of this report. The work performed for this report was performed in accordance with our proposal, dated August 29, 2018.

The subject site is located north of Hog Hollow Road on a native hillside in Alpine, Utah at an elevation ranging from approximately 5,228 to 5,370 feet above sea level. We understand that the project site is an approximately 30.34 acres undeveloped parcel with hiking trails and unpaved access roads. It is our understanding that the proposed development, as currently planned, will consist of 8 single-family residential structures as well as associated driveways, utilities and landscape areas.

The earthquake ground shaking hazard that would potentially impact the subject site was assessed as part of our study. Given our office investigations, it is the opinion of GeoStrata that the earthquake ground shaking hazard within the subject site should not preclude development at the subject site. The seismic data provide above should be used by the project geotechnical and structural engineers for proper site and structural design.

The surface fault rupture hazard that would potentially impact the subject site was assessed as part of our study. No active faults are located near the subject site. Given our field and office investigations, the surface fault rupture hazard within the subject site is considered low and it is considered unlikely that surface fault rupture will impact the proposed development. It is the opinion of GeoStrata that surface fault rupture hazard should not preclude development at the subject lot.

The tectonic deformation hazard that would potentially impact the site was assessed as part of our study. No active faults are reported or mapped within or adjacent to the subject site. It is the opinion of GeoStrata that the tectonic deformation hazard within the subject site is considered low and it is considered unlikely that tectonic deformation will impact the proposed development. It is the opinion of GeoStrata that the tectonic deformation hazard should not preclude development at the subject site.

The liquefaction hazard that would potentially impact the site was assessed as part of our study. The site is located in an area currently designated as having a "Very Low" liquefaction potential. The near-surface soils are not considered to be susceptible to liquefaction. It is the opinion of GeoStrata that liquefaction hazard should not preclude development at the subject site.

The rockfall hazards within the subject site were assessed as part of our study. No rockfall or talus deposits are located within or immediately adjacent to the subject lot. Our field investigation revealed no indications that the subject lot has been subjected to previous rockfall. Therefore, the rockfall hazard within the subject site is considered low and it is considered unlikely that rockfall will impact the proposed development. It is the opinion of GeoStrata that rockfall hazard should not preclude development at the subject site.

The landslide, slump and creep hazards that would potentially impact the site were assessed as part of this study. No landslide deposits are mapped within or adjacent to the subject site. During our field investigation, no landslide features such as hummocky topography, slumps or scarps were identified within or adjacent to the subject site. If planned mass grading for the development includes cut and fill sections of five feet or greater in height or if cut and fill slopes steeper than 3 horizontal: 1 vertical are planned as part of the development of the subject site, then we recommend that a site-specific slope stability assessment be conducted as part of a geotechnical investigation of the subject site to assess slope stability hazards within the site. GeoStrata is concurrently completing a geotechnical study for the proposed development which includes a site-specific slope stability assessment. It is the opinion of GeoStrata that the landslide, slump and creep hazard should not preclude development at the subject site as long as the recommendations stated above and presented in the geotechnical investigation being conducted for the site are followed.

Slope stability of the subject site was not assessed as part of this geological hazard assessment. The subject site was observed to be gently sloping to the south toward Alpine City and moderately sloping toward local drainages. The possibility that development of the site could negatively affect slope stability within the subject site is increased if development is planned for areas of the site with slopes steeper than approximately 3horizontal: 1 vertical. It should be noted that grading or development adjacent to the subject site could potentially impact the stability of the area within the subject site and assessment of that hazard is out of the scope of this assessment.

The snow avalanche hazard that would potentially impact the site was assessed as part of this study. No evidence of prior snow avalanche was observed within the subject site. It is the opinion of GeoStrata that the snow avalanche hazard within the subject site is considered low and it is considered unlikely that this hazard will impact the proposed development. It is the opinion of GeoStrata that snow avalanche hazard should not preclude development at the subject site.

The alluvial-fan flooding hazard that would potentially impact the site was assessed as part of this study. Holocene age alluvial fan deposits are mapped immediately south of the subject site. During our field investigation, we observed two minor drainages that trend through the central portion of the subject site. We observed these two drainages to be relatively small. It is our opinion that these two minor drainages have a low to moderate debris flow potential and the debris flow potential in these two minor drainages could be mitigated through proper site grading and drainage plans developed by a professional engineer as part of the development of the subject site.

As previously stated, a road cut was graded from Lakeview Drive west into the subject site and crosses the more developed drainage that trends north-south along the eastern property boundary. No culvert was observed beneath the fill where the road crosses the drainage. Based on our understanding of the project, a detention basin will be located within the upstream side of the roadway that will cross the eastern drainage and a culvert pipe will be installed beneath the roadway embankment fill to allow water drainage to be released downstream of the roadway. Given the size of the eastern drainage basin and the young alluvial fan deposit mapped at the base of this drainage, GeoStrata recommends that the potential debris flow volume associated with this drainage basin be evaluated and that the potential debris flow volume associated with this drainage be included in the design volume of the proposed detention basin and sizing and design of the proposed culvert.

It is the opinion of GeoStrata that the alluvial fan flooding hazard within subject site is considered low to moderate. It is considered unlikely that debris flows will impact the proposed development as long as potential stormwater flow volume of the two minor drainages within the subject site be included and mitigated in the grading and drainage plans engineered for the site by the project civil engineer and the potential debris flow volume associated with the larger eastern drainage be included in the design volume of the proposed detention basin and sizing and design of the proposed culvert. It is the opinion of GeoStrata that alluvial fan flooding hazard should not preclude development at the subject lot as long as the recommendations presented above are followed.

Shallow groundwater assessment is out of the scope of this study. Seasonal fluctuations in precipitation, rapid snowmelt, surface runoff from adjacent properties, or other on or offsite sources may increase moisture conditions; groundwater conditions can be expected to rise several feet seasonally depending on the time of year. Shallow groundwater is to be addressed in the GeoStrata geotechnical investigation report for the subject site which is being completed concurrently with this report.

The stream flooding hazard that would potentially impact the site was assessed as part of this study. Pine Creek is located approximately 95 feet south of the subject site. Given our field and office investigations, the stream flooding hazard within the subject lot is considered low across most of the subject site, however stream flooding hazard within the three drainages observed in the central and eastern portions of the subject site and previously discussed in this report is considered moderate to high. Stream flooding could impact the proposed development within the three noted drainages. It is the opinion of GeoStrata that stream flooding hazard should not preclude development at the subject site as long as proper site grading, drainage, and erosion control plans are engineered and designed for the subject site as a part of the civil engineering design for the site to mitigate the potential for stream flooding to impact and damage planned structures or other planned associated infrastructure.

The canal flooding hazard that would potentially impact the site was assessed as part of this study. No canals were observed or are mapped within or adjacent to the subject site. Given our field and office investigations, the canal flooding hazard within the subject lot is considered low and it is considered unlikely that canal flooding will impact the proposed development. It is the opinion of GeoStrata that canal flooding hazard should not preclude development at the subject lot.

The dam failure hazard that would potentially impact the site was assessed as part of this study. No dams or reservoirs are located up-gradient of the subject site. Given our field and office investigations, the dam failure hazard within the subject lot is considered low and it is considered unlikely that dam failure will impact the proposed development. It is the opinion of GeoStrata that dam failure hazard should not preclude development at the subject lot.

The problem soils hazard is out of the scope of this study. Based on our review of published geologic maps and our field observations, the subject site is underlain by gravel and cobbles in a matrix of silt and sand. No laboratory testing was performed on these soils as part of this study and therefore this hazard was not assessed as part of this study. A geotechnical study is being completed by GeoStrata for the subject site concurrently with this report to assess soil properties for use in the design of footing, foundation elements and grading.

The radon gas hazard is out of the scope of this study. No published data that covers the area of the subject sites currently exists. Indoor testing following construction is recommended for determining radon gas levels and mitigation methods needed.

The karst and sink holes hazards is out of the scope of this study. The karst and sink holes hazards within the subject site are considered low and it is unlikely that karst and sink holes hazards will impact the proposed development.

NOTICE: The scope of services provided within this report are limited to the assessment of the subsurface conditions for the proposed development. This executive summary is not intended to replace the report of which it is part and should not be used separately from the report. The executive summary is provided solely for purposes of overview. The executive summary omits a number of details, any one of which could be crucial to the proper application of this report.

2.0 INTRODUCTION

2.1 PURPOSE AND SCOPE OF WORK

The purpose of this investigation and report is to assess the approximately 30.34 acres parcel located on a native hillside north of Hog Hollow Road in Alpine, Utah for the presence of geologic hazards that may impact the planned development of the site. The geologic hazards considered for this site are presented in Table 2 of this report. The work performed for this report was performed in accordance with our proposal, dated August 29, 2018. Our scope of services included the following:

- Review of available references and maps of the area.
- Aerial photographs covering the site area.
- Review of 2013-2014 0.5-meter LiDAR
- Geologic reconnaissance and field mapping of the site by an engineering geologist to observe and document pertinent surface features indicative of geologic hazards.
- Evaluation of our observations combined with existing information and preparation of this written report with conclusions and recommendations regarding geologic hazards observed to affect the site.

The recommendations contained in this report are subject to the limitations presented in the Limitations section of this report.

2.2 PROJECT DESCRIPTION

The subject site is located north of Hog Hollow Road on a native hillside in Alpine, Utah at an elevation ranging from approximately 5,228 to 5,370 feet above sea level. We understand that the project site is an approximately 30.34 acres undeveloped parcel with hiking trails and unpaved access roads. It is our understanding that the proposed development, as currently planned, will consist of 8 single-family residential structures as well as associated driveways, utilities and landscape areas. The hillside in the area of the subject site is moderately to steeply sloping generally to the south. The subject site remains in a relatively native condition. The parcels to the east and south are established residential neighborhoods. The parcels to the west and north are undeveloped hillsides. The location and approximate boundaries of the subject site are shown on the Site Vicinity Map and the Topographic Map included in the Appendix of this report (Plate 1; Plate 2).

3.0 METHODS OF STUDY

3.1 OFFICE INVESTIGATION

To prepare for the investigation, GeoStrata reviewed pertinent literature and maps listed in the references section of this report, which provided background information on the local geologic history of the area and the locations of suspected or known geologic hazards (Elliot and Harty, 2010; Black and others, 2016; Biek, 2005; Constenius and others, 2011; Machette, 1992). A stereographic aerial photograph interpretation was performed for the subject site using two sets of stereo aerial photographs (Table 1) obtained from the Utah Geological Survey Aerial Imagery Collection database.

Source	Photo Number	Date	Scale
USBR	SLA_1-6_A	August 10, 1938	1:20,000
USBR	SLA_1-7_A	August 10, 1938	1:20,000

Table 1: Aerial Stereosets.

GeoStrata also conducted a review of hillshades derived from 2013-2014 0.5-meter LiDAR digital elevation data obtained from the State of Utah AGRC to assess the subject site for visible alluvial fan deposits, landslide geomorphology, lineations related to stream flooding hazards, surface fault rupture related geomorphology and all other geomorphology related to geologic hazards (Plate 3 Hillshade Map).

3.2 FIELD INVESTIGATION

An engineering geologist investigated the geologic conditions within the general site area. A field geologic reconnaissance was conducted to observe existing geologic conditions and to assess existing geomorphology for surficial evidence of geologic hazards. During our fieldwork we conducted site observations to assess geologic hazards that might impact the subject site. We used our field observations to confirm the observations made during our office research and to observe any evidence of geologic hazards that were not evident in our office research, but which could be observed in the field.

4.0 GEOLOGIC CONDITIONS

4.1 GEOLOGIC SETTING

The site is located in Utah Valley on a south facing slope between Hog Hollow and Fort Canyon in Alpine, Utah. The subject site is located within the foothills of the Traverse Mountains, a structural salient denoting the boundary between Salt Lake Valley and Utah Valley and the southern terminus of the Salt Lake City Segment and the northern terminus of the Provo Segment of the Wasatch Fault Zone. Tertiary volcanic rocks and Tertiary alluvial fan deposits dominate the East Traverse Mountains and late Paleozoic shallow marine bedrock constitute the west Traverse Mountains. The Utah Valley is a northwest trending deep, lacustrine sediment-filled structural basin of Cenozoic age bounded on the northeast and southwest by two normal faults that dip towards the center of the valley. Utah Valley is a fault graben flanked by two uplifted blocks, the Wasatch Range to the east and the Lake Mountains to the west. The Wasatch Range is the easternmost expression of pronounced Basin and Range extension in north-central Utah (Stokes, 1986).

The near-surface geology of the Utah Valley is dominated by sediments, which were deposited within the last 30,000 years by Lake Bonneville (Scott and others, 1983; Hintze, 1993; Machette, 1992; Constenius and others, 2011). The lacustrine sediments near the mountain front consist mostly of gravel and sand. As the lake receded, streams began to incise large deltas formed at the mouths of major canyons along the Wasatch Range, and the eroded material was deposited in shallow lakes and marshes in the basin and in a series of recessional deltas and alluvial fans. Sediments toward the center of the valley are predominately deep-water deposits of clay, silt, and fine sand. However, these deep-water deposits are in places covered by a thin post-Bonneville alluvial cover. Most surficial deposits along the Wasatch fault zone were deposited during the final cycle of the Bonneville Lake Cycle between approximately 32 to 10 ka (thousands of years ago) and in the Holocene (< 10 ka).

4.2 SITE GEOLOGY

The geology within the subject site and in the surrounding area is shown on Plate 4a Site Vicinity Geologic Map and Plate 5 Site Vicinity 30x60 Geologic Map. On Plate 4a, the geology within the subject site is mapped as Tertiary alluvial fan (Taf) with three Quaternary alluvial fan deposits (Qaf_1) mapped at the base of the slope and overlying Lake Bonneville lacustrine gravel and sand (Qlbg). The Tertiary alluvial fan deposits are described as unconsolidated pebble to boulder sized subangular to subrounded orthoquartzite and calcareous sandstone clasts with minor volcanic clasts. The Quaternary alluvial fan deposits are modern alluvial fans that are primarily debris flows that formed at the mouths of active drainages. Lastly, the lacustrine gravel and sand deposits are described as locally partially cemented, well-rounded, pebble to cobble gravel and pebbly sand that was deposited at and below the highest Bonneville shoreline, but above the Provo shoreline.

5.0 GENERALIZED SITE CONDITIONS

5.1 SURFACE CONDITIONS

As stated previously, the project site is located along a south facing slope between Hog Hollow and Fort Canyon in Alpine, Utah. The subject site is located on a gently to moderately sloping native hillside vegetated with grasses, sagebrush and scrub oak mainly growing in the drainages. The hillside slopes between approximately 5 degrees to the south toward Alpine and locally 14 degrees along the drainages. At the time of our site visit, a roadcut for an unpaved road was graded from Lakeview Road west into the subject site. Exposure along the eastern portion of the roadcut consisted of a clast supported deposit containing poorly sorted well-rounded quartzite, sandstone and Alta Stock granodiorite gravel and cobbles. This exposure was observed to contain moderate bedding in places. Exposure along the western portion of the roadcut consisted of a red-brown matrix supported deposit containing subangular to rounded quartzite clasts. The site remains in a relatively natural state, apart from minor grading for access roads and hiking trails. The site is vegetated with grasses, weeds, sage brush and scrub oak predominantly in the drainages. The parcels east and south of the subject site are established single-family residences. The parcels west and north of the subject site are undeveloped native hillsides.

6.0 GEOLOGIC HAZARDS

Geologic hazards can be defined as naturally occurring geologic conditions or processes that could present a danger to human life and property. These hazards must be considered before development of the site. There are several hazards that if present at the site should be considered in the design of habitable structures and other critical infrastructure. The hazards considered for this site are presented on Table 2 and discussed in the following sections of this report.

Hazard	Hazard Rating*					Further Study Recommended
	Not Applicable	Not Assessed	Low	Moderate	High	
Ground Shaking			X			
Surface Fault Rupture			X			
Tectonic Deformation			X			
Liquefaction			X			
Rock Fall and Topple			X			
Landslide			X			
Slump			X			
Creep			X			
Avalanche			X			
Debris Flow			X	X		G
Hyperconcentrated Flow			X			
Stream Flow			X			
Shallow Groundwater		X				E
Stream Flooding			X			
Canal Flooding	X					
Dam Failure	X					
Problem Soils		X				E
Radon		X				
Karst and Sink Hole		X				

Table 2: Summary of Geologic Hazards.

Table 2 shows the summary of the geologic hazards assessed and not assessed at the study area. The hazard rating as shown on Table 2 is intended to assess the probability that the hazard could have an impact on the site and not the severity of the hazard. A hazard rating of "Not Assessed" are hazards this report does not consider and no inference is made as to the presence or absence of the hazard at the site. A hazard rating of "Low" indicates that no evidence was found to indicate that the hazard is present and has a low probability of impacting the site, hazard not known or suspect to be present. A hazard rating of "Moderate" indicates that the hazard has a moderate probability of impacting the site, but the evidence is equivocal, based only on theoretical studies, or was not observed and further study is necessary as noted. A hazard rating of "High" indicates that that evidence is strong and suggests that there is a high probability of impacting the site and mitigation measures should be taken. If a hazard is assessed to potentially impact the site then further studies may be recommended. The following are the recommended studies and the letter designation associated with those studies: "E" – geotechnical/engineering, "H" – hydrologic, "A" – avalanche, "G" – additional detailed geologic hazard study out of the scope of this study.

6.1 EARTHQUAKE GROUND SHAKING HAZARD

During the event of an earthquake, seismic waves radiate outward from the initial point of rupture and dissipate with distance. The ground shakes as the seismic waves displace the ground both vertically and horizontally. Ground shaking can cause significant damage to and potentially collapse structures and can also trigger landslides, avalanches and liquefaction. The type of soil a seismic wave travels through can amplify or dampen the effects of ground shaking.

Seismic hazard maps depicting probabilistic ground motions and spectral response have been developed for the United States by the U.S. Geological Survey as part of NEHRP/NSHMP (Frankel et al, 1996). These maps have been incorporated into both *NEHRP Recommended Provisions for Seismic Regulations for New Buildings and Other Structures* (FEMA, 1997) and the *International Building Code* (IBC) (International Code Council, 2015). Spectral responses for the Maximum Considered Earthquake (MCE_R) are shown in the table below. These values generally correspond to a two percent probability of exceedance in 50 years (2PE50) for a "firm rock" site. To account for site effects, site coefficients which vary with the magnitude of spectral acceleration are used. Based on our field and office investigations, it is our opinion that this location is best described as a Site Class C which represents a "Very Dense Soil and Soft Rock" profile. The spectral accelerations are shown in the table below. The spectral accelerations are calculated based on the site's approximate latitude and longitude of 40.462294° and

-111.792817° respectively and the United States Geological Survey U.S. Seismic Design Maps web-based application. Based on the IBC, the site coefficients are F_a=1.00 and F_v= 1.34. From this procedure the peak ground acceleration (PGA) is estimated to be 0.50g.

Site Location: **Latitude = 40.462294 N** **Longitude = -111.792817 W**	**Site Class C Site Coefficients:** **F_a = 1.10** **F_v = 1.34**
Spectral Period (sec)	**Response Spectrum Spectral Acceleration (g)**
0.2	S_{MS}=(F_a*S_s=1.10*0.1.263) = 1.26
1.0	S_{M1}=(F_v*S_1=1.34*0.464) = 0.62
[a] IBC 1613.3.4 recommends scaling the MCE_R values by 2/3 to obtain the design spectral response acceleration values; values reported in the table above have not been reduced.	

Table 3: MCE_R Seismic Response Spectrum Spectral Acceleration Values for IBC Site Class C[a].

Based on the above information, it is the opinion of GeoStrata that the earthquake ground shaking hazard within the subject site should not preclude development at the subject site. The seismic data provide above should be used by the project geotechnical and structural engineers for proper site and structural design.

6.2 SURFACE FAULT RUPTURE HAZARD

Movement along faults within the crustal rocks beneath the ground surface generates earthquakes. During large magnitude earthquakes (Richter magnitude 6.5 or greater) along the normal faults in the intermountain region, fault ruptures can propagate to the ground surface resulting in a surface fault rupture (Smith and Arabasz, 1991). The fault scarp formed during a surface fault rupture event along a normal fault is generally nearly vertical. A surface rupture fault may be comprised of a larger single surface rupture or several smaller surface ruptures across a fault zone. For all structures designed for human occupancy, a surface rupturing fault is considered active if it has experienced movement in approximately the past 10,000 years (Christenson and others, 2003).

Based on review of published geologic maps, our stereographic aerial photograph interpretation, our review of the hillshades derived from 2013-2014 0.5-meter LiDAR and our field observations, no active faults are located near the subject site (Plate 6 UGS Quaternary Fault

Map). The nearest fault is the Provo Section of the Wasatch Fault Zone which is less than 15,000 years old. The Provo section has a reported reoccurrence interval between 1,200 years (minimum) and 3,200 years (maximum) and a slip rate of 1.5 and 5.0 mm/yr (Black and others, 2003). This fault is located approximately 1.6 miles northeast of the subject site. Given our field and office investigations, the surface fault rupture hazard within the subject site is considered low and it is considered unlikely that surface fault rupture will impact the proposed development. It is the opinion of GeoStrata that surface fault rupture hazard should not preclude development at the subject lot.

6.3 TECTONIC DEFORMATION

Subsidence is a hazard associated with warping, lowering and tilting of a valley floor accompanying surface ruptures on normal faults (Robinson, 1993). Inundation along the shores of lakes and reservoirs and the rise of groundwater levels are the main hazards associated with subsidence. Structures that require gentle gradients or horizontal floors such as waste water treatment plants and sewer lines may be adversely affected by tectonic subsidence. Because subsidence may occur over very large areas, it is not generally practical to avoid the use of potentially affected land except in narrow areas of hazard due to lakeshore inundation (Keaton, 1987; Robison, 1993). According to Gary Christenson (UGS, personal communication 2001), tectonic subsidence is not typically assessed for subdivision development unless the development is located within an area of potential lake flooding.

Based on published geological maps, no active faults are reported or mapped within or adjacent to the subject site. It is the opinion of GeoStrata that the tectonic deformation hazard within the subject site is considered low and it is considered unlikely that tectonic deformation will impact the proposed development. It is the opinion of GeoStrata that the tectonic deformation hazard should not preclude development at the subject site.

6.4 LIQUEFACTION

Certain areas within the intermountain region possess a potential for liquefaction during seismic events. Liquefaction is a phenomenon whereby loose, saturated, granular soil deposits lose a significant portion of their shear strength due to excess pore water pressure buildup resulting from dynamic loading, such as that caused by an earthquake. Among other effects, liquefaction can result in densification of such deposits causing settlements of overlying layers after an earthquake as excess pore water pressures are dissipated. The primary factors affecting liquefaction potential of a soil deposit are: (1) level and duration of seismic ground motions; (2) soil type and consistency; and (3) depth to groundwater.

Based on our review of the *Liquefaction Special Study Areas, Wasatch Front and Nearby Areas, Utah* compiled by Christenson and others, 2008, the site is located in an area currently designated as having a "Very Low" liquefaction potential. "Very Low" liquefaction potential indicates that there is less than a 5 percent probability of having an earthquake within a 100-year period that will be strong enough to cause liquefaction. The surface soils we observed during our field investigation are not considered to be susceptible to liquefaction. A liquefaction analysis was beyond the scope of this geologic hazards assessment; however, if the owner wishes to have greater understanding of the liquefaction potential of the soils at greater depths, a liquefaction analysis should be completed at the site. It is the opinion of GeoStrata that liquefaction hazard should not preclude development at the subject site.

6.5 ROCKFALL AND TOPPLE

Rockfalls are the fastest moving mass movement that predominantly occurs in mountains where a rock source exists along steep slopes and cliffs greater than 35 degrees. Rockfalls are a result of a loss of support from beneath the rock mass that can be caused by freeze/thaw action, rainfall, weathering and erosion, and/or strong ground shaking resulting from seismic activity. Rockfalls result in the collection of rock fall material, referred to as talus, at the base of the slope. The presence of talus indicates that a rockfall hazard has occurred and may still be present at the site.

Based on review of published geologic maps, our stereographic aerial photograph interpretation and our field observations, no rockfall or talus deposits are located within or immediately adjacent to the subject lot. Furthermore, no rockfall sources such as talus deposits or bedrock outcroppings were observed upslope from the subject site. Our field investigation revealed no indications that the subject lot has been subjected to previous rockfall. Therefore, the rockfall hazard within the subject site is considered low and it is considered unlikely that rockfall will impact the proposed development. It is the opinion of GeoStrata that rock fall hazard should not preclude development at the subject site.

6.6 LANDSLIDE, SLUMP, CREEP

There are several types of landslides that should be considered when evaluating geologic hazards at a site with moderately to steeply sloping terrain. These include shallow debris slides, deepseated earth or rock slumps and earth flows. Landslides, slumps, creep and other mass movements can develop on moderate to steep slopes where the slope has been altered or disturbed. Movement can occur at the top of a slope that has been loaded by fill placement, at the base of a slope that has been undercut, or where local groundwater rises resulting in increased pore pressures within the slope. Slopes that exhibit prior failures and large landslide deposits are particularly susceptible to instability and reactivation.

Based on review of published geologic maps, our stereographic aerial photograph interpretation and hillshades derived from 2013-2014 0.5-meter LiDAR, no landslide deposits are mapped within or adjacent to the subject site (Plate 4a Site Vicinity Geologic Map; Plate 5 Site Vicinity 30x60 Geologic Map). During our field investigation, no landslide features such as hummocky topography, slumps or scarps were identified within or adjacent to the subject site. If planned mass grading for the development includes cut and fill sections of five feet or greater in height or if cut and fill slopes steeper than 3 horizontal: 1 vertical are planned as part of the development of the subject site, then we recommend that a site-specific slope stability assessment be conducted as part of a geotechnical investigation of the subject site to assess slope stability hazards within the site. GeoStrata is concurrently completing a geotechnical study for the proposed development which includes a site-specific slope stability assessment. It is the opinion of GeoStrata that the landslide, slump and creep hazard should not preclude development at the subject site as long as the recommendations stated above and presented in the geotechnical investigation being conducted for the site are followed.

Slope stability of the subject site was not assessed as part of this geological hazard assessment. The subject site was observed to be gently sloping to the south toward Alpine City and moderately sloping toward local drainages (Plate 2 Topographic Map). The possibility that development of the site could negatively affect slope stability within the subject site is increased if development is planned for areas of the site with slopes steeper than approximately 3horizontal: 1 vertical. It should be noted that grading or development adjacent to the subject site could potentially impact the stability of the area within the subject site and assessment of that hazard is out of the scope of this assessment.

6.7 AVALANCHE

An avalanche is a rapid flow of snow down a hill or mountainside. A snow avalanche can be a hazard in high alpine settings with slopes generally between 35 degrees and 45 degrees that accumulate appreciable amounts of snow. There are three types of avalanches: slough, dry slab and wet slab. Sloughs typically occur right after a heavy snowfall event. This type of slide occurs from a single point and accumulates snow as it moves downslope. Dry slabs are the most common type of avalanche and are the result of a fracture that occurs along a weak layer within the snowpack. Dry slabs can travel upwards of 80 mph removing trees and structures in its path. Wet slabs are triggered when percolating water dissolves bonds and decreases the strength of the weak snow layer. This type of slab can travel up to 20 mph. Several factors that influence a snow avalanche include weather, temperature, slope steepness, slope orientation, wind direction and wind loading, terrain, vegetation, and snowpack conditions. Snow avalanche hazard could affect access and snow removal on roads as well as the safety of habitable structures and critical facilities.

Based on review of our field observations, review of avalanche data and review of historical aerial imagery, no evidence of prior snow avalanche was observed within the subject site. It is the opinion of GeoStrata that the avalanche hazard within the subject site is low and it is considered unlikely that a snow avalanche will impact the proposed developed. It is the opinion of GeoStrata that snow avalanche hazards should not preclude development within the subject lot.

6.8 ALLUVIAL FAN FLOODING

Alluvial fan flooding is a potential hazard that may exist in areas containing Holocene alluvial fan deposits. This type of flooding typically occurs as a stream flows, hyperconcentrated flows and debris flows consisting of a mixture of water, soil, organic material, and rock debris with variations in sediment-water concentrations transported by fast-moving water flows. Stream flows contains approximately less than 20% sediment by volume and involves sediment transport by entrained and suspended sediment load (Bowman and Lund, 2016). Unconfined stream flows are referred to as sheetfloods which are spread over and occur in the distal areas of the alluvial fan. Hyperconcentrated flows are alluvial fan flows with 20 to 60% sediment by volume whereas debris flows contain greater than 60% sediment by volume.

Alluvial fan flooding can be a hazard on or below alluvial fans or in stream channels above alluvial fans. Precipitation (rainfall and snowmelt) is generally viewed as an alluvial fan flood "trigger", but this represents only one of the many factors that contribute to alluvial fan flooding hazard. Vegetation, root depth, soil gradation, antecedent moisture conditions and long-term climatic cycles all contribute to the generation of debris and initiation of alluvial fan flooding. Events of relatively short duration, such as a fire, can significantly alter a basin's absorption of storm water and snowmelt runoff and natural resistance to sediment mobilization for an extended period of time. These factors are difficult to quantify or predict and vary not only between different watersheds, but also within each sub-area of a drainage basin. In general, there are two methods by which alluvial fan flooding can be mobilized: 1) when shallow landslides from channel side-slopes are conveyed in existing channels when mixed with water and 2) channel scour where debris is initially mobilized by moving water in a channel and then the mobilized debris continues to assemble and transport downstream sediments.

Based on review of published geologic maps, Holocene age alluvial fan deposits are mapped immediately south of the subject site (Plate 4 Site Vicinity Geologic Map; Plate 5 Site Vicinity 30' X 60' Geologic Map). The alluvial fan deposits are characterized as debris flows located at the mouth of the drainages mapped trending north-south through the subject site (Plate 2 Topographic Map; Plate 8 Hydrology Map). During our field investigation, we observed two minor drainages that trend through the central portion of the subject site. We observed these two drainages to be relatively small. It is our opinion that these two minor drainages have a low to moderate debris flow potential and the debris flow potential in these two minor drainages could be mitigated through proper site grading and drainage plans developed by a professional engineer as part of the development of the subject site.

As previously stated, a road cut was graded from Lakeview Drive west into the subject site and crosses the more developed drainage that trends north-south along the eastern property boundary. No culvert was observed beneath the fill where the road crosses the drainage. Based on our understanding of the project, a detention basin will be located within the upstream side of the roadway that will cross the eastern drainage and a culvert pipe will be installed beneath the roadway embankment fill to allow water drainage to be released downstream of the roadway. Given the size of the eastern drainage basin and the young alluvial fan deposit mapped at the base of this drainage, GeoStrata recommends that the potential debris flow volume associated with this drainage basin be evaluated and that the potential debris flow volume associated with this drainage be included in the design volume of the proposed detention basin and sizing and design of the proposed culvert.

It is the opinion of GeoStrata that the alluvial fan flooding hazard within subject site is considered low to moderate. It is considered unlikely that debris flows will impact the proposed development as long as potential stormwater flow volume of the two minor drainages within the subject site be included and mitigated in the grading and drainage plans engineered for the site by the project civil engineer and the potential debris flow volume associated with the larger eastern drainage be included in the design volume of the proposed detention basin and sizing and design of the proposed culvert. It is the opinion of GeoStrata that alluvial fan flooding hazard should not preclude development at the subject lot as long as the recommendations presented above are followed.

6.9 SHALLOW GROUNDWATER

Shallow groundwater flooding is a hazard that can cause the flooding of excavated areas where the depth of excavation exceeds the depth of the local water table. Shallow groundwater flooding should be considered when designing habitable structures that require excavation that may exceed the depth to the shallow groundwater.

Shallow groundwater assessment is out of the scope of this study. Seasonal fluctuations in precipitation, rapid snowmelt, surface runoff from adjacent properties, or other on or offsite sources may increase moisture conditions; groundwater conditions can be expected to rise several feet seasonally depending on the time of year. Shallow groundwater is to be addressed in the GeoStrata geotechnical investigation report for the subject site which is being completed concurrently with this report.

6.10 STREAM FLOODING

Stream flooding can be caused by precipitation, snowmelt or a combination of both. Throughout most of Utah floods are most common in spring during the snowmelt. High flows in drainages can last for a few hours to several weeks. Factors that affect the potential for flooding at a site include surface water drainage patterns and hydrology, site grading and drainage design, and seasonal runoff.

Based on review of our review of the hillshades derived from 2013-2014 0.5-meter LiDAR and our field observations, Pine Creek is located approximately 95 feet south of the subject site (Plate 8 Hydrology Map). Given our field and office investigations, the stream flooding hazard within the subject lot is considered low across most of the subject site, however stream flooding hazard within the three drainages observed in the central and eastern portions of the subject site and previously discussed in this report is considered moderate to high. Stream flooding could impact the proposed development within the three noted drainages. It is the opinion of GeoStrata that stream flooding hazard should not preclude development at the subject site as long as proper site grading, drainage, and erosion control plans are engineered and designed for the subject site as a part of the civil engineering design for the site to mitigate the potential for stream flooding to impact and damage planned structures or other planned associated infrastructure.

6.11 CANAL FLOODING

High runoff in a short period of time can lead to canal water breaching their banks and flooding the surrounding area. Failure of the canal embankments or a blockage in the canal could also lead to flooding surrounding the canal.

Based on review of published topographic maps, our review of the hillshades derived from 2013-2014 0.5-meter LiDAR and our field observations, no canals were observed or are mapped within or adjacent to the subject site. Given our field and office investigations, the canal flooding hazard within the subject lot is considered low and it is considered unlikely that canal flooding will impact the proposed development. It is the opinion of GeoStrata that canal flooding hazard should not preclude development at the subject lot.

6.12 DAM FAILURE

Dams are structures that store water and diverge and impound water upstream. Most dams have a spillway where water flow from the reservoir is controlled and hydroelectric power is produced. Failure in dams can occur from a collapse or a breach in the structure most commonly due to extended periods of high runoff.

Based on our review of the Lehi topographic quadrangle and our field investigation, no dams or reservoirs are located up-gradient of the subject site (Plate 1 Site Vicinity Map; Plate 2 Topographic Map). Given our field and office investigations, the dam failure hazard within the subject lot is considered low and it is considered unlikely that dam failure will impact the proposed development. It is the opinion of GeoStrata that dam failure hazard should not preclude development at the subject lot.

6.13 PROBLEM SOILS

Problem soils include collapsible soils and expansive soils. Collapsible soils are low density and typically dry soils that decrease in volume when exposed to water. This type of problem soil typically occurs in alluvial fan flooding deposits, dry loess or eolian deposits or unconsolidated colluvium deposits (Owens and Rollins, 1990). Expansive soils are soils that undergo an increase in volume upon wetting and typically include fine grained soils such as clay.

The problem soils hazard is out of the scope of this study. Based on our review of published geologic maps and our field observations, the subject site is underlain by gravel and cobbles in a matrix of silt and sand. No laboratory testing was performed on these soils as part of this study and therefore this hazard was not assessed as part of this study. A geotechnical study is being completed by GeoStrata for the subject site concurrently with this report to assess soil properties for use in the design of footing, foundation elements and grading.

6.14 RADON

Radon is a naturally occurring odorless, tasteless and colorless gas that is released during the breakdown of uranium in well drained permeable soils and uranium rich rocks which include granite, metamorphic rocks, black shales, and some volcanic rocks (Sprinkel and Solomon, 1990). Radon gas moves freely in the air and can also dissolve in water which can potentially migrate through cracks and open spaces in rock, soils, and foundations as well as utility pipes.

The radon gas hazard is out of the scope of this study. No published data that covers the area of the subject sites currently exists. Indoor testing following construction is recommended for determining radon gas levels and mitigation methods needed.

6.15 KARST AND SINK HOLES

A karst is a type of underground drainage terrain that is the result of dissolution of soluble bedrock such as limestone, carbonate rock, salt beds or other types of rocks that are easily dissolved by groundwater circulating through them. The most common type of hazard that forms within a karst terrain is subsidence or collapse of soils, these are referred to as sink holes. Sink holes can be a few feet to hundreds of acres wide and 1 to 100 feet deep and can form slowly or collapse suddenly.

Based on our review of published geologic maps, the karst and sink holes hazards within the subject sites are considered low and it is unlikely that karst and sink holes hazards will impact the proposed development. It is the opinion of GeoStrata that karst and sink hole hazards should not preclude development at the subject sites.

7.0 GEOLOGIC HAZARDS SUMMARY AND CONCLUSIONS

It is the opinion of GeoStrata that the geologic hazards that we assessed in this study that could impact the subject site or that have not been assessed as a part of this study, but which could impact the subject site include: alluvial fan flooding, shallow groundwater, problem soils and radon gas. Below is a summary of each geologic hazard and GeoStrata's recommendation for mitigation:

- Alluvial fan flooding hazard within the subject site was assessed as part of this study. It is the opinion of GeoStrata that the alluvial fan flooding hazard within subject site is considered low to moderate. It is considered unlikely that debris flows will impact the proposed development as long as potential stormwater flow volume of the two minor drainages within the subject site be included and mitigated in the grading and drainage plans engineered for the site by the project civil engineer and the potential debris flow volume associated with the larger eastern drainage be included in the design volume of the proposed detention basin and sizing and design of the proposed culvert.

- Shallow groundwater assessment is out of the scope of this study. Seasonal fluctuations in precipitation, rapid snowmelt, surface runoff from adjacent properties, or other on or offsite sources may increase moisture conditions; groundwater conditions can be expected to rise several feet seasonally depending on the time of year. Shallow groundwater was not assessed as part of this study; however, a separate geotechnical study including subsurface exploration is being completed by GeoStrata concurrently with this report to assess this hazard.

- Stream flooding hazard within the subject site was assessed as part of this study. The stream flooding hazard within the subject lot is considered low across most of the subject site, however stream flooding hazard within the three drainages observed in the central and eastern portions of the subject site and previously discussed in this report is considered moderate to high. Stream flooding could impact the proposed development within the three noted drainages. It is the opinion of GeoStrata that stream flooding hazard should not preclude development at the subject site as long as proper site grading, drainage, and erosion control plans are engineered and designed for the subject site as a part of the civil engineering design for the site to mitigate the potential for stream flooding to impact and damage planned structures or other planned associated infrastructure.

- Problem soils hazard within the subject site was not assessed as part of this study. Based on our review of published geologic maps and our field observations, the subject site is underlain by gravel and cobbles in a matrix of silt and sand. No laboratory testing was performed on these soils as part of this study and therefore this hazard was not assessed as part of this study. A geotechnical study is being completed by GeoStrata for the subject site concurrently with this report in order to assess soil properties for use in the design of footing, foundation elements and grading.

- The radon gas hazard is out of the scope of this study. No published data that covers the area of the subject sites currently exists. Indoor testing following construction is recommended for determining radon gas levels and mitigation methods needed.

It is the opinion of GeoStrata that these hazards should not preclude the development of the subject site, assuming that these recommendations given above will be followed.

8.0 CLOSURE

8.1 LIMITATIONS

The conclusions and recommendations contained in this report, which include professional opinions and judgments, are based on the information available to us at the time of our evaluation, the results of our field observations and our understanding of the proposed site development. If any conditions are encountered at this site that are different from those described in this report, our firm should be immediately notified so that we may make any necessary revisions to recommendations contained in this report. In addition, if the scope of the proposed development changes from that described in this report, our firm should also be notified.

All services were completed in accordance with the current standard of care and generally accepted standard of practice at the time and in the place our services were completed. No other warranty, expressed or implied, is made. Development of property in the immediate vicinity of geologic hazards involves a certain level of inherent risk. It is impossible to predict where geologic hazards will occur. New geologic hazards may develop, and existing geologic hazards may expand beyond their current limits.

All services were performed for the exclusive use and benefit of the above addressee. No other person is entitled to rely on GeoStrata's services or use the information contained in this letter without the express written consent of GeoStrata. We are not responsible for the technical interpretations by others of the information described or documented in this report. The use of information contained in this report for bidding purposes should be done at the Contractor's option and risk.

9.0 REFERENCES CITED

Biek, R.F., 2005, Geologic Map of the Lehi Quadrangle and Part of the Timpanogos Cave Quadrangle, Salt Lake and Utah Counties, Utah: Utah Geological Survey Map 210, scale 1:24,000.

Black, B.D., Hecker, S., Hylland, M.D., Christenson, G.E., and McDonald G.N., 2003, Quaternary Fault and Fold Database and Map of Utah: Utah geological Survey Map 193DM.

Bowman, S.D., Lund, W.R., 2016, Guidelines for Investigating Geologic Hazards and Preparing Engineering-Geology Reports, with a Suggested Approach to Geologic-Hazard Ordinances in Utah: Utah Geological Survey, Circular 122, p. 195.

Christenson, G. E., Batatian, L. D. and Nelson C. V. 2003, Guidelines for Evaluating Surface-Fault-Rupture Hazards in Utah: Utah Geological Survey Miscellaneous Publication 03-6, p 11.

Constenius, K.N., Clark, D.L., King, J.K., and Ehler, J.B., 2011, Interim Geologic Map of the Provo 30' X 60' Quadrangle, Utah, Wasatch, and Salt Lake Counties, Utah: Utah Geologic Survey Map Open-File Report 586DM, scale 1:62,500.

Elliot, A.H., Harty, K.M., 2010, Landslide Maps of Utah, Provo 30' X 60' Quadrangle: Utah Geological Survey Map 246DM.

Hintze, L.F. 1993, Geologic History of Utah, Brigham Young University Studies, Special Publication 7, p 202.

Hintze, L.F., 1980, Geologic Map of Utah: Utah Geological and Mineral Survey Map-A-1, scale 1:500,000.

Machette, M.N., 1992, Surficial geologic map of Wasatch fault zone, eastern part of the Utah Valley, Utah County and parts of Salt Lake and Juab Counties, Utah: U.S. Geological Survey Miscellaneous Investigations Series Map I-2095, scale 1:50,000.

Mullens, T.E., 1971, Reconnaissance Study of the Wasatch, Evanston, and Echo Canyon Formations in Part of Northern Utah: United States Department of Interior, Geological Survey Bulletin 1311-D, p. 38.

Scott, W.E., McCoy, W.D., Shorba, R.R., and Rubin, Meyer, 1983, Reinterpretation of the exposed record of the last two cycles of Lake Bonneville, western United States: Quaternary Research, v.20, p 261-285.

Smith, R.B., and Arabasz, W.J., 1991, Seismicity of the Intermountain Seismic Belt, in Slemmons, D.B., Engdahl, E.R., Zoback, M.D., and Blackwell, D.D., editors, Neotectonics of North America: Geological Society of America, Decade of North American Geology Map v. 1, p. 185-228.

Stokes, W.L., 1986, Geology of Utah: Utah Museum of Natural History and Utah Geological and Mineral Survey Occasional Paper Number 6, p 280.

U.S. Geological Survey and Utah Geological Survey, 2016, Quaternary fault and fold database for the United States, accessed September 2018, from USGS website: http//earthquake.usgs.gov/hazards/qfaults/.

Legend

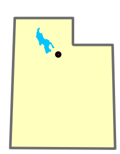
Approximate Site Boundary

0 625 1,250 2,500 3,750 5,000 Feet

1 inch = 2,000 feet

Basemap:
2012 12.5 cm HRO aerial imagery provided by the State of Utah.
Hillshades derived from 5 Meter Auto-Correlated DEM from 1m GSD Orthophotography (NAIP2006) provided by the State of Utah AGRC.

N

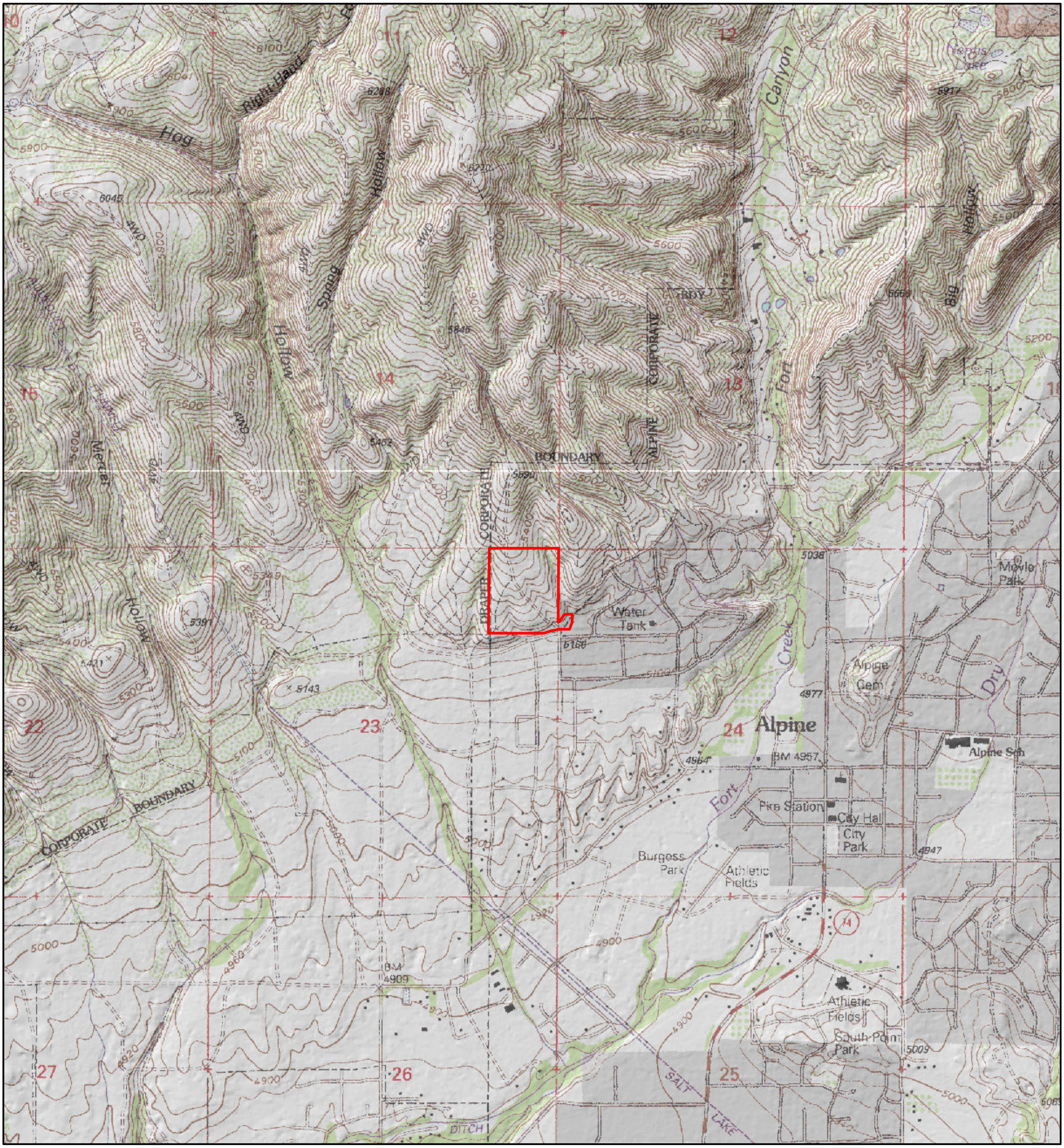


GeoStrata

Geologic Hazards Assessment
Summit Pointe Subdivsion
Alpine, Utah
Project Number: 1312-005

Site Vicinity Map

Plate 1



Legend

Approximate Site Boundary

0 625 1,250 2,500 3,750 5,000 Feet

1 inch = 2,000 feet

Basemap:
Lehi Quadrangle, Utah, 7.5-Minute Series (Topographic), USGS 1998 and hillshades derived from 5 Meter Auto-Correlated DEM from 1m GSD Orthophotography (NAIP2006) provided by the State of Utah AGRC.

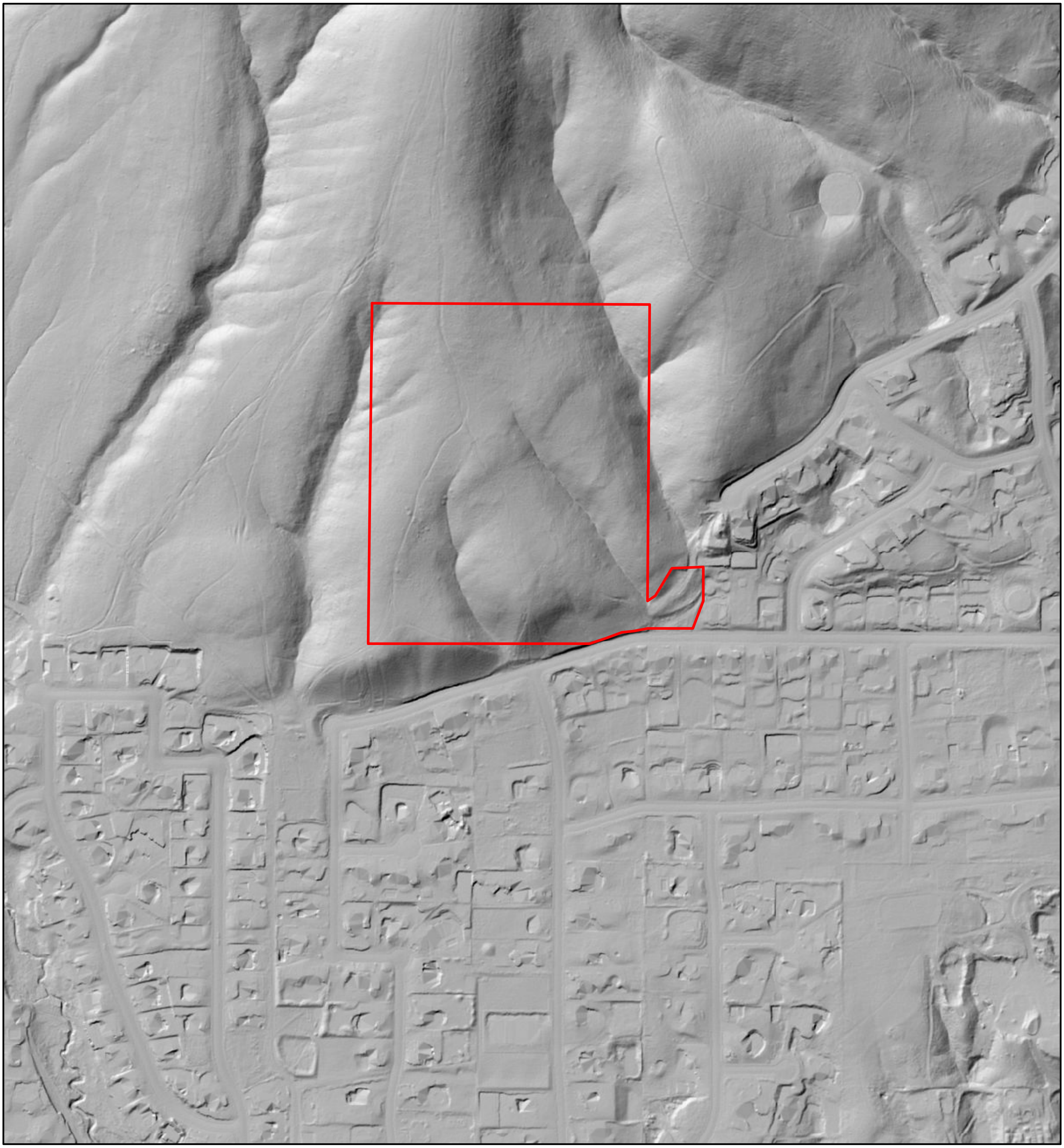
N

GeoStrata

Geologic Hazards Assessment
Summit Pointe Subdivsion
Alpine, Utah
Project Number: 1312-005

Site Topographic Map

Plate 2



Legend

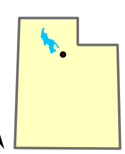
Approximate Site Boundary

0 155 310 620 930 1,240 Feet

1 inch = 500 feet

Basemap:
Hillshades derived from 2013-2014 0.5 meter LiDAR
provided by the State of Utah AGRC.

N

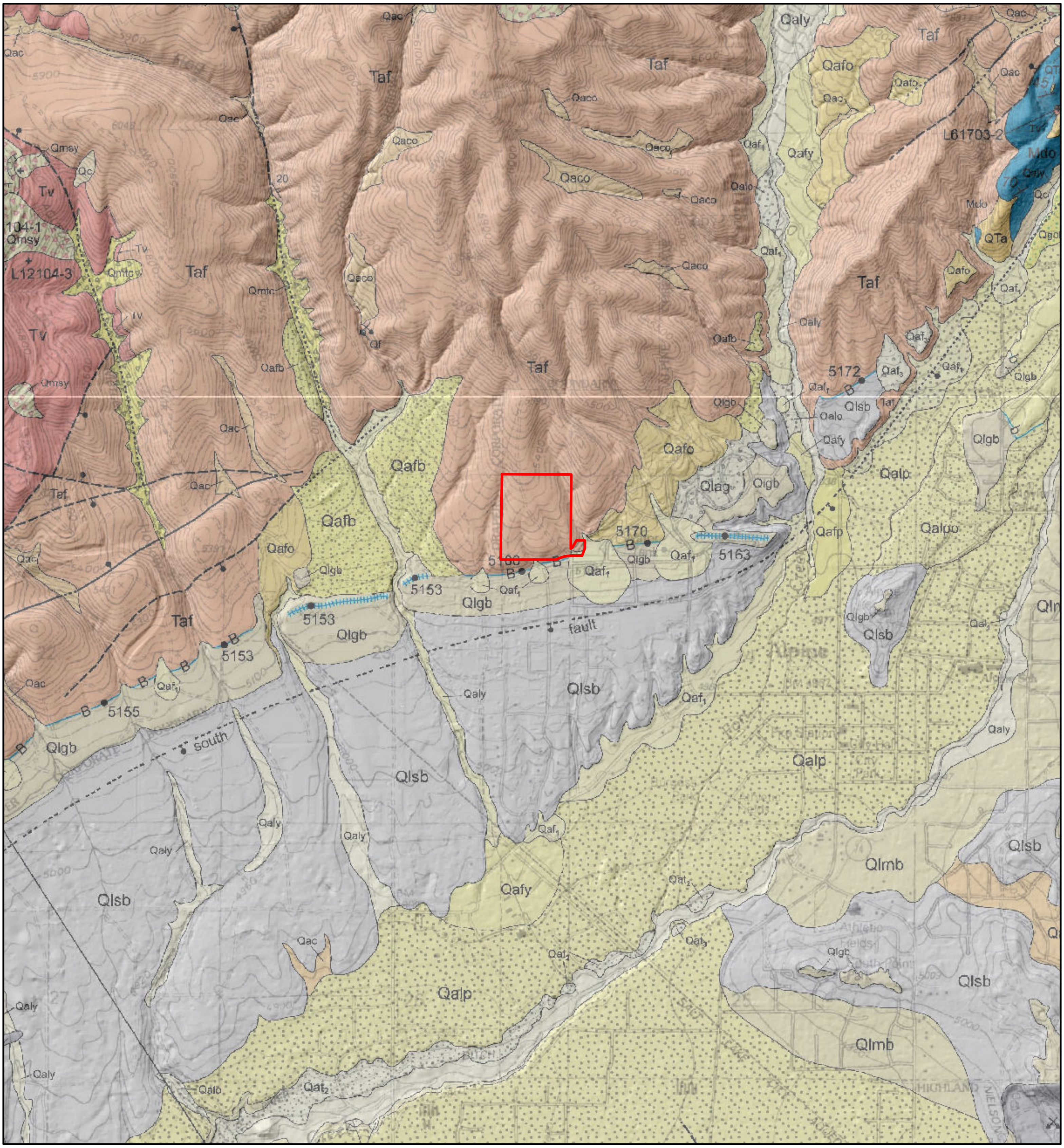


GeoStrata

Geologic Hazards Assessment
Summit Pointe Subdivsion
Alpine, Utah
Project Number: 1312-005

Hillshade Map

Plate 3



Legend

Approximate Site Boundary

0 625 1,250 2,500 3,750 5,000 Feet

1 inch = 2,000 feet

Basemap:
Geologic Map of the Lehi Quadrangle and Part of the Timpanogos Cave Quadrangle, Salt Lake and Utah Counties, Utah, Biek, 2005.
Hillshades derived from 2013-2014 0.5 meter LiDAR provided by the State of Utah AGRC.

N

GeoStrata

Geologic Hazards Assessment
Summit Pointe Subdivsion
Alpine, Utah
Project Number: 1312-005

Site Vicinity Geologic Map

Plate 4

Qaf_1	Modern alluvial-fan deposits (Holocene) – *Poorly to moderately sorted, non-stratified, clay- to boulder-size sediment deposited principally by debris flows at the mouths of active drainages; upper parts typically characterized by abundant boulders and debris-flow levees that radiate away from the apex of the fan; equivalent to the younger part of Qafy, but differentiated because they form smaller, isolated fans; generally less than 30 feet (9 m) thick.*
Qafo	Older alluvial-fan deposits (Upper Pleistocene) – *Similar to younger undifferentiated alluvial-fan deposits (Qafy), but forms deeply dissected alluvial apron truncated by, and thus predating, the Bonneville shoreline; upper parts of fans locally receive sediment from minor washes; thickness unknown, but likely up to several tens of feet.*
Qafb	Alluvial-fan deposits related to the Bonneville phase of the Bonneville lake cycle (Upper Pleistocene) – *Poorly to moderately sorted, clay- to cobble-size sediment deposited principally by debris flows; incised by younger alluvial and alluvial-fan deposits; deposited by streams associated with the Bonneville (transgressive) phase of Lake Bonneville; probably less than about 40 feet (12 m) thick.*
Qafo	Older alluvial-fan deposits (Upper Pleistocene) – *Similar to younger undifferentiated alluvial-fan deposits (Qafy), but forms deeply dissected alluvial apron truncated by, and thus predating, the Bonneville shoreline; upper parts of fans locally receive sediment from minor washes; thickness unknown, but likely up to several tens of feet.*
Qlgp Qlgb	Lacustrine gravel and sand (Upper Pleistocene) – *Moderately to well-sorted, moderately to well-rounded, clast-supported, pebble to cobble gravel and pebbly sand; thin to thick bedded; typically interbedded with or laterally gradational to sand and silt facies; gastropods locally common in sandy lenses; locally partly cemented with calcium carbonate; typically forms well-developed wave-cut or wave-built benches, bars, and spits; intermediate shorelines are locally well developed on Provo-level deposits; Qlgb deposited at and below highest Bonneville shoreline but above the Provo shoreline, and Qlgp deposited at and below the Provo shoreline; exposed thickness from 0 to about 150 feet (0-45 m).*
Taf	Alluvial-fan deposits (Miocene[?] to Oligocene[?]) – *Unconsolidated, pebble- to boulder-size, subangular to subrounded orthoquartzite and calcareous sandstone clasts and, especially near the base and top of the deposits, minor volcanic clasts; limestone clasts are rare and appear to be restricted to the upper part of the deposits; clasts of monzogranite or granodiorite of the Little Cottonwood stock are conspicuously absent, probably because the intrusion had not yet been unroofed when these sediments were being deposited; includes 300-foot-long (100 m) block of brecciated orthquartzite near the center of section 11, T. 4 S., R. 1 E. that I interpret to be a slide block derived from former nearby mountain front; a single good exposure of the lower part of the deposits in Hog Hollow that dips 20° east reveals subangular to subrounded, pebble- to cobble-size clasts with fewer boulders, medium to thick beds, and clasts that are about 60% sandstone and orthoquartzite and about 40% grussified volcanic clasts of the east Traverse Mountains; appears to lack tuffaceous sediments and so is likely older than the Salt Lake Formation; may correlate with the Tibble Formation (late Eocene to Oligocene), and if so the deposits in the east Traverse Mountains probably have undergone about 4 miles (7 km) of southwestward tectonic transport along the Deer Creek detachment fault (see Constenius and others, 2003), with orthoquartzite clasts derived principally from footwall exposures of the Weber Sandstone; first mapped as undifferentiated Oquirrh Group by Bullock (1958) and later reinterpreted as Neogene-age alluvial-fan deposits by Machette (1992); mapped south of the Fort Canyon fault at the east end of the Traverse Mountains where it unconformably overlies volcanic rocks of the east Traverse Mountains (Tv); age poorly constrained between middle Oligocene(?) and Miocene(?); lineaments visible on aerial photographs suggest that these deposits may be cut by additional, unmapped normal or oblique-slip faults that are difficult to identify due to poor exposures and lack of marker beds; similarly, aerial photo interpretation indicates that additional landslide deposits may be present on this unit, but subdued features and poor exposures make positive identification impossible without detailed geotechnical investigations; thickness uncertain but likely in excess of 1000 feet (330 m).*

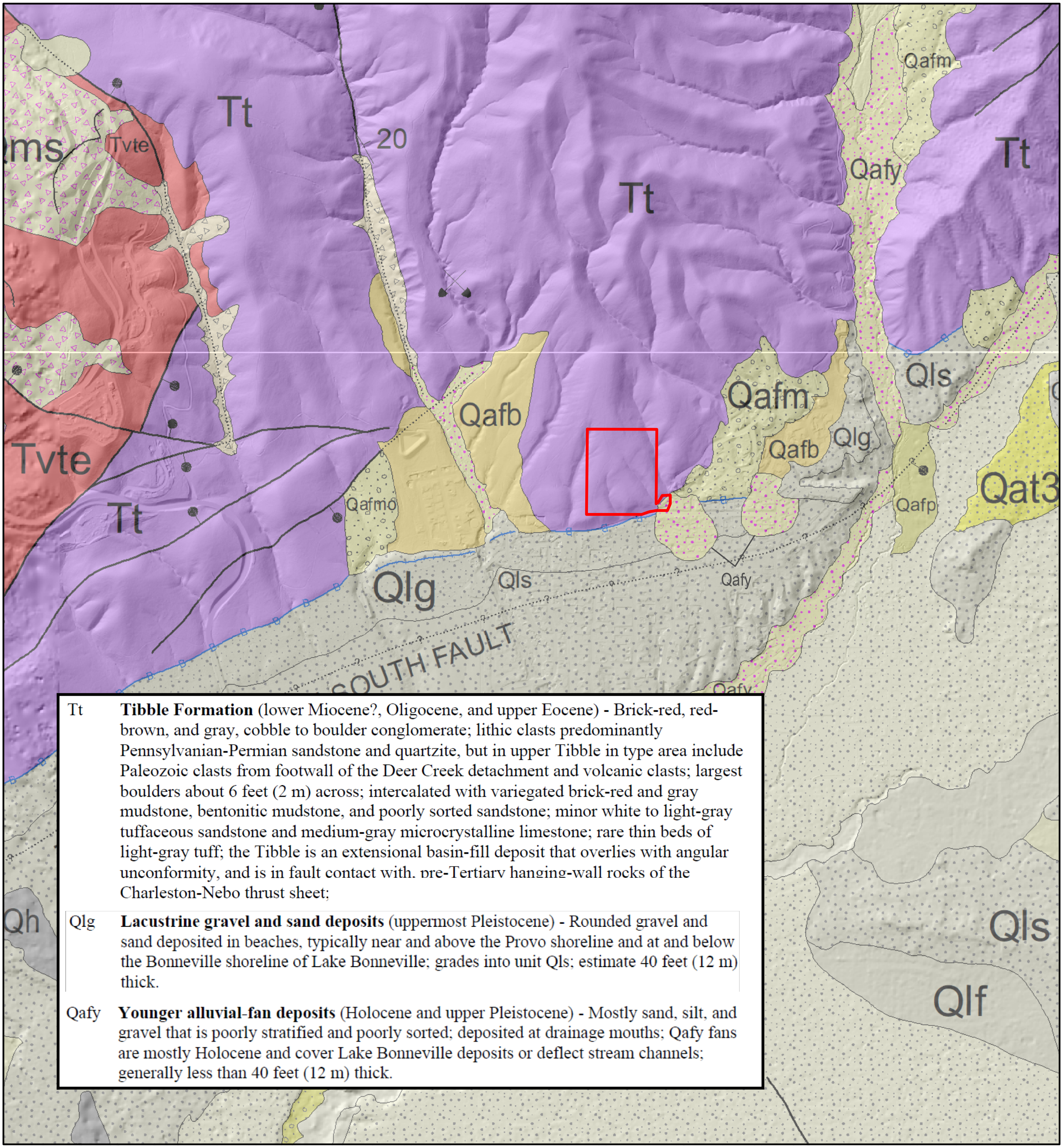
Geologic Map of the Lehi Quadrangle and Part of the Timpanogos Cave Quadrangle, Salt Lake and Utah Counties, Utah.

GeoStrata

Geologic Hazards Assessment
Summit Pointe Subdivsion
Alpine, Utah
Project Number: 1312-005

Geologic Map Descriptions

Plate 4b



Legend

Approximate Site Boundary

0 625 1,250 2,500 3,750 5,000 Feet

1 inch = 2,000 feet

Basemap:
Interim Geologic Map of the Provo 30' X 60' Quadrangle, Utah, Wasatch, and Salt Lake Counties, Utah. Hillshades derived from 2013-2014 0.5 meter LiDAR provided by the State of Utah AGRC.

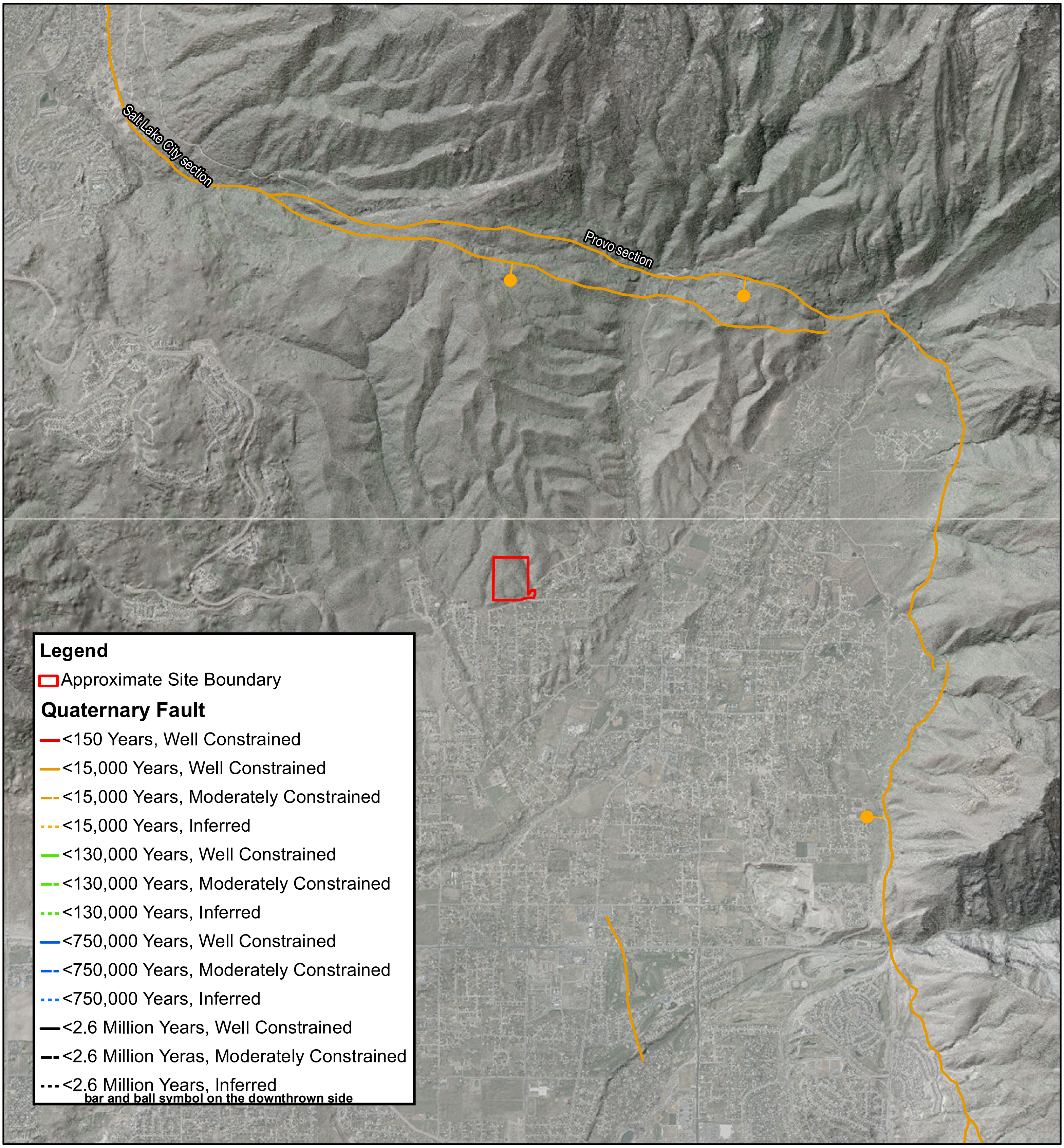
N

GeoStrata

Geologic Hazards Assessment
Summit Pointe Subdivsion
Alpine, Utah
Project Number: 1312-005

Site Vicinity 30x60 Geologic Map

Plate 5



0 1,250 2,500 5,000 7,500 10,000 Feet

1 inch = 4,000 feet

Basemap:
Utah Geological Survey Fold and Fault Database. 2012 12.5cm HRO aerial imagery and hillshades derived from 2013-2014 0.5 meter LiDAR provided by the State of Utah AGRC.

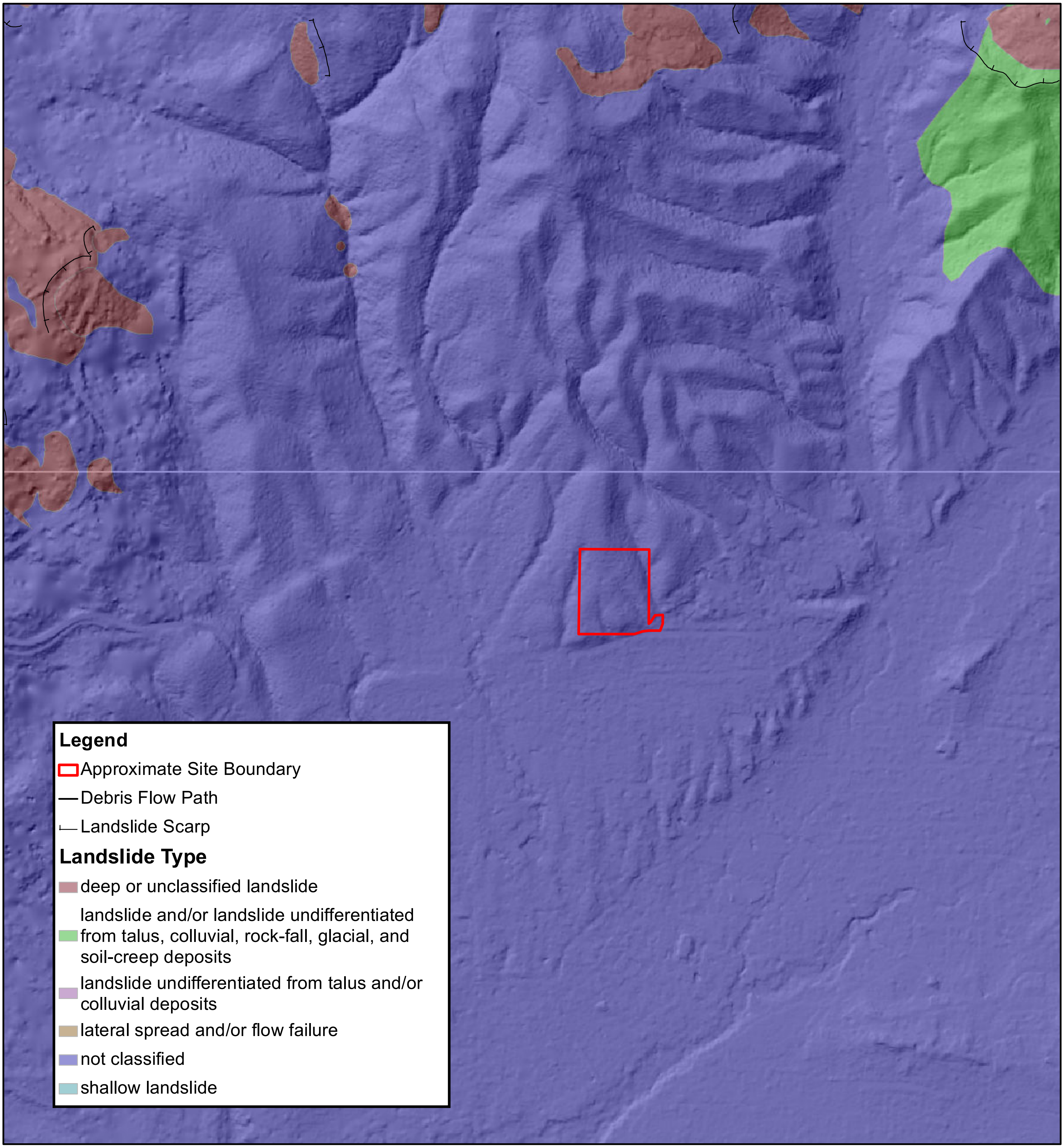
N

GeoStrata

Geologic Hazards Assessment
Summit Pointe Subdivsion
Alpine, Utah
Project Number: 1312-005

Quaternary Fault Map

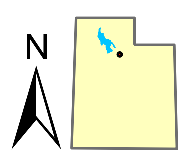
Plate 6



0 625 1,250 2,500 3,750 5,000 Feet

1 inch = 2,000 feet

Basemap:
Landslide Maps of Utah, Elliot and Harty, 2010. Hillshades derived from 5 Meter Auto-Correlated DEM from 1m GSD Orthophotography (NAIP2006) provided by the State of Utah AGRC.

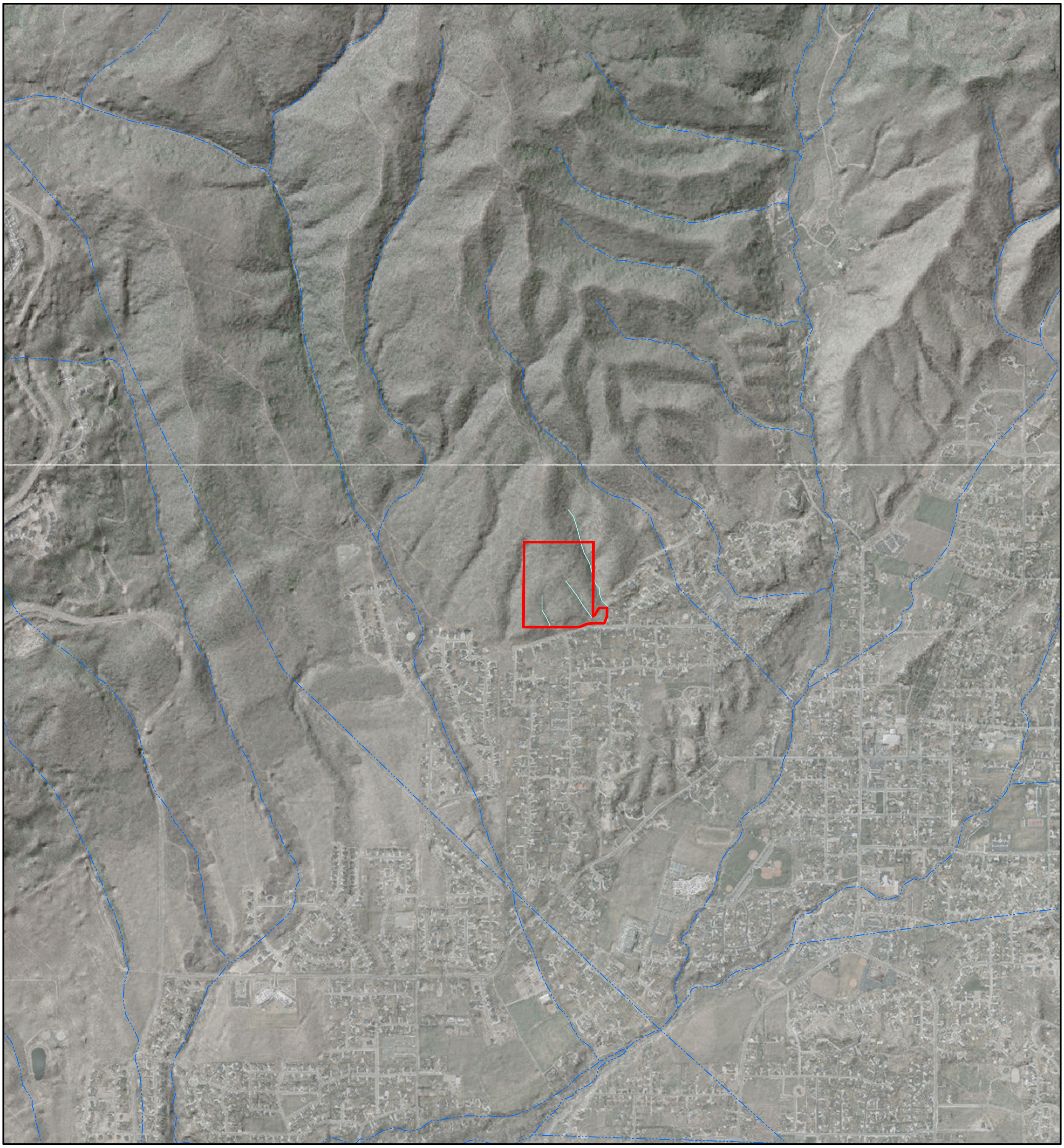


GeoStrata

Geologic Hazards Assessment
Summit Pointe Subdivsion
Alpine, Utah
Project Number: 1312-005

Landslide Hazard Map

Plate 7



Legend

Approximate Site Boundary

Seasonal Drainages (GeoStrata)

Streams (National Hydrology Dataset)

Feet

0 625 1,250 2,500 3,750 5,000

1 inch = 2,000 feet

Basemap:
Landslide Maps of Utah, Elliot and Harty, 2010.
Hillshades derived from 5 Meter Auto-Correlated
DEM from 1m GSD Orthophotography
(NAIP2006) provided by the
State of Utah AGRC.

N

GeoStrata

Geologic Hazards Assessment
Summit Pointe Subdivsion
Alpine, Utah
Project Number: 1312-005

Hydrology Map

Plate
8

14425 South Center Point Way Bluffdale, Utah 84065
Phone (801) 501-0583 | Fax (801) 501-0584

Geotechnical Investigation
Summit Pointe Subdivision
Alpine, Utah

GeoStrata Job No. 1312-003

October 8, 2018

Prepared for:

Six Blue Bison, LLC
12543 Andreas Street
Riverton, UT

Attention: Mr. Jake Satterfield

Learn More

GeoStrata 14425 South Center Point Way Bluffdale, Utah 84065
T: (801) 501-0583 ~ F: (801) 501-0584

Prepared for:

Six Blue Bison, LLC
Attn: Jake Satterfield
12543 Andreas Street
Riverton, UT 84096

Geotechnical Investigation
Summit Pointe Subdivision
Alpine, Utah

GeoStrata Job No. 1312-003

PROFESSIONAL ENGINEER
10/08/18
No. 10186640
DANIEL J. BROWN
STATE OF UTAH

Daniel Brown, P.E.
Senior Geotechnical Engineer

J. Scott Seal, P.E.
Associate Principal Engineer

GeoStrata
14425 South Center Point Way
Bluffdale, UT 84065
(801) 501-0583

October 8, 2018

TABLE OF CONTENTS

APPENDICES

1.0 EXECUTIVE SUMMARY

This report presents the results of a geotechnical investigation conducted for the proposed Summit Pointe Subdivision to be located at approximately 812 W Lakeview Drive in Alpine, Utah. A previous geotechnical investigation had been completed for the subject property by Earthtec Testing and Engineering in a report titled "Geotechnical Study, Summit Hills Development & Lakeview Drive Extension, Alpine, Utah" and dated August 18, 2005 (Earthtec Job No. 051709). Based on information provided from the client as well as in the plans for the proposed development titled "Summit Pointe Amended Subdivision" prepared by S.E. Science, LLC and dated August 8, 2018. Due to modifications in the planned layout of the subdivision, and the fact that the locations of test pits and boreholes completed in the Earthtec geotechnical report do not provide full coverage of the site, an updated geotechnical investigation was performed for the proposed development. The purposes of this investigation were to assess the nature and engineering properties of the subsurface soils at the proposed site and to provide recommendations for general site grading and the design and construction of foundations and slabs-on-grade, and exterior concrete flatwork.

Based on the results of our analysis, it is our opinion that the site is suitable for the proposed development provided that the recommendations contained in this report are incorporated into the design and construction of the project.

Subsurface conditions were investigated through the excavation of 4 test pits to depths ranging from 10 to 11 feet below the existing site grade. Based on our observations and geologic literature review, the subject area is overlain by approximately 1 foot of topsoil comprised of silt, sand, clay and gravel. Underlying the topsoil, we encountered Tertiary-age Alluvial Fan Deposits and Pleistocene-aged Alluvial Fan Deposits. These deposits persisted to the full depth of our test pit excavations. Groundwater was not encountered at the site grade as it existed at the time of our investigation.

The foundations for the proposed structure may consist of conventional strip and/or spread footings founded on undisturbed native soil. Foundation elements founded in such a manner may be proportioned for a maximum net allowable bearing capacity of **1,500 psf**. We recommend that GeoStrata observe all foundation soils in footing excavations prior to placing reinforcing steel or concrete.

NOTE: This executive summary is not intended to replace the report of which it is part and should not be used separately from the report. The executive summary omits a number of details, any one of which could be crucial to the proper application of this report.

2.0 INTRODUCTION

2.1 PURPOSE AND SCOPE OF WORK

This report presents the results of a preliminary geotechnical investigation conducted for the proposed Summit Pointe Subdivision to be located at approximately 812 West Lakeview Drive in Alpine, Utah. The purposes of this investigation were to assess the nature and engineering properties of the subsurface soils at the proposed site. A previous geotechnical investigation had been completed for the subject property by Earthtec Testing and Engineering in a report titled "Geotechnical Study, Summit Hills Development & Lakeview Drive Extension, Alpine, Utah" and dated August 18, 2005 (Earthtec Job No. 051709). Pertinent information from that report has been incorporated into our investigation. Our understanding of the project is based on information provided by the client, as well as in the plans for the proposed development titled "Summit Pointe Amended Subdivision" prepared by S.E. Science, LLC and dated August 8, 2018. Due to modifications in the planned layout of the subdivision, and the fact that the locations of test pits and boreholes completed in the Earthtec geotechnical report do not provide full coverage of the site, an updated geotechnical investigation was performed for the proposed development. Structures are anticipated to consist of one- to two-story wood-framed structures with basements founded on conventional spread or strip footings. We anticipate footing loads on the order of 3 kips per lineal foot. Our investigation for the development will be used to provide geotechnical design parameters for construction of buildings, pavements, and associated infrastructure and to assess proposed cuts and fills for construction of the proposed roadway.

The scope of work completed for this study included a site reconnaissance, subsurface exploration, soil sampling, laboratory testing, engineering analyses, and preparation of this report. Our services were performed in accordance with our proposal and signed authorization, dated August 29, 2018. GeoStrata is concurrently completing a geologic hazards assessment for the subject lot, the results of which may be found in a separate report.

The recommendations contained in this report are subject to the limitations presented in the "Limitations" section of this report.

2.2 PROJECT DESCRIPTION

The Summit Pointe Subdivision is located in Alpine, Utah between Hog Hollow and Fort Canyon on the south flank of the Traverse Mountains in Alpine, Utah (see *Site Vicinity Map* Plate A-1). We understand that the proposed subdivision will consist of 8 residential lots with associated roadways and utilities located on approximately 30 acres.

3.0 METHOD OF STUDY

3.1 SUBSURFACE INVESTIGATION

As part of this investigation, subsurface soil conditions were explored by excavating 4 exploratory test pits to depths ranging from 10 to 11 feet below the site grade as it existed at the time of our investigation. The approximate locations of the explorations are shown on the Exploration Location Map, Plate A-2 in Appendix A. Exploration points were selected to provide a representative cross section of the subsurface soil conditions in the anticipated vicinity of the proposed structures. Subsurface soil conditions as encountered in the explorations were logged at the time of our investigation by a qualified field geologist and are presented on the enclosed Test Pit Logs, Plates B-1 through B-4 in Appendix B. A Key to USCS Soil Symbols and Terminology is presented on Plate B-5.

The test pits were advanced using a trackhoe. Both relatively undisturbed and bulk soil samples were obtained in each of the test pit explorations. Bulk soil samples were obtained in each of the explorations and placed in bags and buckets. Undisturbed soil samples were collected where feasible as block samples. All samples were transported to our laboratory for testing to evaluate engineering properties of the various earth materials observed. The soils were classified according to the *Unified Soil Classification System* (USCS) by the field personnel. Classifications for the individual soil units are shown on the attached Test Pit Logs.

3.2 LABORATORY INVESTIGATION

Geotechnical laboratory tests were conducted on samples obtained during our field investigation. The laboratory testing program was designed to evaluate the engineering characteristics of onsite earth materials. Laboratory tests conducted during this investigation include:

- Percent of Fines by Washing (ASTM D1140)
- Grain-Size Distribution Test (ASTM D6913)
- Atterberg Limits Test (ASTM D4318)
- Direct Shear Test (ASTM D3080)

The results of laboratory tests are presented on the Test Pit Logs in Appendix B (Plates B-1 to B-4), the Laboratory Summary Table and the test result plates presented in Appendix C (Plates C-1 to C-6).

3.3 ENGINEERING ANALYSIS

Engineering analyses were performed using soil data obtained from the laboratory test results and empirical correlations from material density, depositional characteristics and classification. Appropriate factors of safety were applied to the results consistent with industry standards and the accepted standard of care.

3.4 REVIEW OF PREVIOUS INVESTIGATION

As part of our study we completed a review of a previously completed geotechnical investigation performed for the subject property. The report was prepared by Earthtec Testing & Engineering, P.C. and is titled “Geotechnical Study, Summit Hills Development & Lakeview Drive Extension, Alpine, Utah” dated August 18, 2005 (Earthtec Job No.: 051709).

4.0 GENERALIZED SITE CONDITIONS

4.1 SURFACE CONDITIONS

The Summit Pointe Subdivision is located in Alpine, Utah is located between Hog Hollow and Fort Canyon on the south flank of the Traverse Mountains in Alpine, Utah as shown on the Site Vicinity Map (Plate A-1). The study site is vegetated with scrub oak and sagebrush and is located at an elevation ranging from 5,380 to 5,200 feet above mean sea level (MSL). Hog Hollow and Fort Canyon are generally north-south trending canyons with small ephemeral streams at the base. The Hog Hollow fault trends along the bottom of Hog Hollow (Machette, 1992; Biek, 2005).

4.2 SUBSURFACE CONDITIONS

As mentioned previously, the subsurface soil conditions were explored at the site by excavating 4 test pits at the subject site to depths ranging from 10 to 11 feet below the existing grade. The soils encountered in the test pit explorations were visually classified and logged during our field investigation and are included on the Test Pit Logs in Appendix B (Plates B-1 to B-4). The subsurface conditions encountered during our investigation are discussed below.

4.2.1 Soils

Based on our observations and geologic literature review, the subject property is overlain by approximately 1 foot of topsoil comprised of silt, sand, clay and gravel. Underlying the topsoil, we encountered Tertiary-age Alluvial Fan Deposits and Pleistocene-aged Alluvial Fan Deposits.

<u>Topsoil:</u> Where observed these soils consisted of medium to dark brown, dense, moist Silty SAND (SM) with gravel. These soils contained an organic appearance. It is considered likely that topsoil will be encountered across the majority of the site.

<u>Tertiary-age Alluvial Fan Deposits (Taf)</u>: Where observed, these soils consisted of dense, tannish brown, moist, Silty GRAVEL (GM) with sand and cobbles, dense, red brown, moist Poorly Graded GRAVEL (GP) and Poorly Graded SAND (SP) with subrounded to subangular cobbles up to 6 inches in diameter and lastly, dense, whitish brown to reddish tan, moist Silty SAND (SM) with varying amounts of gravel and cobbles.

Pleistocene-age Alluvial and Alluvial Fan Deposits (Qafb, Qaly): Where observed, these soils consisted of stiff to hard, moist, dark red-brown Lean CLAY (CL) with varying amounts of sand.

The stratification lines shown on the enclosed test pit logs represent the approximate boundary between soil types. The actual in-situ transition may be gradual. Due to the nature and depositional characteristics of the native soils, care should be taken in interpolating subsurface conditions between and beyond the exploration locations.

4.2.2 Groundwater Conditions

Groundwater was not encountered in any of the explorations completed for this investigation and is not expected to impact the development. Due to the season of our investigation (late summer), we anticipate groundwater levels to be near their seasonal average. It is our experience that during snowmelt, runoff, irrigation on the property and surrounding properties, high precipitation events, and other activities, the groundwater level can rise several feet. Fluctuations in the groundwater level should be expected over time.

5.0 GEOLOGIC CONDITIONS

5.1 GEOLOGIC SETTING

As mentioned previously, GeoStrata is concurrently completing a geologic hazards potential assessment of the subject property. Information concerning the geologic nature of the subject property may be found in that report.

5.2 SEISMICITY AND FAULTING

The site lies within the north-south trending belt of seismicity known as the Intermountain Seismic Belt (ISB) (Hecker, 1993). The ISB extends from northwestern Montana through southwestern Utah. An active fault is defined as a fault that has had activity within the Holocene (<11ka). No active faults are mapped through or immediately adjacent to the site (Black et. al, 2003, Hecker, 1993). The site is located approximately 2 miles west of the nearest mapped section of the Provo segment of the Wasatch Fault Zone, which is mapped along the western flank of the Wasatch Mountains. The Provo segment is one of the longest sections of the Wasatch Fault Zone (Hecker, 1993) and is estimated to be approximately 43 miles long with a reported rupture length of 37 miles and a maximum potential to produce earthquakes up to magnitude (Ms) 7.5 to 7.7 (Black et al, 2003). The site is also located approximately 9 miles northeast of the nearest mapped portion of the Utah Lake Faults and Folds (ULFF). The ULFF consists of several northeast to northwest trending faults and folds located beneath Utah Lake and are reported to have been active in the past 15 ka (Black et al, 2003). However, since the ULFF is at the bottom of a large lake these faults are poorly understood – as such, the USGS does not include ULFF in their fault database for seismic hazard analysis. Finally, the site is located approximately 26 miles east of the nearest mapped segment of the Southern Oquirrh Mountains fault zone. The Oquirrh Fault Zone consists of a normal fault located along the western base of the Oquirrh Mountains in the eastern Tooele Valley. This fault was reportedly last active approximately 4,300 and 6,900 years ago and appears to be seismically independent of the Wasatch Fault Zone (Black and others, 2004). Analysis of the ground shaking hazard along the Wasatch Front suggests that the Wasatch Fault Zone is the single greatest contributor to the seismic hazard in the Utah Valley region. Each of the faults listed above show evidence of Holocene-aged movement and are therefore considered active.

Seismic hazard maps depicting probabilistic ground motions and spectral response have been developed for the United States by the U.S. Geological Survey as part of NEHRP/NSHMP (Frankel et al, 1996). These maps have been incorporated into both *NEHRP Recommended Provisions for Seismic Regulations for New Buildings and Other Structures* (FEMA, 1997) and the *International Building Code* (IBC) (International Code Council, 2015). Spectral responses for the Maximum Considered Earthquake (MCE_R) are shown in the table below. These values generally correspond to a two percent probability of exceedance in 50 years (2PE50) for a "firm rock" site. To account for site effects, site coefficients which vary with the magnitude of spectral acceleration are used. Based on our field and office investigations, it is our opinion that this location is best described as a Site Class C for a "very dense soil and soft rock" site. The spectral accelerations are shown in the table below. The spectral accelerations are calculated based on the site's approximate latitude and longitude of 40.4611° and -111.7931° respectively and the USGS U.S. Seismic Design Maps web-based tool. Based on the 2015 IBC, the site coefficients are F_a=1.00 and F_v=1.34. From this procedure the peak ground acceleration (PGA) is estimated to be 0.51g.

MCE_R Seismic Response Spectrum Spectral Acceleration Values for IBC Site Class C[a]

Site Location: **Latitude = 40.4611 N** **Longitude = -111.7931 W**	**Site Class C Site Coefficients:** **Fa = 1.00** **Fv = 1.34**
Spectral Period (sec)	**Response Spectrum Spectral Acceleration (g)**
0.2	$\mathbf{S_{MS}}$=(F_a*S_s=1.00*1.26) = 1.26
1.0	$\mathbf{S_{M1}}$=(F_v*S_1=1.34*0.46) = 0.62
[a] IBC 1613.3.4 recommends scaling the MCE_R values by 2/3 to obtain the design spectral response acceleration values; values reported in the table above have not been reduced.	

6.0 CONCLUSIONS & RECOMMENDATIONS

6.1 GENERAL CONCLUSIONS

Supporting data upon which the following recommendations are based have been presented in the previous sections of this report. The recommendations presented herein are governed by the physical properties of the earth materials encountered and tested as part of our subsurface exploration and the anticipated design data discussed in the **PROJECT DESCRIPTION** section. If subsurface conditions other than those described herein are encountered in conjunction with construction, and/or if design and layout changes are initiated, GeoStrata must be informed so that our recommendations can be reviewed and revised as changes or conditions may require.

6.2 EARTHWORK

Prior to the placement of foundations, concrete flatwork, and pavements, general site grading is recommended to provide proper support for foundations, exterior concrete flatwork, concrete slabs-on-grade, and pavements. Site grading is also recommended to provide proper drainage and moisture control on the subject property and to aid in preventing differential settlement of foundations as a result of variations in subgrade moisture conditions.

6.2.1 General Site Preparation and Grading

Within areas to be graded (below proposed structures, fill sections, concrete flatwork, or pavement sections), all vegetation, topsoil, potentially expansive soils, debris, and undocumented fill (if encountered) should be removed. Any existing utilities should be re-routed or protected in place. Tree roots are anticipated and should be grubbed-out and replaced with engineered fill. Any soft, loose, disturbed or undocumented fill soils should also be removed. Following the removal of vegetation, unsuitable soils, and loose or disturbed soils, as described above, site grading may be conducted to bring the site to design elevations.

6.2.2 Excavations

Unsuitable soils that include loose or expansive soils, undocumented fill or otherwise deleterious soils beneath foundations should be removed and replaced with structural fill. If over-excavation is required, the excavation should extend a minimum of one foot laterally for every foot of depth of over-excavation. Excavations should extend laterally at least two feet beyond flatwork, pavements, and slabs-on-grade. If materials are encountered that are not represented in the test pit logs or may present a concern, GeoStrata should be notified so observations and further recommendations as required can be made.

6.2.3 Excavation Stability

Based on Occupational Safety and Health Administration (OSHA) guidelines for excavation safety, trenches with vertical walls up to 4 feet in depth may be occupied, however, the presence of fill soils, loose soils, or wet soils may require that the walls be flattened to maintain safe working conditions. When the trench is deeper than 4 feet, we recommend a trench-shield or shoring be used as a protective system to workers in the trench. Based on our soil observations, laboratory testing, and OSHA guidelines, native soils at the site classify as Type C soils. Deeper excavations, if required, should be constructed with side slopes no steeper than one and one-half horizontal to one vertical (1.5H:1V). If wet conditions are encountered, side slopes should be further flattened to maintain slope stability. Alternatively shoring or trench boxes may be used to improve safe work conditions in trenches. The contractor is ultimately responsible for trench and site safety. Pertinent OSHA requirements should be met to provide a safe work environment. If site specific conditions arise that require engineering analysis in accordance with OSHA regulations, GeoStrata can respond and provide recommendations as needed.

We recommend that a GeoStrata representative be on-site during all excavations to assess the exposed foundation soils. We also recommend that the Geotechnical Engineer be allowed to review the grading plans when they are prepared in order to evaluate their compatibility with these recommendations.

6.2.4 Structural Fill and Compaction

All fill placed for the support of structures, concrete flatwork or pavements should consist of structural fill. Structural fill may consist of excavated onsite sandy or gravel soils, or an imported granular soil. Onsite clayey soils should not be used as structural fill due to concerns related to potential slope instability. Structural fill should be free of vegetation, debris, or frozen material. Alternatively, an imported fill structural fill meeting the specifications below may be used. If imported structural fill is needed, it should be a relatively well graded granular soil with a maximum of 50 percent passing the No. 4 mesh sieve and a maximum fines content (minus No.200 mesh sieve) of 25 percent. Soils not meeting the aforementioned criteria may be suitable for use as structural fill. These soils should be evaluated on a case-by-case basis and should be approved by the Geotechnical Engineer prior to use. The contractor should have confidence that the anticipated method of compaction will be suitable for the type of structural fill used, and should anticipate testing all soils used as structural fill frequently to assess the maximum dry density, fines content, and moisture content, etc.

All structural fill should be placed in maximum 6-inch loose lifts if compacted by small hand-operated compaction equipment, maximum 8-inch loose lifts if compacted by light-duty rollers, and maximum 10-inch loose lifts if compacted by heavy duty compaction equipment that is capable of efficiently compacting the entire thickness of the lift. We recommend that all structural fill be compacted on a horizontal plane, unless otherwise approved by the geotechnical engineer. Structural fill should be compacted to at least 95% of the maximum dry density (MDD), as determined by ASTM D1557. The moisture content should be at or slightly above the optimum moisture content (OMC) at the time of placement and compaction. Also, prior to placing any fill, the excavations should be observed by the geotechnical engineer to observe that any unsuitable materials or loose soils have been removed. In addition, proper grading should precede placement of fill, as described in the **General Site Preparation and Grading** subsection of this report (Section 6.2.1).

For fill section with a total thickness of less than 5-feet, fill soils placed for subgrade below exterior flat work and pavements, should be within 3% of the OMC when placed and compacted to at least 95% of the MDD as determined by ASTM D1557. For structural fill sections with a total thickness of 5-feet or more, structural fill should be compacted to at least 98% of the MDD as determined by ASTM D1557. All utility trenches backfilled below the proposed structure, pavements, and flatwork concrete, should be backfilled with structural fill that is within 3% of the OMC when placed and compacted to at least 95% of the MDD as determined by ASTM D1557. All other trenches, in landscape areas, should be backfilled and compacted to at least 90% of the MDD (ASTM D1557).

The gradation, placement, moisture, and compaction recommendations contained in this section meet our minimum requirements, but may not meet the requirements of other governing agencies such as city, county, or state entities. If their requirements exceed our recommendations, their specifications should override those presented in this report.

6.3 FOUNDATIONS

The foundations for the proposed structures may consist of conventional strip and/or spread footings. Strip and spread footings should be a minimum of 20 and 36 inches wide, respectively, and exterior shallow footings should be embedded at least 36 inches below final grade for frost protection and confinement. Interior shallow footings not susceptible to frost conditions should be embedded at least 18 inches for confinement.

6.3.1 Installation and Bearing Material

Footings may be placed entirely on undisturbed, native, non-moisture sensitive soils or on structural fill which is bearing on undisturbed native soils. Foundation elements should not be founded on undocumented fill soils, and if these soils are encountered they should be over-excavated until suitable, native soils are exposed. The site may then be brought back up to design grade using properly placed and compacted structural fill. Structural fill should meet material recommendations and be placed and compacted as recommended in Section 6.2.4.

6.3.2 Bearing Pressure

Conventional strip and spread footings founded as described above may be proportioned for a maximum net allowable bearing capacity of **1,500 pounds per square foot (psf).** The recommended net allowable bearing pressure refers to the total dead load and can be increased by 1/3 to include the sum of all loads including wind and seismic.

6.3.3 Settlement

Settlements of properly designed and constructed conventional footings, founded as described above, are anticipated to be less than 1 inch. Differential settlements should be on the order of half the total settlement over 30 feet.

6.3.4 Frost Depth

All exterior footings are to be constructed at least 36 inches below the ground surface for frost protection and confinement. This includes walk-out areas and may require fill to be placed around buildings. Interior footings not susceptible to frost conditions should be embedded at least 18 inches for confinement. If foundations are constructed through the winter months, all soils on which footings will bear shall be protected from freezing.

6.3.5 Construction Observation

A geotechnical engineer shall periodically monitor excavations prior to installation of footings. Inspection of soil before placement of structural fill or concrete is required to detect any field conditions not encountered in the investigation which would alter the recommendations of this report. All structural fill material shall be tested under the direction of a geotechnical engineer for material and compaction requirements. Lot specific collapse testing should be completed at the time of the foundation excavation in order to observe whether collapsible soils underlie the proposed residences.

6.3.6 Foundation Drainage

Groundwater was not encountered in the test pits excavated for this investigation. Soils encountered in the subsurface explorations at elevations of proposed foundations consisted of silty gravel, silty sand, clayey gravel, and clay.

GeoStrata recommends footings and foundations be designed according to the International Residential Code (IRC 2015). Soils with medium to poor drainage characteristics require that a foundation drain be installed to allow water to drain away from the foundation and to reduce the risk of flooding of enclosed interior subgrade spaces. The clay and clayey gravel soils encountered in the test pits excavated for this investigation are considered to have poor drainage characteristics. The silty sand and silty gravel soils encountered in the test pits excavated for this investigation are considered to have medium to good drainage characteristics. If a basement is incorporated into the design of the proposed structures, a foundation drain is recommended in the clay and clayey gravel soil types based on the IRC. If basement foundations are founded on the silty sand and silty gravel soils, a foundation drain is not required according to the IRC. Each foundation excavation will need to be inspected on a lot by lot basis by the Geotechnical Engineer to assess if a foundation drain is warranted as a result of soil or moisture conditions.

6.4 EARTH PRESSURES AND LATERAL RESISTANCE

Lateral forces imposed upon conventional foundations due to wind or seismic forces may be resisted by the development of passive earth pressures and friction between the base of the footing and the supporting subgrade. In determining the frictional resistance, a coefficient of friction of 0.36 should be used for structural fill, drain gravel, or sandy native soils against concrete or 0.29 for native fine-grained soils.

Ultimate lateral earth pressures from *granular* backfill acting against buried walls and structures may be computed from the lateral pressure coefficients or equivalent fluid densities presented in the following table:

Condition	Lateral Pressure Coefficient	Equivalent Fluid Density (pounds per cubic foot)
Active*	0.30	36
At-rest**	0.50	60
Passive*	6.11	733
Seismic Active***	0.22	26
Seismic Passive***	-1.31	-157

* Based on Coulomb's equation

** Based on Jaky

*** Based on Mononobe-Okabe Equation

Ultimate lateral earth pressures from *fine-grained* backfill acting against buried walls and structures may be computed from the lateral pressure coefficients or equivalent fluid densities presented in the following table:

Condition	Lateral Pressure Coefficient	Equivalent Fluid Density (pounds per cubic foot)
Active*	0.38	45
At-rest**	0.59	71
Passive*	3.79	455
Seismic Active***	0.26	31
Seismic Passive***	-0.92	-110

* Based on Coulomb's equation

** Based on Jaky

*** Based on Mononobe-Okabe Equation

These coefficients and densities assume level, granular backfill with no buildup of hydrostatic pressures. The force of the water should be added to the presented values if hydrostatic pressures are anticipated. If sloping backfill is present, we recommend the geotechnical engineer be consulted to provide more accurate lateral pressure parameters once the design geometry is established.

Walls and structures allowed to rotate slightly should use the active condition. If the element is constrained against rotation, the at-rest condition should be used. These values should be used with an appropriate factor of safety against overturning and sliding. A value of 1.5 is typically used. Additionally, if passive resistance is calculated in conjunction with frictional resistance, the passive resistance should be reduced by ½.

For seismic analyses, the *active* and *passive* earth pressure coefficient provided in the table is based on the Mononobe-Okabe pseudo-static approach and only accounts for the dynamic horizontal thrust produced by ground motion. Hence, the resulting dynamic thrust pressure *should be added* to the static pressure to determine the total pressure on the wall. The pressure distribution of the dynamic horizontal thrust may be closely approximated as an inverted triangle with stress decreasing with depth and the resultant acting at a distance approximately 0.6 times the loaded height of the structure, measured upward from the bottom of the structure.

The coefficients shown assume a vertical wall face. Hydrostatic and surcharge loadings, if any, should be added. Over-compaction behind walls should be avoided. Resisting passive earth pressure from soils subject to frost or heave, or otherwise above prescribed minimum depths of embedment, should usually be neglected in design.

6.5 CONCRETE SLAB-ON-GRADE CONSTRUCTION

As a minimum, concrete slabs-on-grade should be constructed over at least 4 inches of compacted gravel overlying native soils or a zone of structural fill that is at least 12 inches thick. Disturbed native soils should be compacted to at least 95% of the MDD as determined by ASTM D1557 (modified proctor) prior to placement of gravel. The gravel should consist of road base or clean drain rock with a ¾-inch maximum particle size and no more than 12 percent fines passing the No. 200 mesh sieve. The gravel layer should be compacted to at least 95 percent of the MDD of modified proctor or until tight and relatively unyielding if the material is non-proctorable. All concrete slabs should be designed to minimize cracking as a result of shrinkage. Consideration should be given to reinforcing the slab with welded wire, re-bar, or fiber mesh. Loading on any concrete slabs should not exceed 300 psf.

6.6 MOISTURE PROTECTION AND SURFACE DRAINAGE

Moisture should not be allowed to infiltrate the soils in the vicinity of the foundations. We recommend the following mitigation measures be implemented at the building location.

- The ground surface within 10 feet of the entire perimeter of the building should slope a minimum of five percent away from the structure. Alternatively, a slope of 2% is acceptable if the water is conveyed to a concrete ditch that will convey the water to a point of discharge that is at least 10 feet from the structures.
- Roof runoff devices (rain gutters) should be installed to direct all runoff a minimum of 10 feet away from the structure and preferably day-lighted to the curb where it can be transferred to the storm drain system. Rain gutters discharging roof runoff adjacent to or within the near vicinity of the structure may result in excessive differential settlement.
- We do not recommend storm drain collection sumps be used as part of this development. However, if necessary, sumps should not be located adjacent to foundations or within roadway pavements due to the presence of potentially collapsible soils.
- We recommend irrigation around foundations be minimized by selective landscaping and that irrigation valves be constructed at least 5 feet away from foundations.
- Jetting (injecting water beneath the surface) to compact backfill against foundation soils may result in excessive settlement beneath the building and is not allowed.
- Backfill against foundations walls should consist of on-site native fine-grained soils and should be placed in lifts and compacted to 90% modified proctor to create a moisture barrier.

Failure to comply with these recommendations could result in excessive total and differential settlements causing structural damage.

6.7 SLOPE STABILITY

Slope stability analysis was performed on three (3) slope profiles of the proposed construction. The analysis included both static and pseudo-static (seismic) analyses. The stability analyses were completed using the geometric conditions and soil strengths as described below and the subsurface conditions as observed in the test pits advanced for this investigation and the test pits and boreholes advanced for the 2005 Earthtec geotechnical investigation. The location of the profiles used in our stability analyses are shown on the attached Exploration Location Map (Plate A-2).

Stability of the slope was assessed using Slide, a computer program which incorporates, among others, the Bishop's Simplified Method of slices. Calculations for stability were developed by searching for the minimum factor of safety for a circular-type failure. Homogeneous earth materials were assumed.

Groundwater was not observed in our test pits or in the test pits and boreholes advanced for the 2005 Earthtec geotechnical investigation; therefore, groundwater was not incorporated in our slope stability analysis as it is not anticipated that groundwater will impact the proposed development.

Slope profiles of the existing slope were made using the existing topography for the site from the 2013-2014 0.5-meter Wasatch Front LiDAR data. Cross sections of the proposed cuts and fills from the August 8, 2018 S.E. Science, LLC construction drawings titled "Summit Pointe Amended Subdivision" were used to model the proposed final slope profiles. A cross-section of the subsurface soils was developed from review of available geologic maps, the results of our subsurface investigation, and review of the 2005 Earthtec geotechnical investigation.

Soil strength parameters used in our analysis were determined from laboratory testing on samples collected from the test pits excavated for this investigation. Two (2) direct shear tests were performed on samples of the sand and clay soils observed in the test pits.

Results of our slope stability analysis are presented in Appendix D and summarized in the table below. In general, the proposed modifications to the slope meet minimum acceptable factors of safety. Factors of safety of 1.5 and 1.0 were considered acceptable for static and pseudo static conditions, respectively.

Slope Profile	Static	Pseudo Static
Profile-A	1.894	1.130
Profile-B	1.583	1.019
Profile-C	1.687	1.011

Slope stability for individual lots was outside of the scope of this investigation. Once grading plans for individual lots are completed, including the size and location of proposed homes and any proposed cuts, fills, or retaining walls, lot specific slope stability analysis should be performed.

6.8 PAVEMENT SECTION

For pavement design, an assumed CBR value for the near surface subgrade soils of 4 was used in our analysis. No traffic information was available at the time this report was prepared; therefore, GeoStrata has assumed traffic counts for the roadway accounting for future development of the adjacent proposed 110-acre Sequoias development. We assumed that vehicle traffic along the roadway will consist of approximately 1,200 passenger car trips per day, 2 small trucks per day, and 2 large trucks per day with a 20-year design life. Based on these assumptions, our analysis uses 41,300 ESAL's for the traffic over the life of the pavement. Asphalt has been assumed to be a high stability plant mix and base course material (road base) composed of crushed stone with a minimum CBR of 70. We have further assumed that the traffic will be relatively consistent over the design life of the pavement sections. Therefore, no growth factor was applied in calculation of loading for each pavement sections' design life. The table below presents equivalent recommended pavement sections based on the above assumptions. Either pavement option may be selected based on economic considerations.

Flexible Pavement Section

Asphalt Concrete (in)	Untreated Base Course (in)	Granular Subbase (in)
3	12	---
3	6	8

If traffic conditions vary significantly from our stated assumptions, GeoStrata should be contacted so we can modify our pavement design parameters accordingly. Specifically, if the traffic counts are significantly higher or lower, we should be contacted to review the pavement sections as necessary. The pavement sections thicknesses above assumes that the majority of construction traffic including cement trucks, cranes, loaded haulers, etc. has ceased. If a significant volume of construction traffic occurs after the pavement section has been constructed, the owner should anticipate maintenance or a decrease in the design life of the pavement area.

7.0 CLOSURE

7.1 LIMITATIONS

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. The nature and extent of variations may not be evident until construction occurs. If any conditions are encountered at this site that are different from those described in this report, GeoStrata should be immediately notified so that we may make any necessary revisions to recommendations contained in this report. In addition, if the scope of the proposed construction changes from that described in this report, GeoStrata should be notified.

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.

It is the Client's responsibility to see that all parties to the project including the Designer, Contractor, Subcontractors, etc. are made aware of this report in its entirety. The use of information contained in this report for bidding purposes should be done at the Contractor's option and risk.

7.2 ADDITIONAL SERVICES

The recommendations made in this report are based on the assumption that an adequate program of tests and observations will be made during construction. GeoStrata staff should be on site to verify compliance with these recommendations. These tests and observations should include, but not necessarily be limited to, the following:

- Observations and testing during site preparation, earthwork and structural fill placement.
- Observation of foundation soils to assess their suitability for footing placement.
- Observation of soft/loose soils over-excavation.
- Observation of temporary excavations and shoring.
- Consultation as may be required during construction.
- Quality control and observation of concrete placement.

We also recommend that project plans and specifications be reviewed by GeoStrata to verify compatibility with our conclusions and recommendations. Additional information concerning the scope and cost of these services can be obtained from our office.

We appreciate the opportunity to be of service on this project. Should you have any questions regarding the report or wish to discuss additional services, please do not hesitate to contact us at your convenience at (801) 501-0583.

8.0 REFERENCES CITED

Biek, R.F., 2005, Geologic Map of the Lehi Quadrangle Salt Lake and Utah Counties, Utah: Utah Geological Survey Map 210, scale 1:24,000.

Black, B.D., Hecker, S., Hylland, M.D., Christenson, G.E., and McDonald G.N., 2003, Quaternary Fault and Fold Database and Map of Utah: Utah geological Survey Map 193DM.

Earthtec Testing and Engineeirng, P.C., 2005, Geotechnical Study Summit Hills Development & Lakeview Drive Extension, Alpine, Utah; Earthtec Job No. 051709, unpublished consultant's report.

Hintze, L. F., 1980, Geologic Map of Utah: Utah Geological and Mineral Survey Map-A-1, scale 1:500,000.

International Building Code [IBC], 2015, International Code Council, Inc.

Machette, M.N., 1992, Surficial geologic map of Wasatch fault zone, eastern part of the Utah Valley, Utah County and parts of Salt Lake and Juab Counties, Utah: U.S. Geological Survey Miscellaneous Investigations Series Map I-2095, scale 1:50,000.

Appendix A

400 0 400 800 1200 1600 ft

1:10,000

GeoStrata

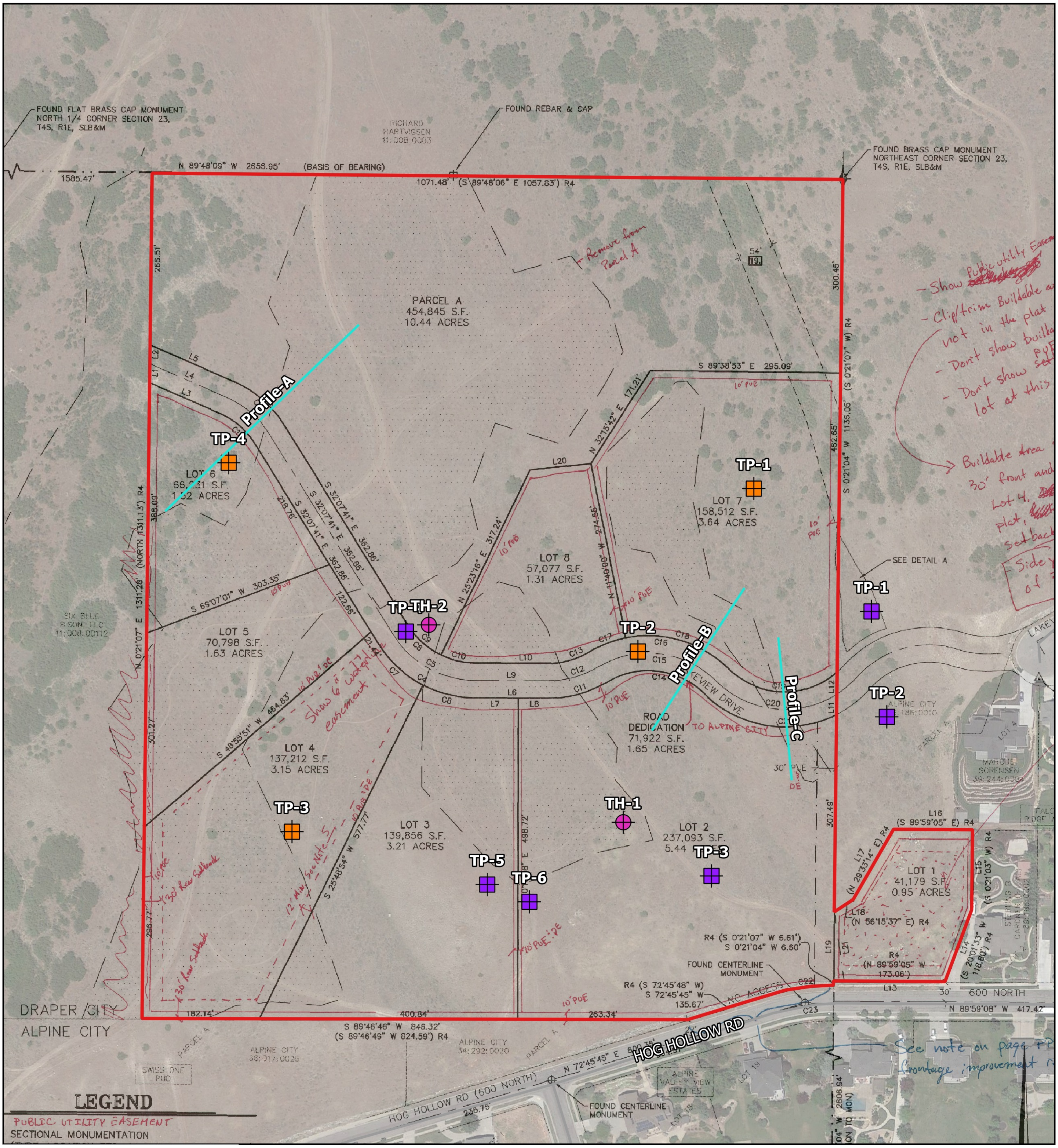
Legend

Approximate Site Boundary

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, UT
Project Number: 1312-003

Site Vicinity Map

Plate A-1



Legend

- Slope Profile
- Approximate Site Boundary
- GeoStrata Test Pits
- Earthtec Borings
- Earthtec Test Pits

100 0 100 200 300 400 ft

1:2,400

GeoStrata

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, UT
Project Number: 1312-003

Exploration Location Map

Plate A-2

Appendix B

DATE	
STARTED:	9/13/18
COMPLETED:	9/13/18
BACKFILLED:	9/13/18

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, Utah
Project Number 1312-003

GeoStrata Rep: A. Peay
Rig Type: PC 200 Trackhoe
Boring Type: Test Pit

BORING NO:
TP-1
Sheet 1 of 1

LOCATION
STATION OFFSET ELEVATION

DEPTH METERS	DEPTH FEET	SAMPLES	WATER LEVEL	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	N	N*	SPT BLOW COUNT 10 20 30 40 50 60 70 80 90	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit, Moisture Content, Liquid Limit) 10 20 30 40 50 60 70 80 90
0	0				TOPSOIL; Silty SAND with gravel - dark brown, moist, organics throughout									
				GM	Silty GRAVEL with sand, cobbles and boulders - dense, tannish brown, moist, clasts are subrounded to subangular up to 1.5 feet in diameter									
1														
	5													
2		Grab Sample								5.4	18.3	NP	NP	●
3	10				Bottom of Boring @ 10 Feet									

N - OBSERVED UNCORRECTED BLOW COUNT N* - CORRECTED N1(60) EQUIVALENT SPT BLOW COUNT

GeoStrata

SAMPLE TYPE
- 2" O.D./1.38" I.D. Split Spoon Sampler
- 2.5" O.D./2" I.D. California Split Spoon Sampler
- 3" O.D. Thin-Walled Shelby Sampler
- Grab Sample
- 2" O.D./1.625" I.D. Liner Sampler

NOTES:

WATER LEVEL
▼ - MEASURED ▽ - ESTIMATED

Plate
B - 1

DATE		
STARTED:	9/13/18	
COMPLETED:	9/13/18	
BACKFILLED:	9/13/18	

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, Utah
Project Number 1312-003

GeoStrata Rep: A. Peay
Rig Type: PC 200 Trackhoe
Boring Type: Test Pit

BORING NO:
TP-2
Sheet 1 of 1

LOCATION

STATION OFFSET ELEVATION

DEPTH METERS	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	N	N*	SPT BLOW COUNT 10 20 30 40 50 60 70 80 90	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit, Moisture Content, Liquid Limit) 10 20 30 40 50 60 70 80 90
0	0					TOPSOIL; Silty Clayey SAND with gravel - dark brown, moist, organics throughout									
					CL	Lean CLAY with sand - stiff, reddish brown, moist									
		Grab													
1															
	5	Grab									18.6	76.4	40	22	
2															
3	10														
						Bottom of Boring @ 11 Feet									

N - OBSERVED UNCORRECTED BLOW COUNT N* - CORRECTED N1(60) EQUIVALENT SPT BLOW COUNT

GeoStrata

SAMPLE TYPE
- 2" O.D./1.38" I.D. Split Spoon Sampler
- 2.5" O.D./2" I.D. California Split Spoon Sampler
- 3" O.D. Thin-Walled Shelby Sampler
- Grab Sample
- 2" O.D./1.625" I.D. Liner Sampler

NOTES:

WATER LEVEL
▼ - MEASURED ▽ - ESTIMATED

Plate
B - 2

DATE	
STARTED:	9/13/18
COMPLETED:	9/13/18
BACKFILLED:	9/13/18

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, Utah

Project Number 1312-003

GeoStrata Rep: A. Peay
Rig Type: PC 200 Trackhoe
Boring Type: Test Pit

BORING NO: **TP-3**

Sheet 1 of 1

LOCATION: STATION / OFFSET / ELEVATION

DEPTH (METERS)	DEPTH (FEET)	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	N	N*	SPT BLOW COUNT 10 20 30 40 50 60 70 80 90	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit, Moisture Content, Liquid Limit) 10 20 30 40 50 60 70 80 90
0	0					TOPSOIL; Silty SAND with gravel - dark brown, moist, organics throughout									
					GP	Poorly Graded GRAVEL with cobbles - dense, red brown, moist, clasts are subrounded to subangular up to 6 inches in diameter									
1		Grab								96.7	9.2	4.2	41	20	
					SM	Silty SAND - dense, whitish brown, moist, clasts are subrounded to subangular up to 6 inches in diameter, average clast size between 3 and 4 inches									
	5	Grab													
2															
3	10														
						Bottom of Boring @ 10 Feet									

N - OBSERVED UNCORRECTED BLOW COUNT

N* - CORRECTED N1(60) EQUIVALENT SPT BLOW COUNT

GeoStrata

SAMPLE TYPE
- 2" O.D./1.38" I.D. Split Spoon Sampler
- 2.5" O.D./2" I.D. California Split Spoon Sampler
- 3" O.D. Thin-Walled Shelby Sampler
- Grab Sample
- 2" O.D./1.625" I.D. Liner Sampler

NOTES:

WATER LEVEL
- MEASURED
- ESTIMATED

Plate

B - 3

DATE	
STARTED:	9/13/18
COMPLETED:	9/13/18
BACKFILLED:	9/13/18

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, Utah
Project Number 1312-003

GeoStrata Rep: A. Peay
Rig Type: PC 200 Trackhoe
Boring Type: Test Pit

BORING NO: **TP-4**
Sheet 1 of 1

LOCATION: STATION / OFFSET / ELEVATION

DEPTH (Meters)	DEPTH (Feet)	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	N	N*	SPT BLOW COUNT 10 20 30 40 50 60 70 80 90	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit, Moisture Content, Liquid Limit) 10 20 30 40 50 60 70 80 90
0	0					TOPSOIL; Silty SAND with gravel - dark brown, moist, organics throughout									
					SP	Poorly Graded SAND with silt, gravel and cobbles - dense, red brown, moist, clasts are subrounded to subangular up to 6 inches in diameter									
1		Grab			GP-GC	Poorly Graded GRAVEL with clay and sand - dense, whitish brown, moist, pinhole structures throughout									
	5														
2		Grab								93.8	10.8	9.4	28	7	
					SM	Silty SAND with gravel - dense, reddish tan, moist, clasts are subrounded to subangular up to 6 inches in diameter, average clast size between 3 and 4 inches									
3	10					Bottom of Boring @ 10 Feet									

N - OBSERVED UNCORRECTED BLOW COUNT
N* - CORRECTED N1(60) EQUIVALENT SPT BLOW COUNT

SAMPLE TYPE
- 2" O.D./1.38" I.D. Split Spoon Sampler
- 2.5" O.D./2" I.D. California Split Spoon Sampler
- 3" O.D. Thin-Walled Shelby Sampler
- Grab Sample
- 2" O.D./1.625" I.D. Liner Sampler

NOTES:

WATER LEVEL
▼ - MEASURED ▽ - ESTIMATED

Plate
B - 4

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			USCS SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS (More than half of material is larger than the #200 sieve)	GRAVELS (More than half of coarse fraction is larger than the #4 sieve)	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
			GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
		GRAVELS WITH OVER 12% FINES	GM	SILTY GRAVELS, GRAVEL-SILT-SAND MIXTURES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SANDS (More than half of coarse fraction is smaller than the #4 sieve)	CLEAN SANDS WITH LITTLE OR NO FINES	SW	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
			SP	POORLY-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
		SANDS WITH OVER 12% FINES	SM	SILTY SANDS, SAND-GRAVEL-SILT MIXTURES
			SC	CLAYEY SANDS SAND-GRAVEL-CLAY MIXTURES
FINE GRAINED SOILS (More than half of material is smaller than the #200 sieve)	SILTS AND CLAYS (Liquid limit less than 50)		ML	INORGANIC SILTS & VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (Liquid limit greater than 50)		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS & ORGANIC SILTS OF MEDIUM-TO-HIGH PLASTICITY
HIGHLY ORGANIC SOILS			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

LOG KEY SYMBOLS

BORING SAMPLE LOCATION

TEST-PIT SAMPLE LOCATION

WATER LEVEL (level after completion)

WATER LEVEL (level where first encountered)

CEMENTATION

DESCRIPTION	DESCRIPTION
WEAKELY	CRUMBLES OR BREAKS WITH HANDLING OR SLIGHT FINGER PRESSURE
MODERATELY	CRUMBLES OR BREAKS WITH CONSIDERABLE FINGER PRESSURE
STRONGLY	WILL NOT CRUMBLE OR BREAK WITH FINGER PRESSURE

OTHER TESTS KEY

C	CONSOLIDATION	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	DS	DIRECT SHEAR
UC	UNCONFINED COMPRESSION	T	TRIAXIAL
S	SOLUBILITY	R	RESISTIVITY
O	ORGANIC CONTENT	RV	R-VALUE
CBR	CALIFORNIA BEARING RATIO	SU	SOLUBLE SULFATES
COMP	MOISTURE/DENSITY RELATIONSHIP	PM	PERMEABILITY
CI	CALIFORNIA IMPACT	-200	% FINER THAN #200
COL	COLLAPSE POTENTIAL	Gs	SPECIFIC GRAVITY
SS	SHRINK SWELL	SL	SWELL LOAD

MODIFIERS

DESCRIPTION	%
TRACE	<5
SOME	5 - 12
WITH	>12

MOISTURE CONTENT

DESCRIPTION	FIELD TEST
DRY	ABSENCE OF MOISTURE, DUSTY, DRY TO THE TOUCH
MOIST	DAMP BUT NO VISIBLE WATER
WET	VISIBLE FREE WATER, USUALLY SOIL BELOW WATER TABLE

STRATIFICATION

DESCRIPTION	THICKNESS	DESCRIPTION	THICKNESS
SEAM	1/16 - 1/2"	OCCASIONAL	ONE OR LESS PER FOOT OF THICKNESS
LAYER	1/2 - 12"	FREQUENT	MORE THAN ONE PER FOOT OF THICKNESS

GENERAL NOTES

1. Lines separating strata on the logs represent approximate boundaries only. Actual transitions may be gradual.
2. No warranty is provided as to the continuity of soil conditions between individual sample locations.
3. Logs represent general soil conditions observed at the point of exploration on the date indicated.
4. In general, Unified Soil Classification designations presented on the logs were evaluated by visual methods only. Therefore, actual designations (based on laboratory tests) may vary.

APPARENT / RELATIVE DENSITY - COARSE-GRAINED SOIL

APPARENT DENSITY	SPT (blows/ft)	MODIFIED CA. SAMPLER (blows/ft)	CALIFORNIA SAMPLER (blows/ft)	RELATIVE DENSITY (%)	FIELD TEST
VERY LOOSE	<4	<4	<5	0 - 15	EASILY PENETRATED WITH 1/2-INCH REINFORCING ROD PUSHED BY HAND
LOOSE	4 - 10	5 - 12	5 - 15	15 - 35	DIFFICULT TO PENETRATE WITH 1/2-INCH REINFORCING ROD PUSHED BY HAND
MEDIUM DENSE	10 - 30	12 - 35	15 - 40	35 - 65	EASILY PENETRATED A FOOT WITH 1/2-INCH REINFORCING ROD DRIVEN WITH 5-LB HAMMER
DENSE	30 - 50	35 - 60	40 - 70	65 - 85	DIFFICULT TO PENETRATED A FOOT WITH 1/2-INCH REINFORCING ROD DRIVEN WITH 5-LB HAMMER
VERY DENSE	>50	>60	>70	85 - 100	PENETRATED ONLY A FEW INCHES WITH 1/2-INCH REINFORCING ROD DRIVEN WITH 5-LB HAMMER

CONSISTENCY - FINE-GRAINED SOIL

CONSISTENCY	SPT (blows/ft)	TORVANE UNTRAINED SHEAR STRENGTH (tsf)	POCKET PENETROMETER UNCONFINED COMPRESSIVE STRENGTH (tsf)	FIELD TEST
VERY SOFT	<2	<0.125	<0.25	EASILY PENETRATED SEVERAL INCHES BY THUMB. EXUDES BETWEEN THUMB AND FINGERS WHEN SQUEEZED BY HAND.
SOFT	2 - 4	0.125 - 0.25	0.25 - 0.5	EASILY PENETRATED ONE INCH BY THUMB. MOLDED BY LIGHT FINGER PRESSURE.
MEDIUM STIFF	4 - 8	0.25 - 0.5	0.5 - 1.0	PENETRATED OVER 1/2 INCH BY THUMB WITH MODERATE EFFORT. MOLDED BY STRONG FINGER PRESSURE.
STIFF	8 - 15	0.5 - 1.0	1.0 - 2.0	INDENTED ABOUT 1/2 INCH BY THUMB BUT PENETRATED ONLY WITH GREAT EFFORT.
VERY STIFF	15 - 30	1.0 - 2.0	2.0 - 4.0	READILY INDENTED BY THUMBNAIL.
HARD	>30	>2.0	>4.0	INDENTED WITH DIFFICULTY BY THUMBNAIL.

GeoStrata

Soil Symbols Description Key

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, Utah
Project Number: 1312-003

Plate B-5

Appendix C

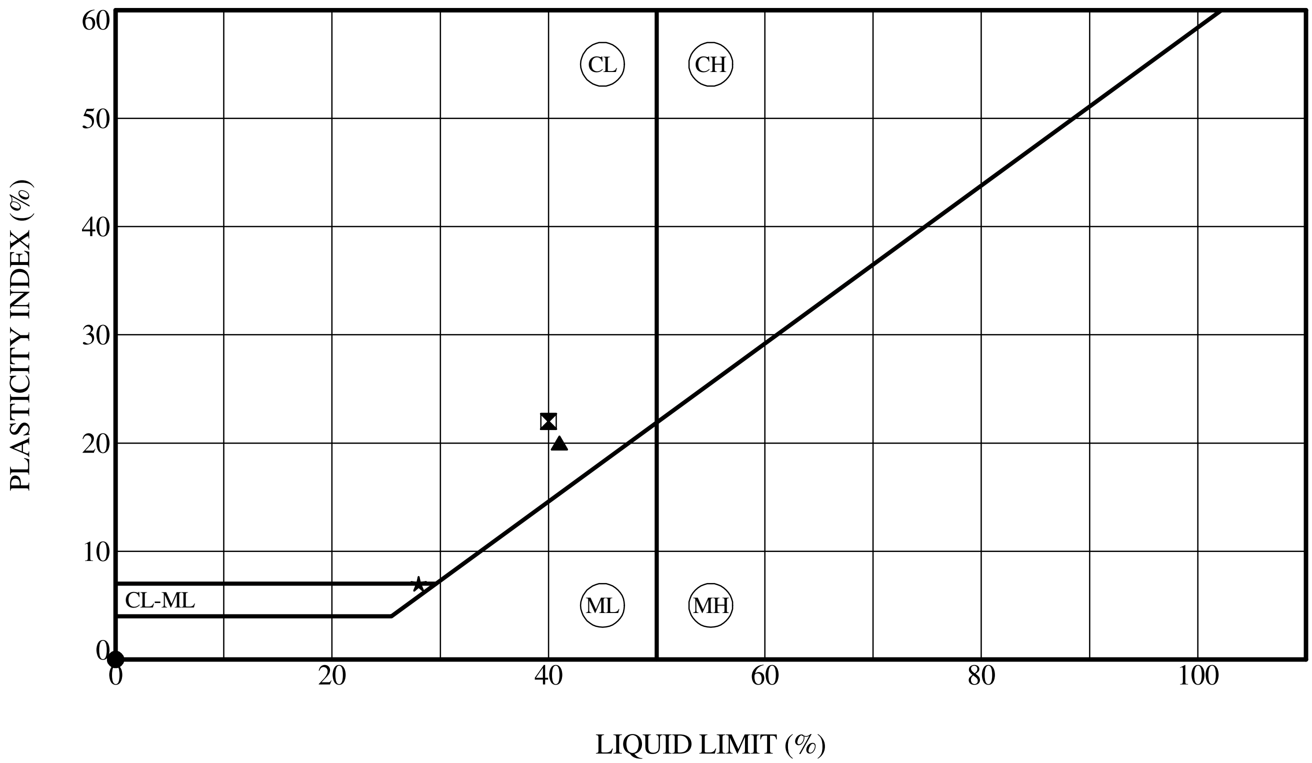
Test Pit No.	Sample Depth (feet)	USCS Soil Classification	Natural Moisture Content (%)	Natural Dry Density (pcf)	Gradation			Atterberg		Consolidation			Direct Shear	
					Gravel (%)	Sand (%)	Fines (%)	LL	PI	Cc	Cr	OCR	Internal Friction Angle (°)	Apparent Cohesion (psf)
TP-1	7	GM	5.4		57.4	24.3	18.3	NP	NP					
TP-2	5	CL	18.6	91.8	23.6		76.4	40	22	0.123	0.023	3	26	140
TP-3	3	GP	9.2	96.7	81.6	14.2	4.2	41	20					
TP-4	6	GP-GC	10.8	93.8	75.3	15.3	9.4	28	7				30	110

GeoStrata

Lab Summary Report

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, Utah
Project Number: 1312-003

Plate C - 1



	Sample Location	Depth (ft)	LL (%)	PL (%)	PI (%)	Fines (%)	Classification
●	**TP-1**	**7.0**	**NP**	**NP**	**NP**	**18.3**	**Silty GRAVEL with sand**
⊠	**TP-2**	**5.0**	**40**	**18**	**22**	**76.4**	**Lean CLAY with sand**
▲	**TP-3**	**3.0**	**41**	**21**	**20**	**4.2**	**Poorly Graded GRAVEL**
★	**TP-4**	**6.0**	**28**	**21**	**7**	**9.4**	**Poorly Graded GRAVEL with clay and sand**

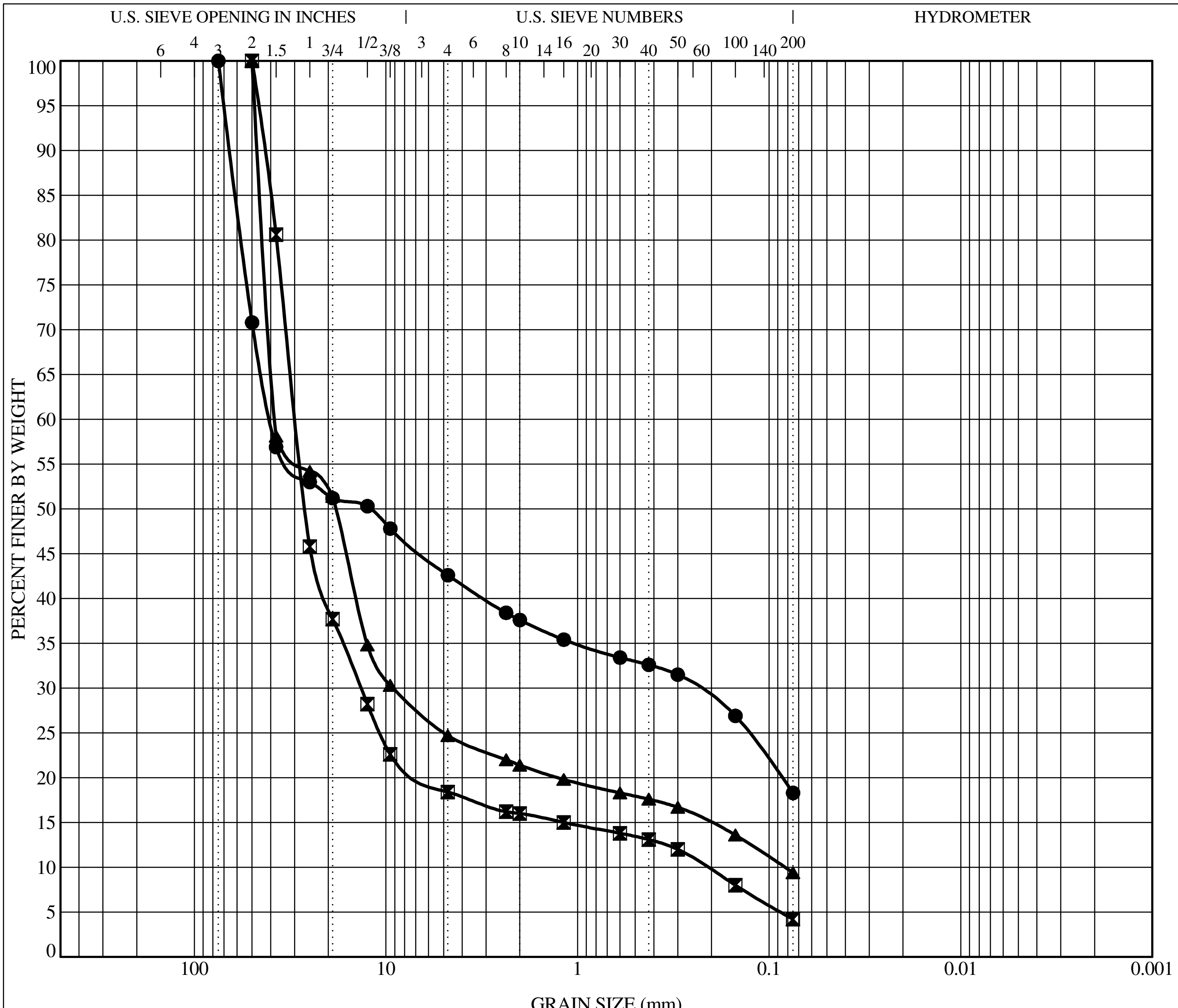
GeoStrata

ATTERBERG LIMITS' RESULTS - ASTM D 4318

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, Utah
Project Number: 1312-003

Plate
C - 2

C_ATTERBERG EXPLORATION LOGS.GPJ GEOSTRATA.GDT 9/24/18



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Sample Location	Depth	Classification	LL	PL	PI	Cc	Cu
●	**TP-1**	**7.0**	**Silty GRAVEL with sand**	**NP**	**NP**	**NP**		
⊠	**TP-3**	**3.0**	**Poorly Graded GRAVEL**	**41**	**21**	**20**	**29.26**	**139.06**
▲	**TP-4**	**6.0**	**Poorly Graded GRAVEL with clay and sand**	**28**	**21**	**7**	**26.63**	**458.81**

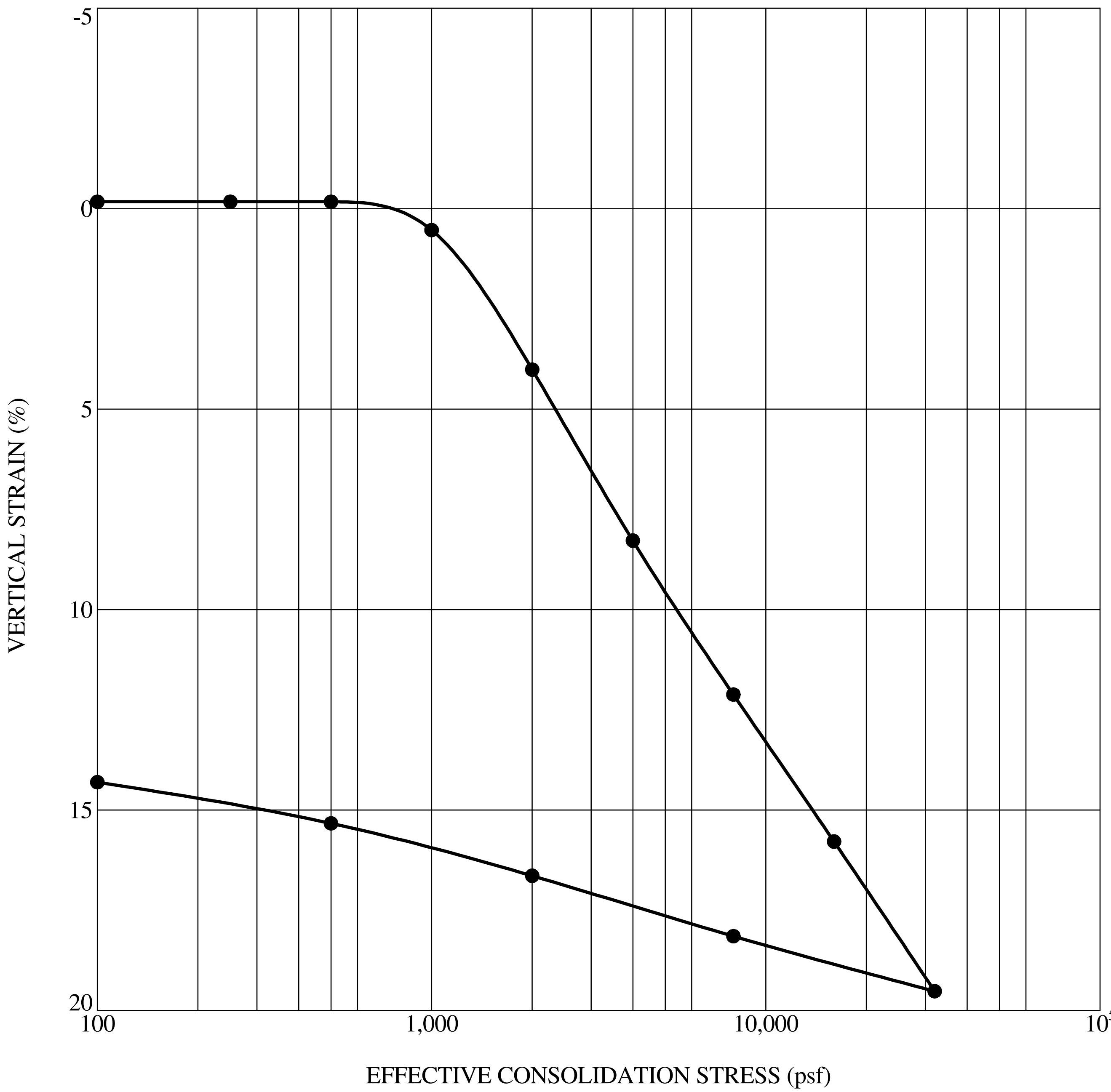
	Sample Loctaion	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**TP-1**	**7.0**	**75**	**39.985**	**0.239**		**57.4**	**24.3**	**18.3**	
⊠	**TP-3**	**3.0**	**50**	**29.498**	**13.532**	**0.212**	**81.6**	**14.2**	**4.2**	
▲	**TP-4**	**6.0**	**50**	**37.992**	**9.154**	**0.083**	**75.3**	**15.3**	**9.4**	

GeoStrata

GRAIN SIZE DISTRIBUTION - ASTM D422

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, Utah
Project Number: 1312-003

Plate
C - 3



	Sample Location	Depth (ft)	Classification	γ_d (pcf)	MC (%)	C'_c	C'_r	OCR
●	**TP-2**	**5.0**	**Lean CLAY with sand**	**91.8**	**20.0**	**0.123**	**0.023**	**3.0**

1-D CONSOLIDATION TEST - ASTM D 2435

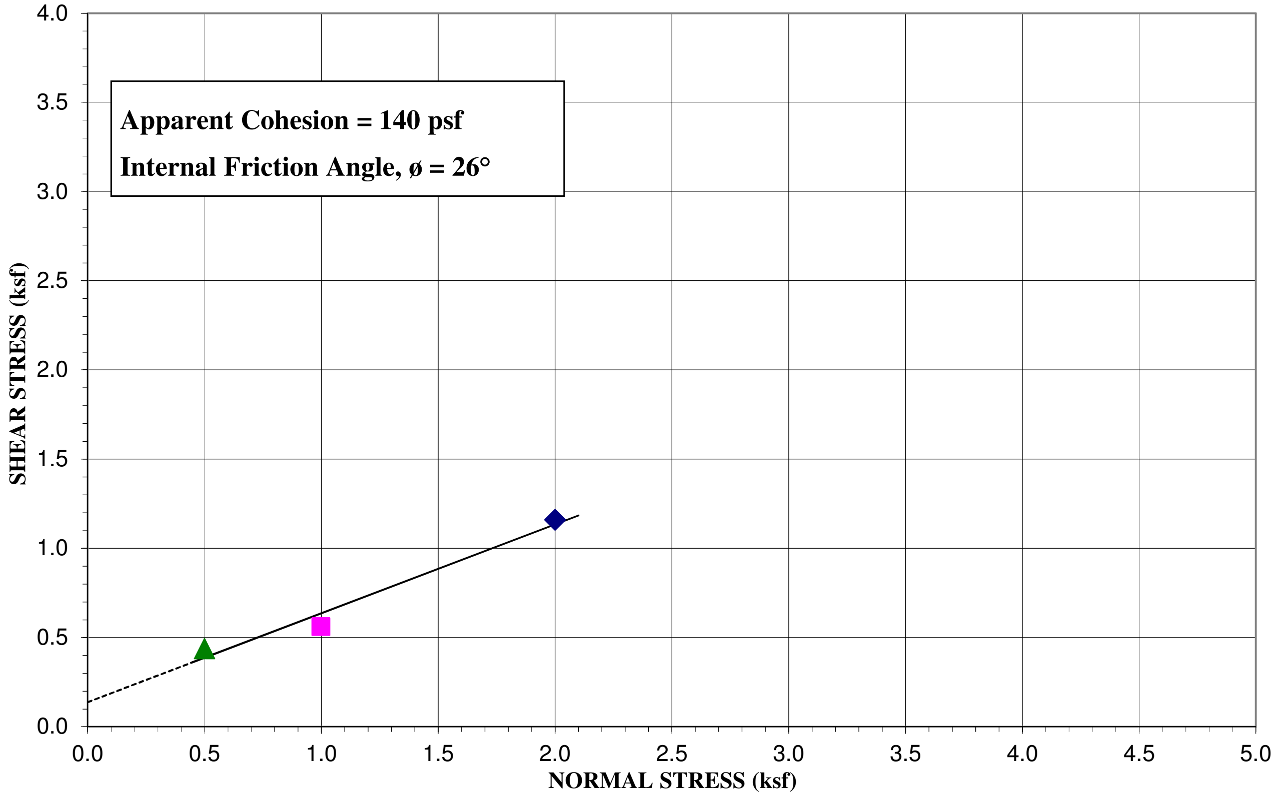
Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, Utah
Project Number: 1312-003

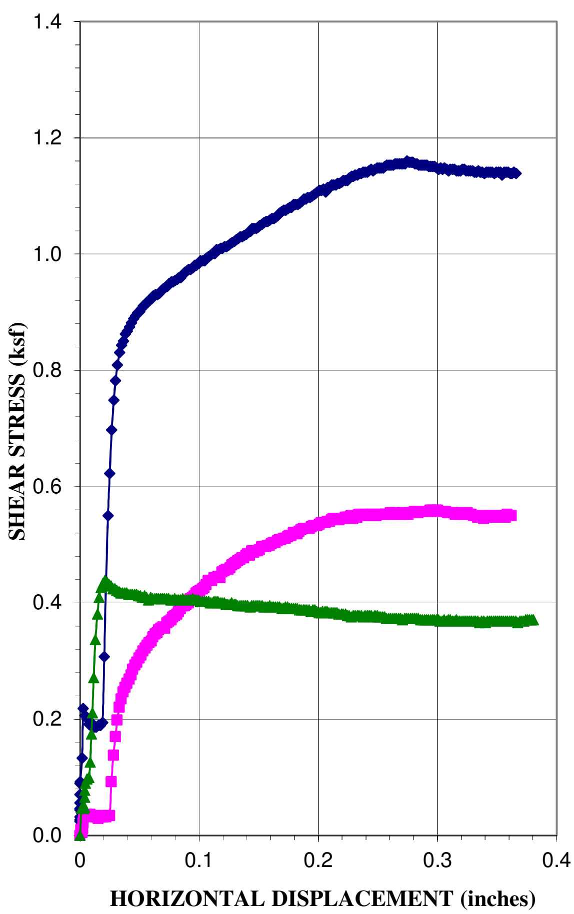
Plate

C - 4

C_CONSOL EXPLORATION LOGS.GPJ GEOSTRATA.GDT 10/8/18

DIRECT SHEAR TEST





Sample Location:	TP-2 @ 5
Type of Test:	Consolidated Drained/Saturated

Test No. (Symbol)	1 (◆)	2 (■)	3 (▲)
Sample Type	Remolded		
Initial Height, in.	0.936	0.997	0.959
Diameter, in.	2.5	2.5	2.5
Dry Density Before, pcf	103.5	97.3	101.1
Dry Density After, pcf	105.3	99.0	102.8
Moisture % Before	14.0	15.2	14.6
Moisture % After	24.2	25.8	25.0
Saturation, % Before	61.8	57.7	60.8
Saturation, % After	112.3	101.8	109.2
Normal Load, ksf	2.0	1.0	0.5
Shear Stress, ksf	1.16	0.56	0.44
Strain Rate	0.003333 IN/MIN		

Sample Properties	
Cohesion, psf	140
Friction Angle, ϕ	26
Liquid Limit, %	40
Plasticity Index, %	22
Percent Gravel	23.6
Percent Sand	
Percent Passing No. 200 sieve	76.4
Classification	CL

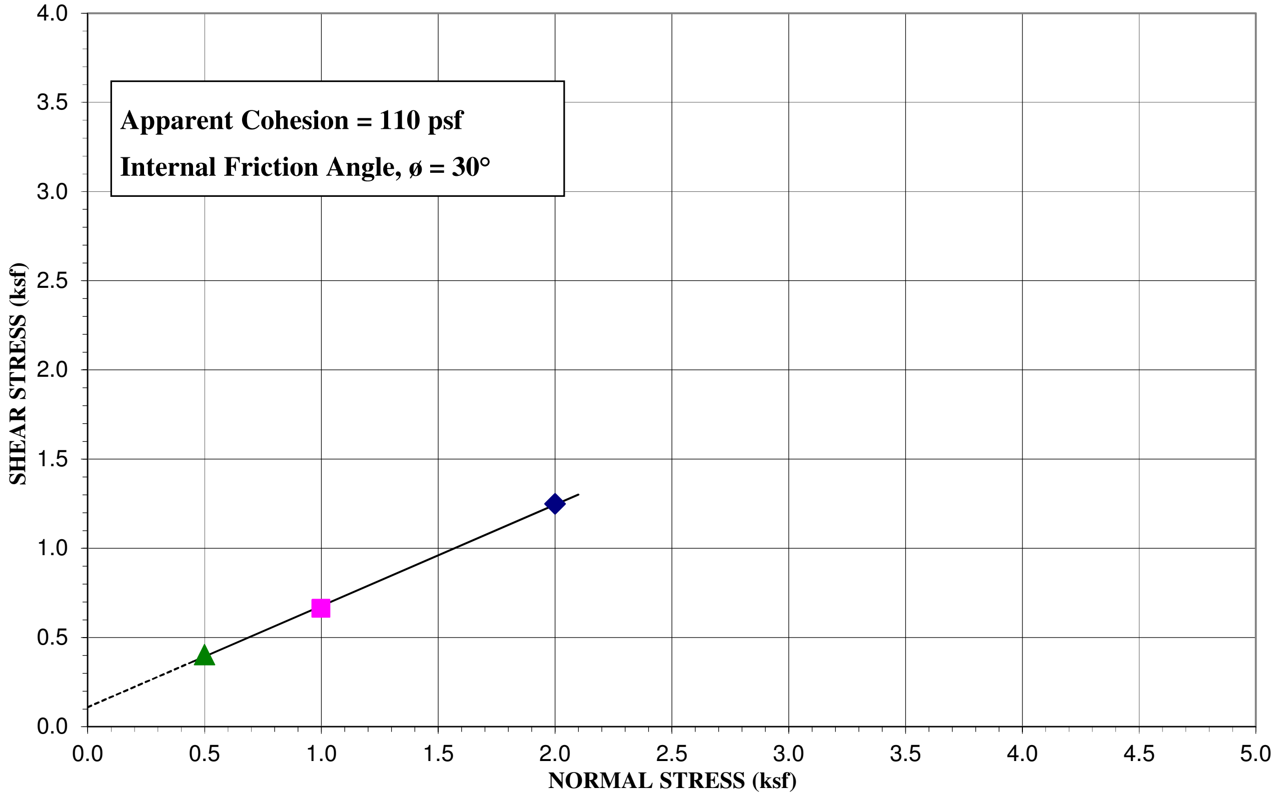
PROJECT: Summit Pointe

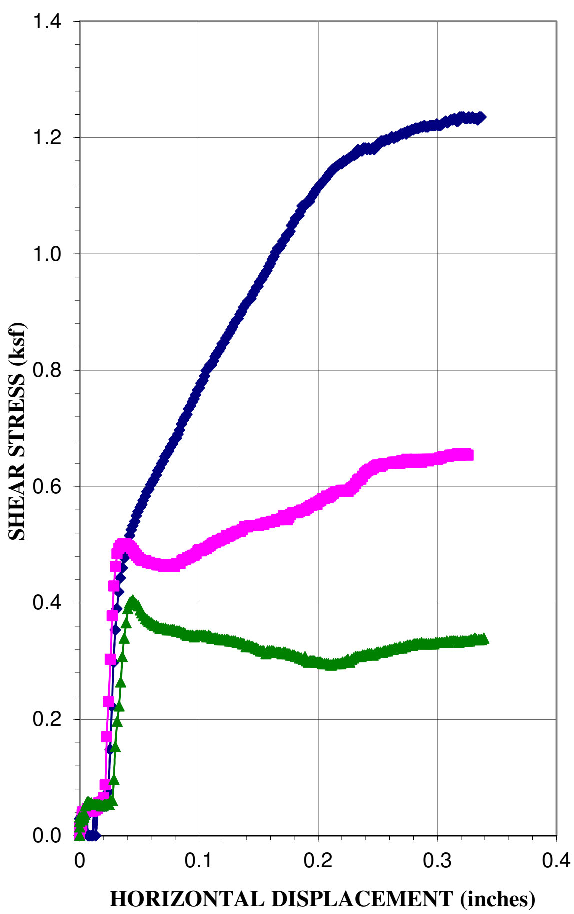
PROJECT NO.: **1312-003**

GeoStrata

Plate C-5

DIRECT SHEAR TEST





Sample Location:	TP-4 @ 6
Type of Test:	Consolidated Drained/Saturated

Test No. (Symbol)	**1 (◆)**	**2 (■)**	**3 (▲)**
Sample Type	Remolded		
Initial Height, in.	0.947	0.937	0.945
Diameter, in.	2.5	2.5	2.5
Dry Density Before, pcf	98.9	99.4	98.8
Dry Density After, pcf	100.7	101.2	100.6
Moisture % Before	10.3	10.7	9.7
Moisture % After	25.0	25.8	26.8
Saturation, % Before	40.7	42.7	38.1
Saturation, % After	102.9	107.7	110.2
Normal Load, ksf	2.0	1.0	0.5
Shear Stress, ksf	1.25	0.66	0.40
Strain Rate	0.003008 IN/MIN		

Sample Properties	
Cohesion, psf	110
Friction Angle, ϕ	30
Liquid Limit, %	28
Plasticity Index, %	7
Percent Gravel	75.3
Percent Sand	15.3
Percent Passing No. 200 sieve	9.4
Classification	GP-GC

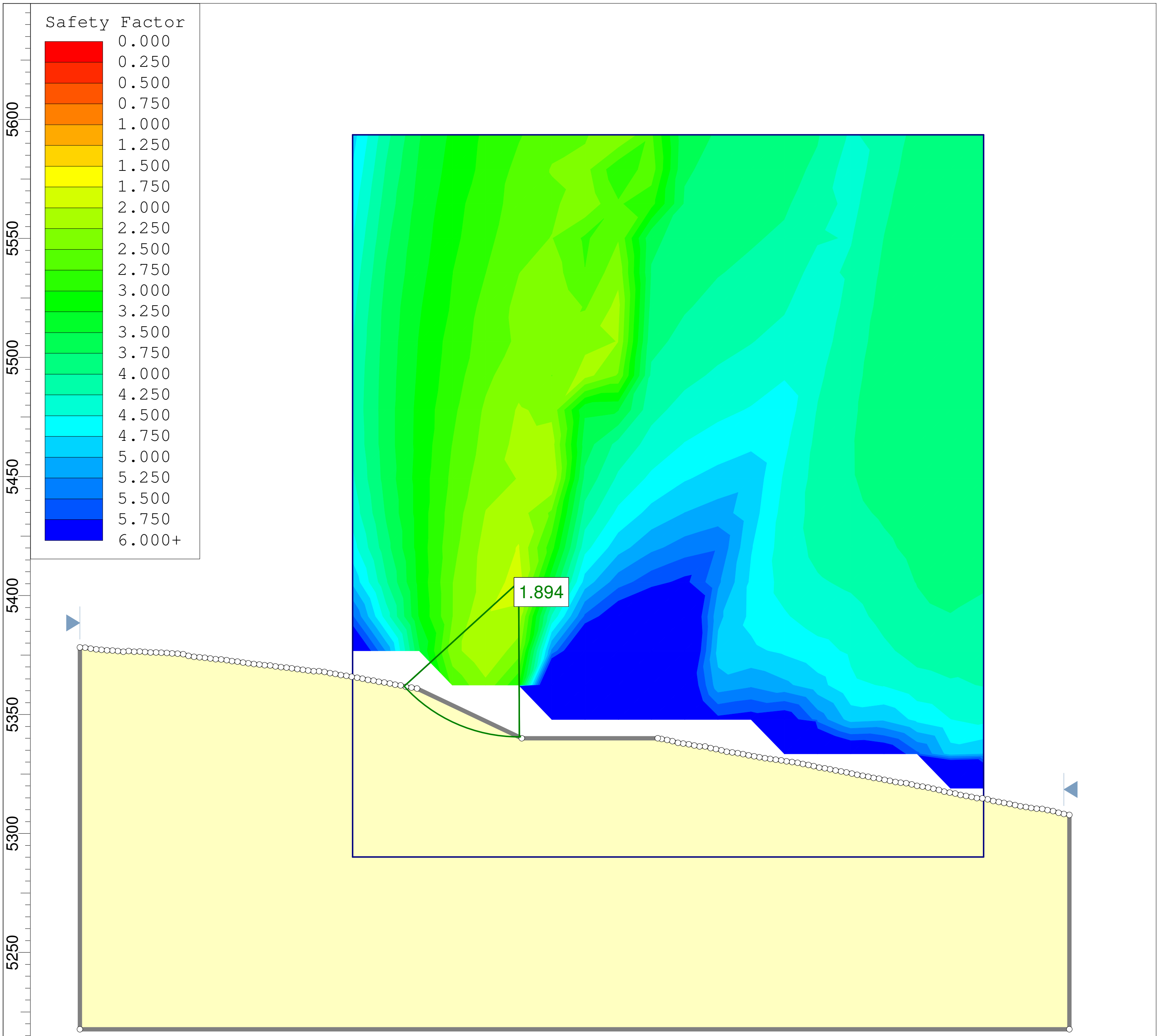
PROJECT: Summit Pointe

PROJECT NO.: **1312-003**

GeoStrata

Plate C-6

Appendix D



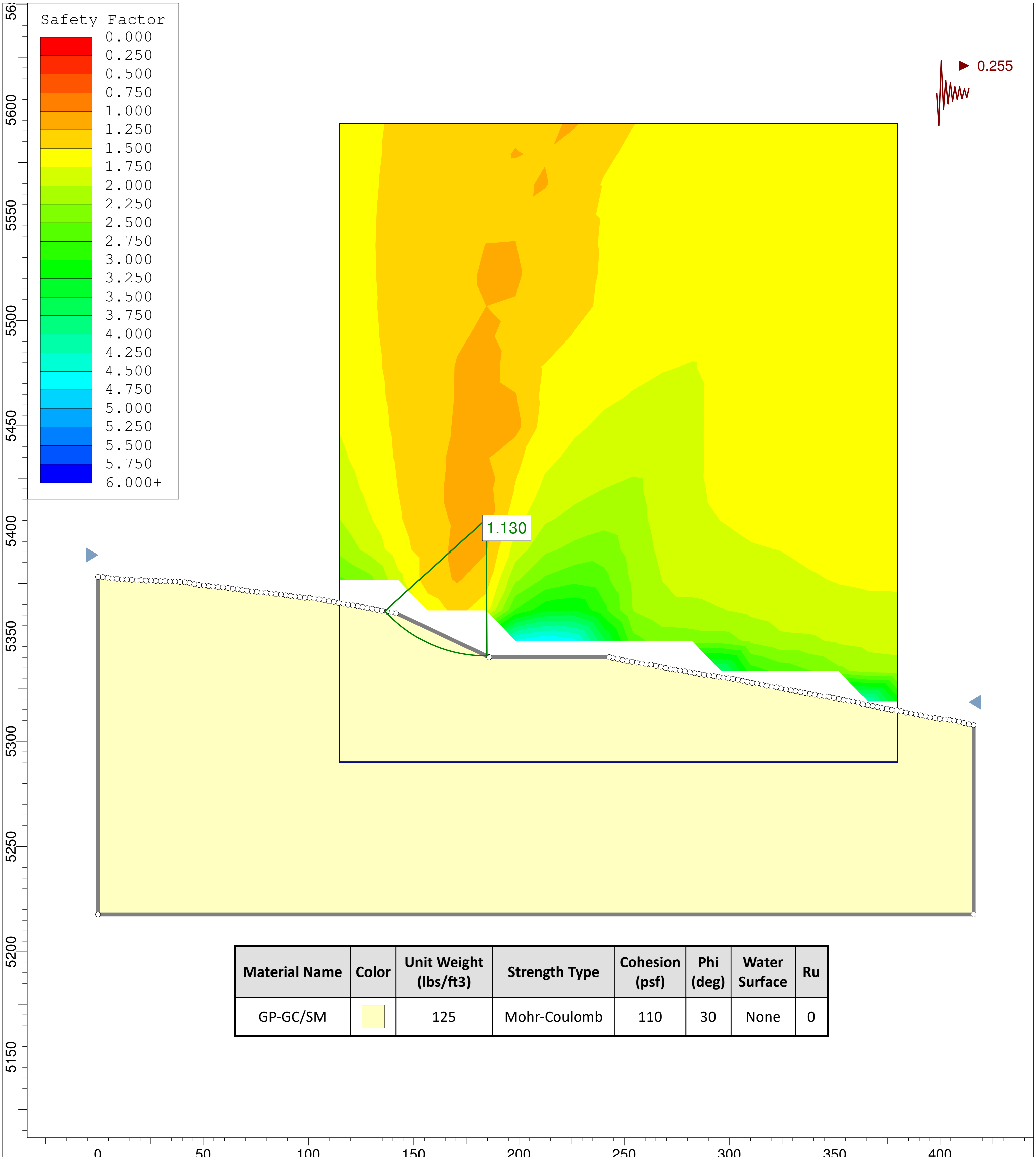
Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Ru
GP-GC/SM		125	Mohr-Coulomb	110	30	None	0

GeoStrata

Profile-A Static

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, UT
Project Number: 1312-003

Plate D-1



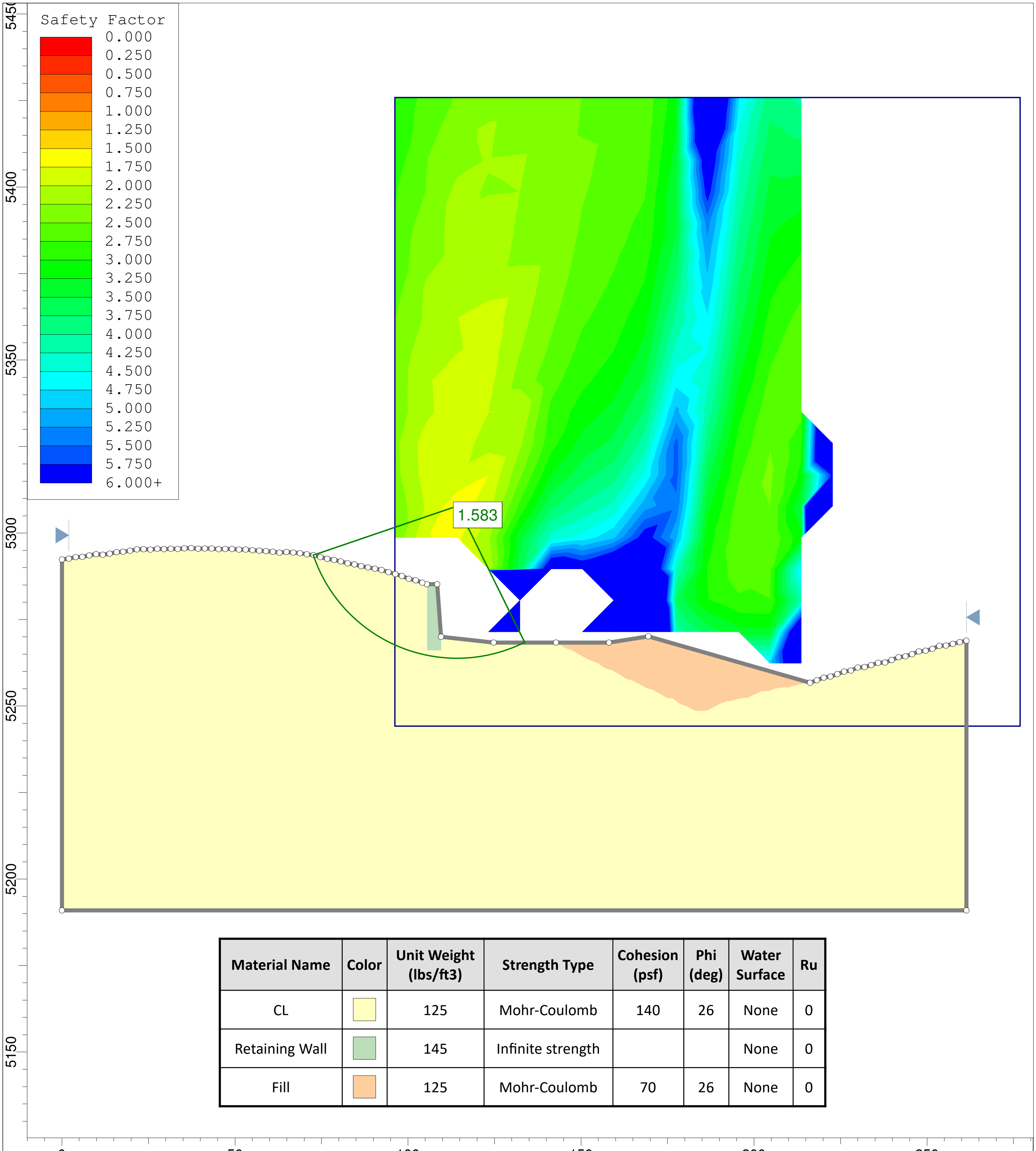
Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Ru
GP-GC/SM		125	Mohr-Coulomb	110	30	None	0

GeoStrata

Profile-A Pseudo Static

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, UT
Project Number: 1312-003

Plate D-2



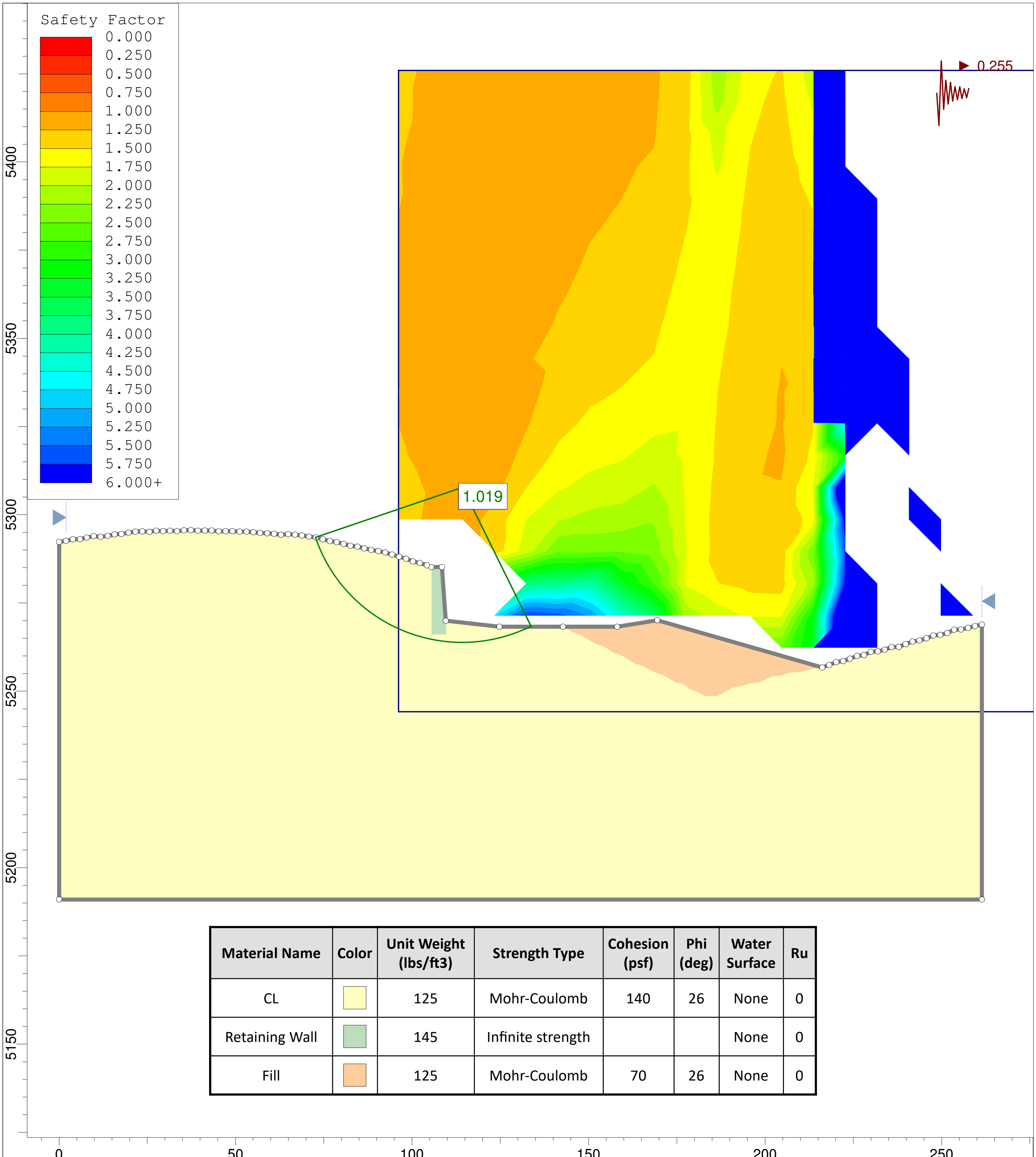
Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Ru
CL		125	Mohr-Coulomb	140	26	None	0
Retaining Wall		145	Infinite strength			None	0
Fill		125	Mohr-Coulomb	70	26	None	0

GeoStrata

Profile-B Static

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, UT
Project Number: 1312-003

Plate D-3



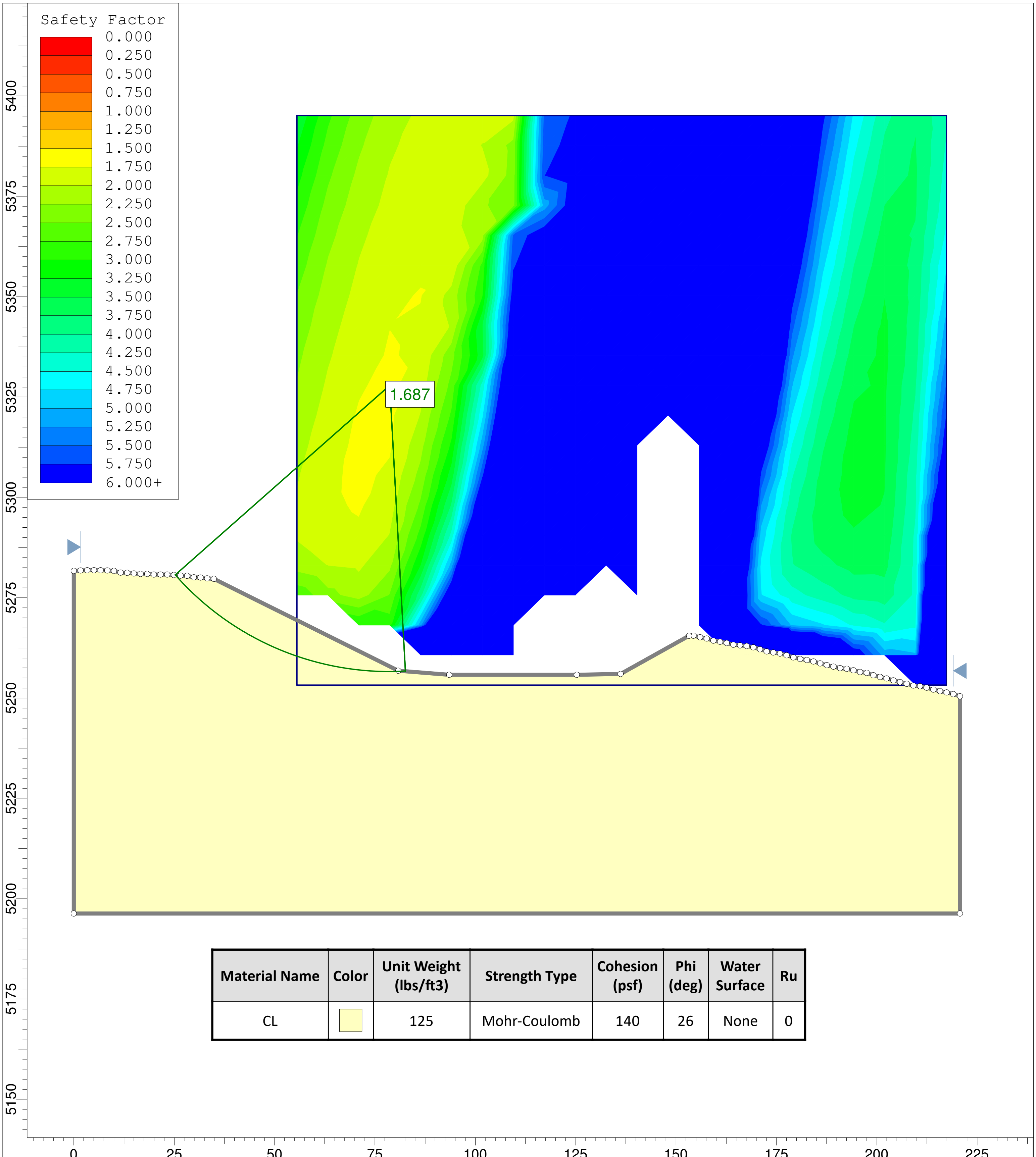
Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Ru
CL		125	Mohr-Coulomb	140	26	None	0
Retaining Wall		145	Infinite strength			None	0
Fill		125	Mohr-Coulomb	70	26	None	0

GeoStrata

Profile-B Pseudo Static

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, UT
Project Number: 1312-003

Plate D-4

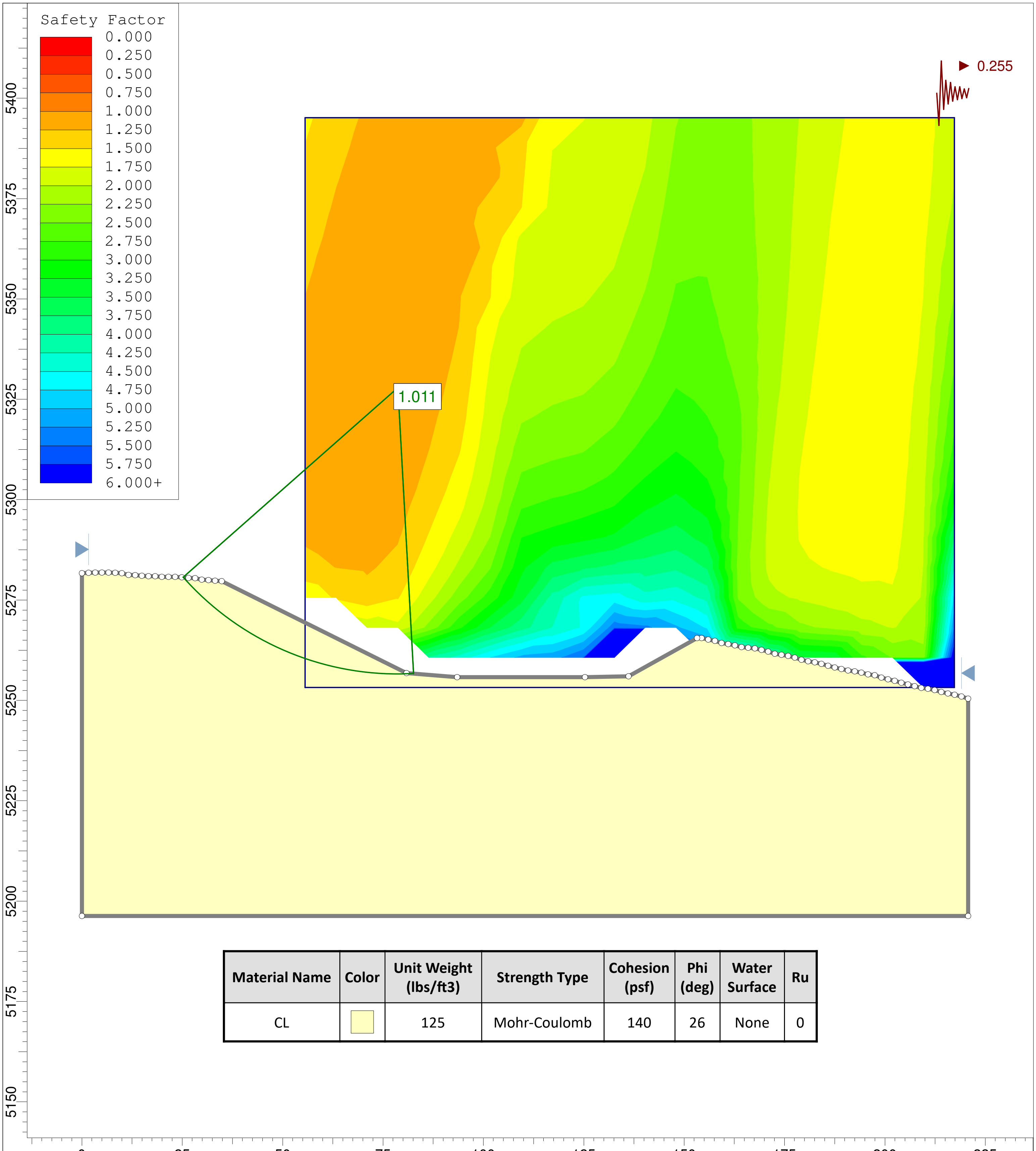


Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Ru
CL		125	Mohr-Coulomb	140	26	None	0

Profile-C Static

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, UT
Project Number: 1312-003

Plate D-5



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Ru
CL		125	Mohr-Coulomb	140	26	None	0

GeoStrata

Profile-C Pseudo Static

Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, UT
Project Number: 1312-003

Plate D-6

Summit Pointe Subdivision
Alpine City, Utah

Prepared for:

Jacob Satterfield
Blue Bison Development

Prepared by:

Paul Feser, P.E.
P.O. Box 2412
Salt Lake City, UT 84110
Ph: 801-433-2498

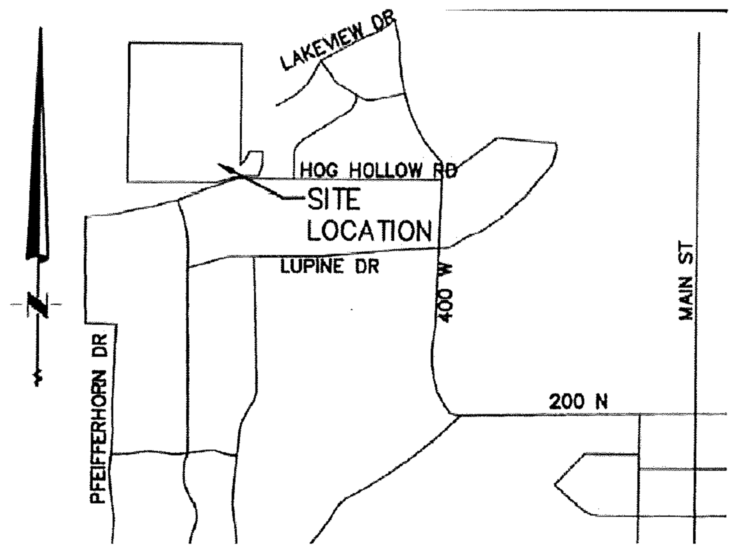
5/24/2018

LICENSED PROFESSIONAL ENGINEER
No. 4770481
PAUL S.
FESER
CIVIL
STATE OF UTAH

I. GENERAL LOCATION AND DESCRIPTION

Location

The proposed project is a 33 acre project in Alpine City and on the corner of Draper and Highland. The site is bound by undeveloped property to the north and west and residential to the south and east.



Description of Property

The subject property presently consists of undeveloped ground. The existing topography generally slopes to the south and varies from 2-20% depending on the location.

Adjacent to the south east corner of subject property is a public roadway in which there is a storm drain outfall within roughly 200'. This particular storm drain in Hog Hollow Rd is the outfall for the steady release and the overflow for the detention pond.

The property is not located in a floodplain.

II. DRAINAGE BASINS AND SUB-BASINS

Site Conditions

The site is located in the Great Salt Lake Drainage Basin. The site affects approximately 7 acres.

Drainage

The drainage area for the basin consists of the roadway itself and then roughly 30' of area on the uphill side along the right of way. This resulted in roughly 2.3 acres incorporated into the basin. It is assumed that the residences in this area will retain their own runoff in a manner acceptable to the city standards.

The site is sized for a 10-year storm with a release rate of 0.07 cfs/acre. A weighted c value was calculated for the over developed property. The storm runoff surface drains into a surface detention basins. The following show the rational detention, orifice, and pipe flow calculations:

Rational Method of Storm Detention Retention Calculation by Rainfall Precipitation

Project: Summit Pointe Subdivision
Date: 12/7/18
By: PSF

DRAINAGE AREA				
Developed Conditions				
	Area ft2	C	Land Use %	
Roadway	46,600	0.90	46.8%	
Lots	53,000	0.30	53.2%	(within 30' of the uphill right of way)
Total site	99,600			

Total (ac.):	2.29
C average:	0.58
Storm Data:	NOAA
Frequency:	10
City Rel. (cfs/acre)	0.07
Rel. Rate (cfs):	0.16

DETENTION CALCULATIONS

Time	Precipitation	Intensity	Acc.Vol	Rel.Vol.	Req. Stor.	Peak Flow
min	in	in/hr	ft3	ft3	ft3	cfs
5	0.30	3.60	1434	48	1386	4.8
10	0.45	2.70	2151	96	2055	3.6
15	0.56	2.24	2677	144	2533	3.0
30	0.76	1.52	3633	288	3345	2.0
60	0.94	0.94	4493	576	3917	1.2
120	1.09	0.55	5210	1152	4058	0.7
180	1.21	0.40	5784	1729	4055	0.5
360	1.55	0.26	7409	3457	3952	0.3
720	2.02	0.17	9656	6914	2742	0.2
1440	2.37	0.10	11329	13829	-2500	0.1

Basin Size	
Max. Stor. Req. (cf):	4,058

Peak Flow	
Flow (cfs):	0.16

Basin Size	
% of Total Site Area:	100.0%
Resulting Storage Req. (cf):	4,058
Surface Stor. Provided (cf):	4,060
Excess Storage (cf):	2

Orifice Size	
% of Total Site Release	100.0%
Resulting Flow through orifice (cfs):	0.16
Head from middle of basin to middle of orifice (h):	1
Orifice Coefficient Cd (0.62 for square corners):	0.62
Calc. Area of Orifice (in^2):	4.6
Calc. Dia. Of orifice (in):	**2.4**

III. ENVIRONMENTAL PROTECTION CRITERIA

Construction Activities Storm Water Quality Control

Silt fences will be used along the edges of the site that abut adjacent property owners on the downhill side of the project. Inlet protection, consisting of gravel filters and straw bale barriers will be used for all inlets until disturbed areas are either paved or landscaping is established. The contractor is required to use vehicle-tracking control where vehicles enter and exit the site from public right-of-way. The detention facilities and outlet structures will serve as sediment basins during construction. Any disturbed areas left un-worked for more the 21 days must be seeded and mulched with 1 ton per acre of tacked hay within 14 days of last being worked.

During the construction process the above protection methods will be used to limit runoff sediment transport. Tacked hay mulch will control wind erosion over all exposed areas until permanent vegetation has been established. Surface roughening will be applied to side slopes greater than or equal to 3 horizontal to 1 vertical. This will aid in seedbed preparation and establishment of vegetation. It will also reduce runoff velocity, increase infiltration, reduce wind erosion and provide for sediment trapping. Maintenance of the on site controls will be the responsibility of the general contractor during construction operations and the developer and any subsequent tenants once build out has occurred.

Permanent Stabilization and Storm Water Quality Enhancement

Permanent measures used to achieve final stabilization and to control pollutants in storm water discharge after construction operations have been completed include site paving, landscaping, and full sedimentation-filtration systems within the on-site detention facility. The Urban Storm Drainage Criteria Manual was used to implement measures that provide water quality.

IV. CONCLUSIONS

In summary, the proposed commercial development is in conformance with city guidelines. 10-year runoff is captured and detained with release rates not exceeding city guidelines. The detention basin is sized to accommodate a 10-year storm. The emergency or excess of 100-year runoff is concentrated with predetermined flow paths and eventually flows to the east or north into the public right of way. No adverse impacts are anticipated to downstream properties due to the development of this property.

se science

Spinnaker Engineering Science, LLC

TECHNICAL MEMORANDUM

Date: August 13, 2018

To: Alpine City

CC: Project folder

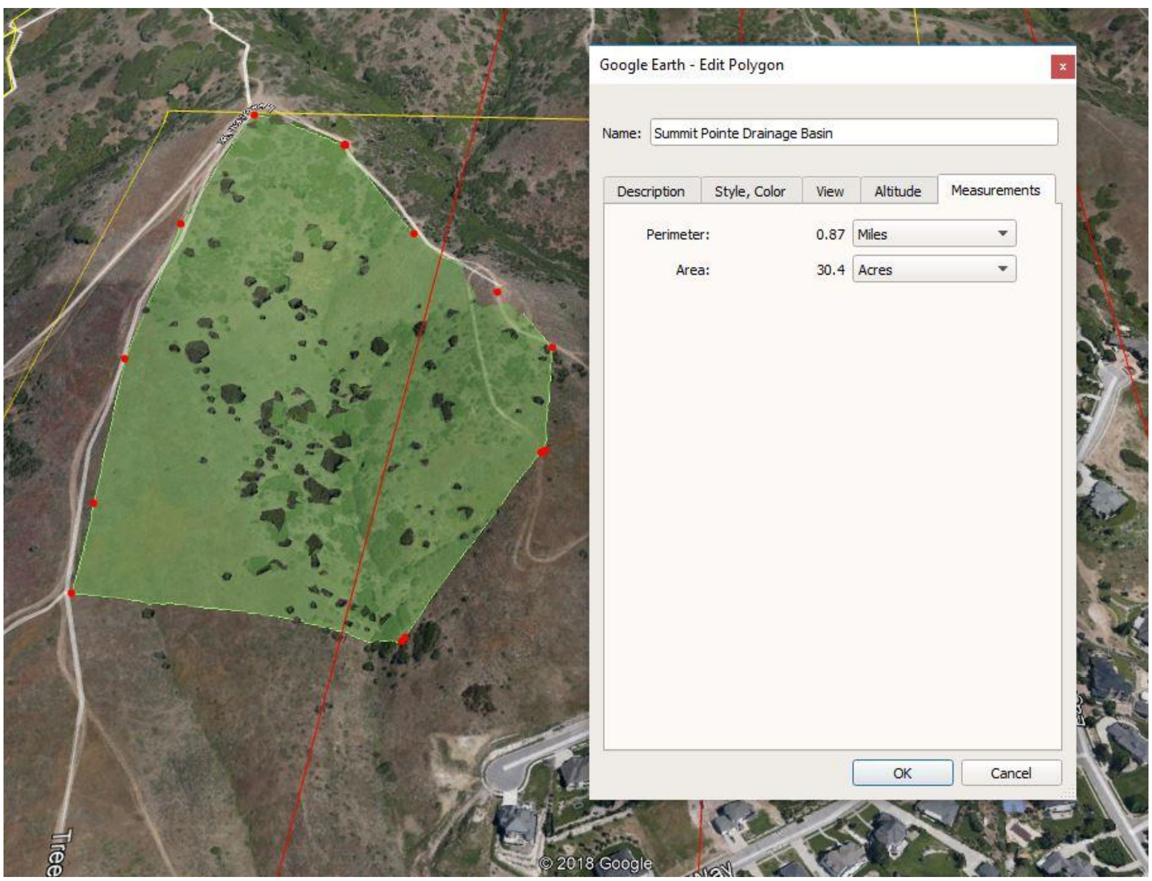
From: Paul Feser, P.E.

Subject: Summit Pointe Hillside Drainage Analysis / Riprap Sizing

S.E. Science was hired to analyze the drainage of the hillside adjacent to the Summit Pointe Subdivision in order to size riprap and a culvert under the proposed public roadway.

It was generally observed that the subject hillside does not act as a typical creek in the area where the Lakeview Drive will cross, as there is no flow except in theory in an extreme storm event. It is therefore assumed that the sizing of the culvert will not have a base flow.

The drainage area is generously approximated to be 30 acres. The length of the runoff is roughly 1800 l.f. at a slope of 10%.



Time of Concentration - The time of concentration is calculated to be 14 minutes and then rounded to be 15 minutes:

TR-55 Worksheet
Time of Concentration Calculator

Main Menu

Calcs Explanations

Job Number:	se1811a
Project Name:	Summit Pointe Subdivision
Location:	Alpine
Client:	
Date:	8/6/2018
By:	Paul Feser

Segment 1: Sheet Flow

Sub-Basin:	100 Year Riprap Calculation
Surface Description:	Native Sage and Scrub Oak

Manning's roughness coeff. (n)	n=	0.13	1	Help
Flow Length, (total L <= 300 ft.)	L=	200 ft	2	
Two Year 24-hr Rainfall (P2)	P2=	3.40 in	3	
Land Slope (s)	s=	0.1000 ft/ft	4	
Travel Time	Tt =	**7.75 min.**	5	

Segment 2: Shallow Concentrated Flow

Surface Description: Wash

Flow Length, (L)	L=	600 ft	6	
Watercourse Slope (s)	s=	0.1000 ft/ft	7	
Velocity factor	k=	8	8	Help
Average Velocity (v)	v=	2.53 fps	9	
Travel Time	Tt =	**3.95 min.**	10	

Segment 3: Open Channel Flow

Surface Description: Wash

Flow Length, (L)	L=	1050 ft	11	
Watercourse Slope (s)	s=	0.1000 ft/ft	12	
Velocity factor	k=	25	13	Help
Average Velocity (v)	v=	7.91 fps	14	
Travel Time	Tt =	**2.21 min.**	15	

Total Time of Concentration: **13.92 min.** 16

Note: See included TR-55 Explanation for details concerning the calculations in this worksheet.

Flow Rate - A rational approach was used to simplify the calculation which is a conservative approach as the rational method tends to overestimate in situations over 20 acres. The required runoff is roughly 20 cfs.

Rational Method of Storm Runoff Calculation by Rainfall Precipitation

Project: Summit Pointe Subdivision
Date: 8/8/18
By: PSF

DRAINAGE AREA			
	Developed Conditions		
	Area ft2	C	Land Use %
Hillside	1,324,224	0.15	100.0%
Total site	1,324,224		

Total (ac.):	30.40
C average:	0.15
Storm Data:	NOAA
Frequency:	100

RUNOFF CALCULATIONS			
Time	Precipitation	Intensity	Peak Flow
15	1.09	4.36	19.9

Culvert Sizing - An 18-inch pipe at 7.8% slope can pass roughly 40 cfs:

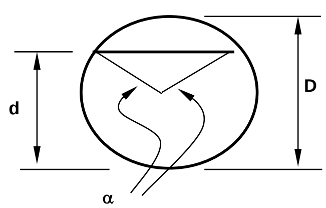
Pipe Flow Calculator

Description: Given three of the following parameters, this model will calculate the fourth: Slope, Diameter, Flow Depth and Volume
Two Equations are used to develop the solution:

Manning's Equation:

$$V = \frac{1.486}{\eta} S^{1/2} R^{2/3}$$

Geometric Relationship of Circular Flow Section:



$$\alpha = 2 \sin^{-1}\left[\frac{2\sqrt{d(D-d)}}{D}\right]$$

$$R = \frac{D}{4}\left[1 - \frac{\sin\alpha}{\alpha}\right]$$

$$A = (\alpha - \sin\alpha)\frac{D^2}{8}$$

Where:
V = Velocity, feet per second (calculated)
η = Manning's Coefficient (selected, default = 0.013)
S = Slope of Pipe, feet per foot
R = Hydraulic Radius, feet (calculated as Area/Wetted Perimeter)
D = Diameter of pipe (selected, converted to feet)
d = Depth of flow (calculated as percent of D)
A = Area (sq. ft.)
Q = Flow (c.f.s.)

Manning's No.: 0.01

INPUT:					RESULT:				
Diameter	18	(inches)	1.50		**Diameter**	1.50	(feet)	18.0	(inches)
% Full	90	%	0.9		**% Full**	90.0	%		
Slope	0.078	ft/ft			**Slope**	0.0780	ft/ft		
Flow		cfs			**Flow**	40.637	cfs		
					Area	1.675	sq. ft.		
					Velocity	24.258	ft/sec		

Riprap - The greatest outfall slope and greatest potential for erosion and failure is immediately adjacent to the inlet and outfall of the culvert. The required size of the riprap is estimated as follows.

Riprap Rock Sizing Calculator

Compute stable rock size. River channel erosion control, scour prevention. Isbash equation

Riprap is used for erosion control, to prevent scour, and to minimize sediment transport in rivers and streams. A stable riprap rock size is desired.

$$D = \frac{V^2}{2gC^2(S-1)}$$

Where:

	INPUT
Q max (cfs)	19.88
Area of weir (s.f.)	2
V = Water Velocity (ft/s)	9.94
C = Isbash constant (0.86 typ.)	0.86
C=0.86 for highly turbulent conditions or C=1.2 for low	
S = Rock specific gravity	2.65
2.56 to 2.92 depending on the rock	
g = Acceleration due to gravity (32.2 ft/s)	
	RESULTS
D = Rock Diameter (ft)	1.3
D = Rock Diameter D50(in)	15.1

In conclusion the 24" riprap specified on the plans should be adequate for the project.

GeoStrata 14425 S. Center Point Way, Bluffdale, Utah 84065
T: (801) 501-0583 ~ F: (801) 501-0584

October 16, 2018

Six Blue Bison, LLC
Attn: Jake Satterfield
12543 Andreas Street
Riverton, Utah

Subject: **Redi-Rock® Retaining Wall Design**
Summit Pointe Subdivision
Alpine, Utah
GeoStrata Project No. 1312-004

Mr. Satterfield,

As requested, GeoStrata has completed a design for the proposed Redi-Rock® retaining walls to be constructed along the proposed extension of Lakeview Drive as part of the construction of the Summit Pointe Subdivision in Alpine, Utah. The approximate locations of the proposed retaining walls are presented on the attached Site Plan in Appendix A (Plate A-1).

The proposed retaining walls will consist of a Redi-Rock retaining system with a maximum exposed single-tier wall height of 10½ feet (9 feet exposed) and maximum exposed 2-tier wall height of 21 feet (18 feet exposed).

Wall-1 will consist of a single tier gravity wall to retain a cut into the native slope. The slope above Wall-1 will be approximately 4H:1V while the slope below the wall will be relatively flat.

Wall-2 and Wall-3 are to consist of 2-tier mechanically stabilized earth (MSE) walls. Slopes above and below Wall-2 are to be relatively flat. The slope above Wall-3 is to be relatively flat while the slope below Wall-3 is to consist of a 3H:1V fill slope. A 5-ft wide bench sloped at 4H:1V will separate the tiers of each wall. Wall-2 and Wall-3 will retain the proposed roadway embankment crossing a natural drainage. The roadway embankment will detain stormwater from the natural drainage as well as stormwater runoff from the proposed roadway to be constructed as part of the proposed Summit Pointe development.

Wall-4 will consist of a 2-tier retaining wall with the upper tier being a gravity wall and the lower tier being an MSE wall. The slope above Wall-4 will be approximately 3.5H:1V while the slope below Wall-4 will be approximately horizontal. A 5-ft wide bench will separate the two tiers and is to be sloped at 4H:1V.

The retaining wall analysis included in this report was completed in accordance with the accepted industry standards of care including global stability and internal stability. The retaining wall design was based on discussions with the Client, our understanding of the project site geometry, and through the use of site plans created for the project. The following paragraphs further describe the analysis and design procedures.

Soil Parameters

The retained soils were observed through a review of geotechnical reports for the subject property. A geotechnical report was prepared by GeoStrata for the proposed development in a report titled "Geotechnical Investigation, Summit Pointe Subdivision, Alpine, Utah" and dated October 8, 2018. A previous geotechnical investigation for the subject property was completed by Earthtec Testing and Engineering titled "Geotechnical Study, Summit Hills Development & Lakeview Drive Extension, Alpine, Utah" dated August 18, 2005. Based on review of these geotechnical reports, subsurface soils in the vicinity of Wall-1 consist of Lean CLAY with sand (CL), which based on direct shear testing completed for the 2018 GeoStrata geotechnical investigation has strength parameters of a friction angle of 26 degrees and an apparent cohesion of 140 psf. Soils in the vicinity of Wall-2, Wall-3, and Wall-4 were observed to consist of Silty SAND (SM) and Poorly Graded GRAVEL with clay and sand (GP-GC). Based on a direct shear test on this material presented in the 2018 GeoStrata geotechnical investigation, these soils have strength parameters of 30 degrees and an apparent cohesion of 110 psf.

Horizontal Ground Acceleration

Seismic screening was completed using a 10 percent probability of exceedance in 50 years. A PGA of 0.204 g was calculated for the subject site when site soil conditions (site class C) are accounted for.

Retaining Wall Stability Analysis

Engineering analysis of the Redi-Rock® retaining walls included over-turning, sliding, bearing capacity, and global stability. The maximum anticipated vertical heights were utilized in our analysis. Overturning, sliding and bearing evaluations were performed based on the slope and soil conditions obtained from our field observations and the previously mentioned laboratory testing. Engineering analysis was completed using the computer program Geo5 Pro Redi-Rock Wall distributed by *Fine spol. s.r.o*. The internal stability analysis calculations are contained in Appendix B.

Global Stability Analysis

The global stability analysis included both static and pseudo-static (seismic) analysis of the maximum sections of the proposed retaining walls. The stability analyses were completed using the geometric conditions, soil strengths, and proposed retaining wall construction as described in previous paragraphs. The investigated sections of the proposed retaining walls were typically the critical (maximum) sections. Minimum factors of safety of 1.3 and 1.0 for static and seismic conditions, respectively, were considered acceptable. Results of our global stability are presented in Appendix C.

Redi-Rock® Retaining Wall Construction Specifications

Construction of the Redi-Rock® retaining wall system shall be carried out according to the specifications for Redi-Rock® wall systems as described in the Redi-Rock® Design Resource

Manual. Section drawings of the proposed retaining wall and construction detail drawings are included in Appendix A (Plate A-2 to A-14).

In summary, a leveling pad composed of clean, crushed, angular gravel (AASTHO No. 57 material or equivalent) a minimum of 12 inches thick shall be placed prior to beginning construction of the retaining walls. This leveling pad should be placed on native, undisturbed soils and compacted until relatively firm and unyielding. A 3-inch diameter perforated sock drain should be placed at the bottom of the crushed pad near the interior of the wall as shown on Plate A-10. This drain should be graded so that any water entering it will drain freely to a down-gradient daylight location. The bottom course of block should be buried to the depths presented on Plates A-2 to A-7 to provide containment. Installation of the wall should proceed with each block being placed fully forward so knob and groove are engaged. Care should be taken to make sure that each block is in the proper alignment and level.

Free draining backfill material should be placed a minimum of 12 inches behind the back of the retaining walls and should extend vertically from the leveling pad to an elevation 4 inches below the top of the wall to provide drainage. Additional backfill placed behind the wall should be compacted in lifts not exceeding 9 inches in thickness and should be compacted to 95% of the maximum dry density as determined by the ASTM D1557 using small, lightweight compaction equipment. Any additional structural fill soils required may consist of native, onsite granular soils.

Calculations for retaining wall stability were completed under the assumption that material from proposed roadcuts will be utilized construct the roadway embankment retained by Wall-2 and Wall-3. Native granular materials may be used as embankment fill provided that they are prepared, placed, and compacted as described in the 2018 GeoStrata geotechnical investigation. The native fine-grained soils shall not be used as embankment fill. If an imported material is to be used as embankment fill, strength testing should be completed on the imported material to demonstrate equal or better soils strength properties than the native granular soils. Imported soils with strength properties less than the native granular soils shall not be used as embankment fill. Additionally, embankment fill should meet criteria for imported structural fill as presented in the 2018 GeoStrata geotechnical investigation.

Manufacturer recommendations for installation of Redi-Rock blocks, leveling pad, drain, geogrid, and backfill material must be followed. The contractor must be familiar with the Redi-Rock Design Resource Manual and Installation Guide. Geogrid must consist of the specified materials (Miragrid 5XT, 8XT, and 10XT) and be placed at the specified elevations and lengths presented in the attached cross section drawings (Plates A-2 to A-7).

Conclusions and Limitations

The results of the analyses indicate that the proposed Redi-Rock® retaining walls meet adequate factors of safety. Section drawings of the walls and General Construction Guidelines are provided in Appendix A.

Our work was completed in accordance with the standard of care that exists in the area at this time. No other warranty expressed or implied is provided.

Inspection Scheduling

In order to facilitate inspection of the retaining wall during construction and observe compliance with our design documents, we propose the following schedule:

1. Inspect the foundation excavation for the retaining wall to observe the presence of native, undisturbed soils.
2. Observe the placement and compaction of the crushed stone leveling pad and back drain construction.
3. Inspect the first course of block for size, embedment, and geogrid placement and length.
4. Inspect each consecutive course of block for size, position and placement, drainage, and geogrid placement and length.
5. Inspect finished retaining walls for conformance to design requirements such as maximum heights, batter, and front and back slope geometries.

Compaction testing of material placed within the geogrid reinforced soil zones and of embankment fill to be placed below the proposed roadway must be completed. The 2018 GeoStrata geotechnical report provides recommendations for placement and compaction of fill materials.

The contractor, owner, or developer is responsible for informing GeoStrata of the construction schedule to facilitate the inspections. The reviewing engineer also reserves the right to increase the frequency of inspections if conditions warrant.

We appreciate the opportunity to provide you with our services. If you have any questions, please don't hesitate to contact us at your convenience.

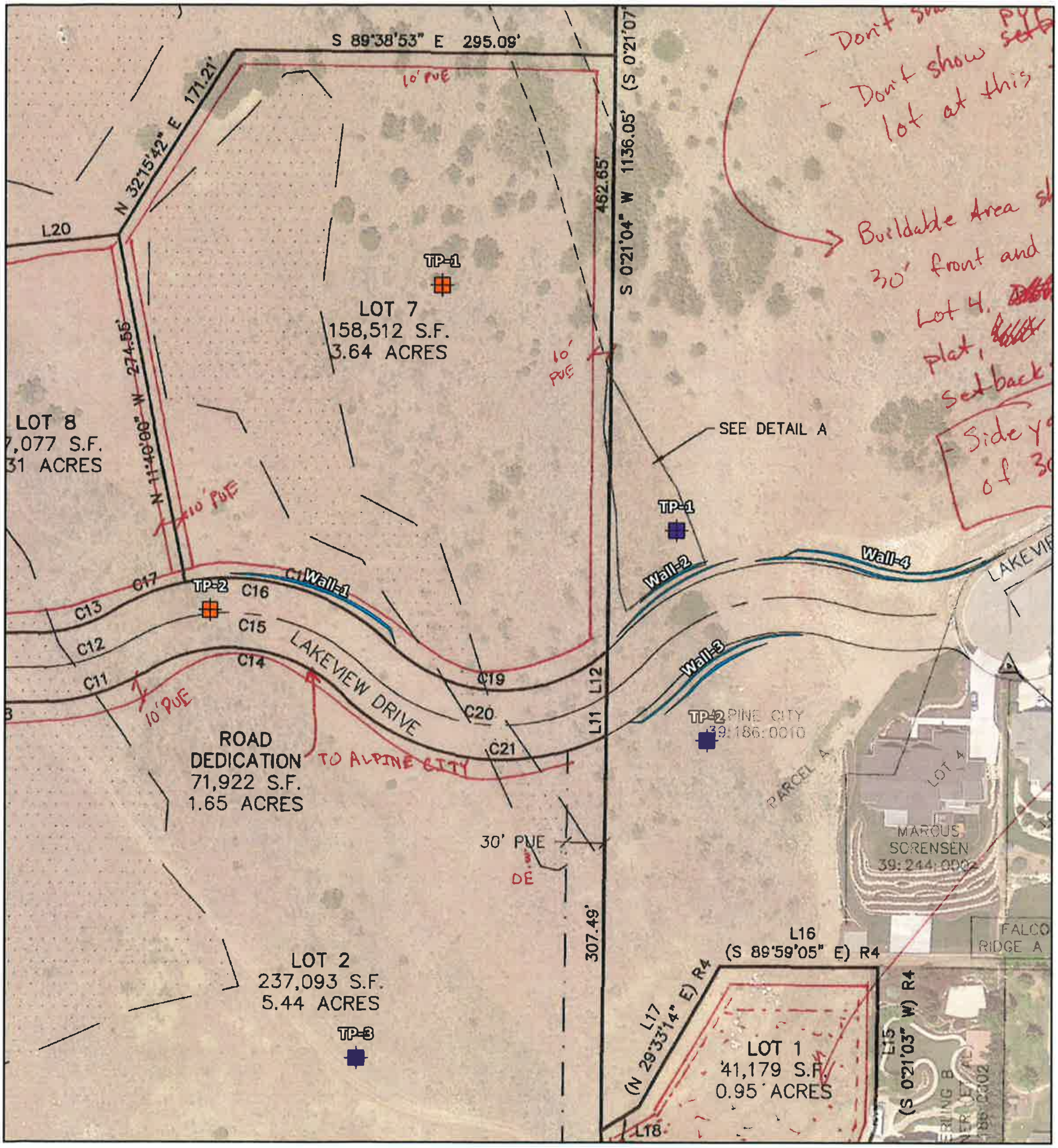
Respectfully,
GeoStrata

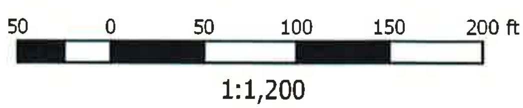
PROFESSIONAL ENGINEER
10-16-18
No. 10186640
DANIEL J. BROWN
STATE OF UTAH

Daniel J. Brown, P.E.
Senior Geotechnical Engineer

J. Scott Seal, P.E.
Associate Principal Engineer

Appendix A





GeoStrata

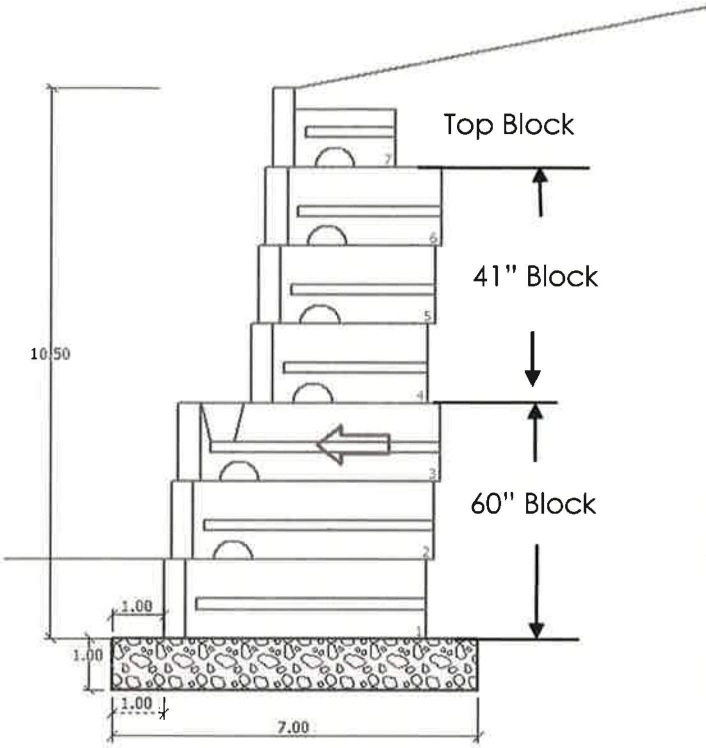
Legend

- Proposed Retaining Wall
- GeoStrata Test Pits
- Earthtec Test Pits

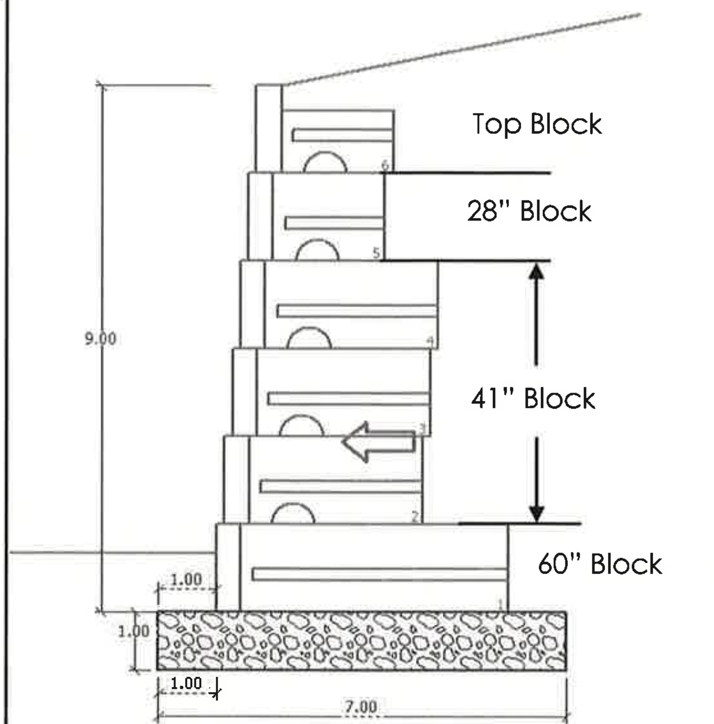
Six Blue Bison, LLC
Summit Pointe Subdivision
Alpine, UT
Project Number: 1312-003

Site Plan

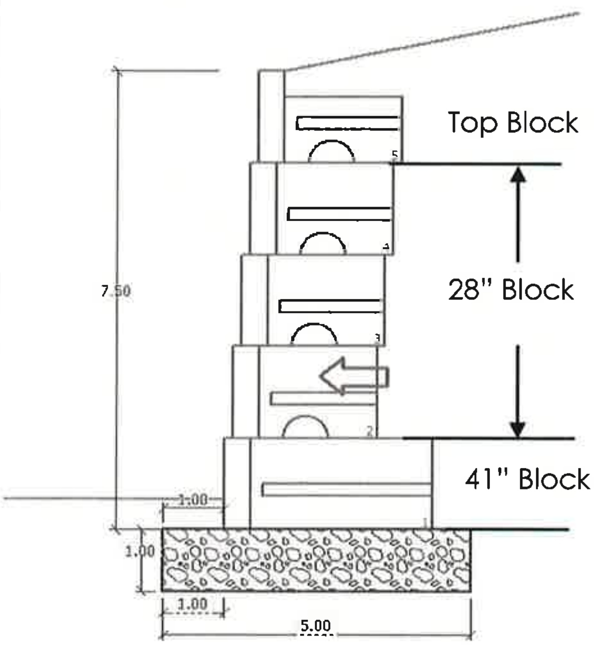
Plate A-1



Wall-1 9-ft Exposed Cross Section



Wall-1 8-ft Exposed Cross Section



Wall-1 7-ft Exposed Cross Section

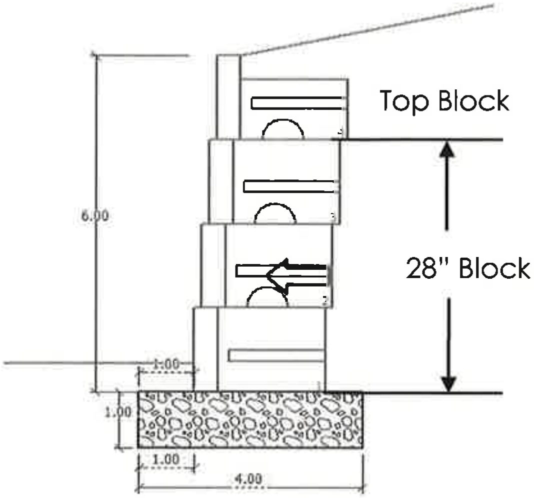
- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

GeoStrata

Wall-1 Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

Plate A-2a



Wall-1 5.5-ft Exposed Cross Section

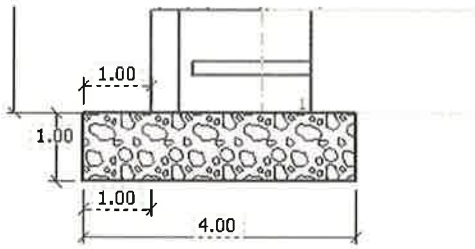
- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

GeoStrata

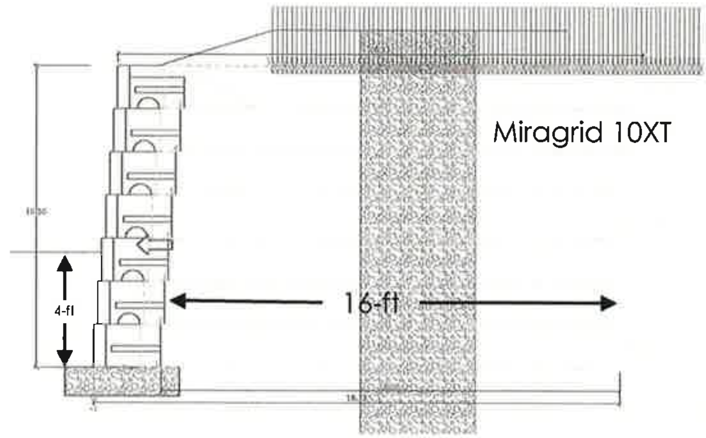
Wall-1 Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

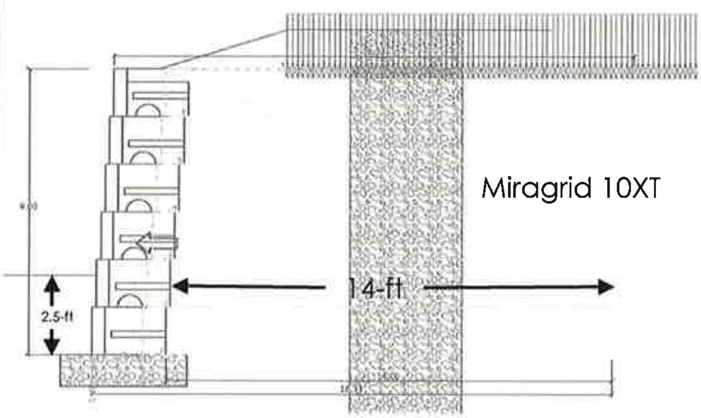
Plate A-2b



Wall-2 Lower Tier Base Dimensions



Wall-2 Lower Tier 10.5-ft Cross Section



Wall-2 Lower Tier 9-ft Cross Section

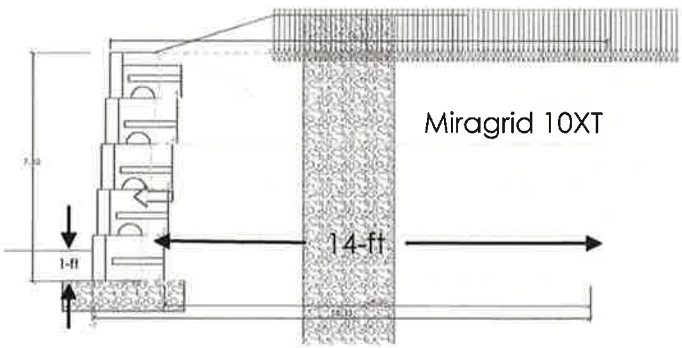
- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

GeoStrata

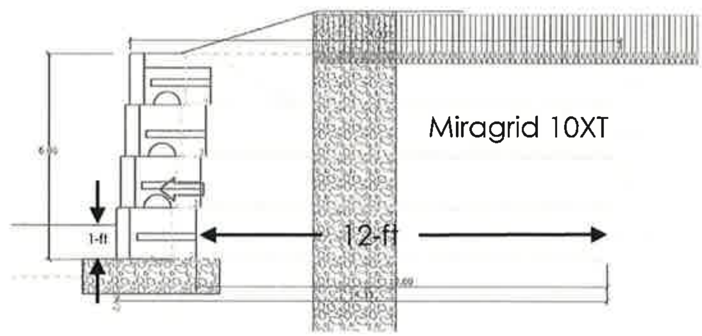
Wall-2 Lower Tier Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

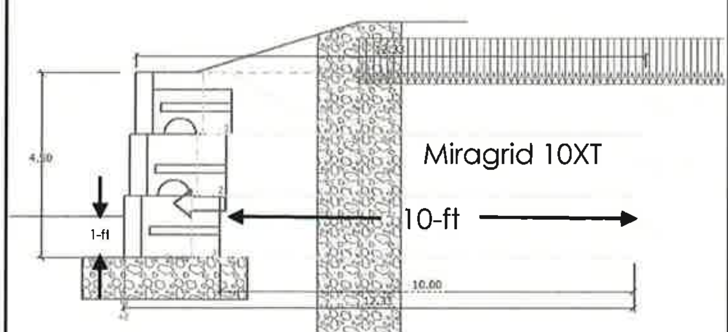
Plate A-3a



Wall-2 Lower Tier 7.5-ft Cross Section



Wall-2 Lower Tier 6-ft Cross Section



Wall-2 Lower Tier 4.5-ft Cross Section

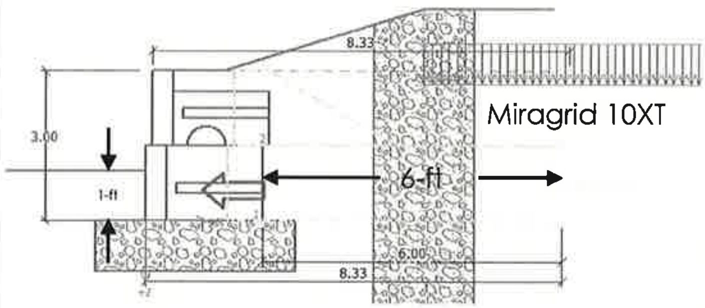
- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

GeoStrata

Wall-2 Lower Tier Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

Plate A-3b



Wall-2 Lower Tier 3-ft Cross Section

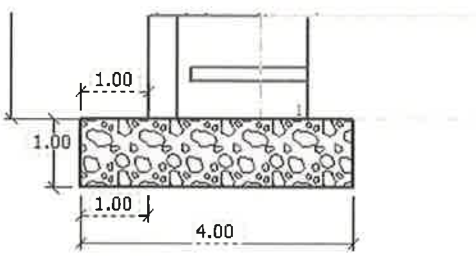
- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

GeoStrata

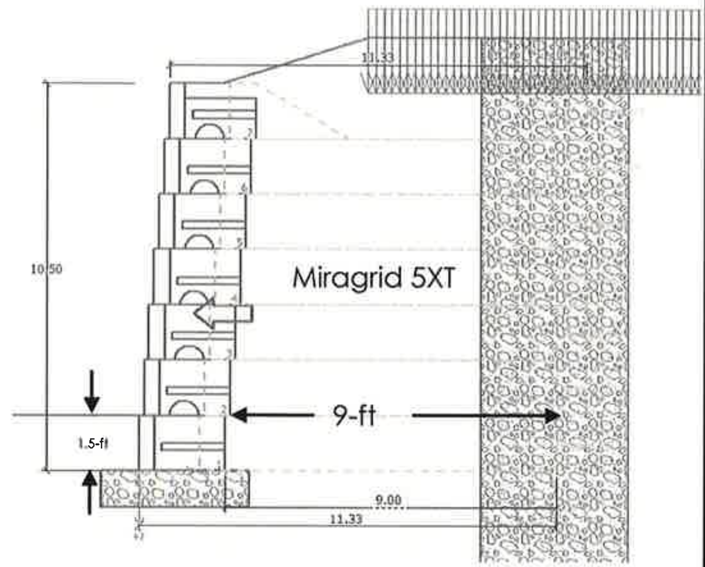
Wall-2 Lower Tier Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

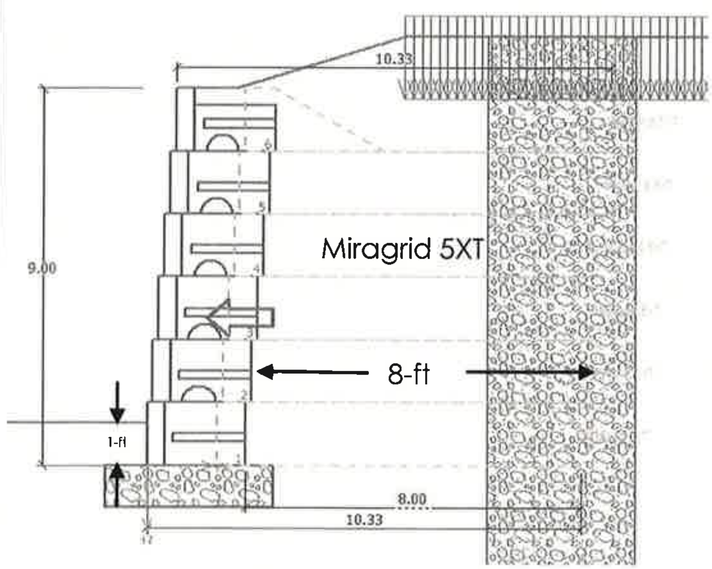
Plate A-3c



Wall-2 & Wall-3 Upper Tier Base Dimensions



Wall-2 & Wall-3 Upper Tier 9-ft Exposed Cross Section



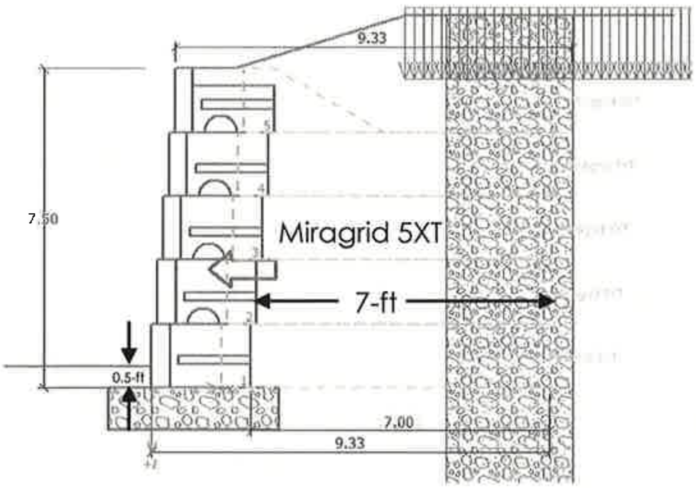
Wall-2 & Wall-3 Upper Tier 8-ft Exposed Cross Section

- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

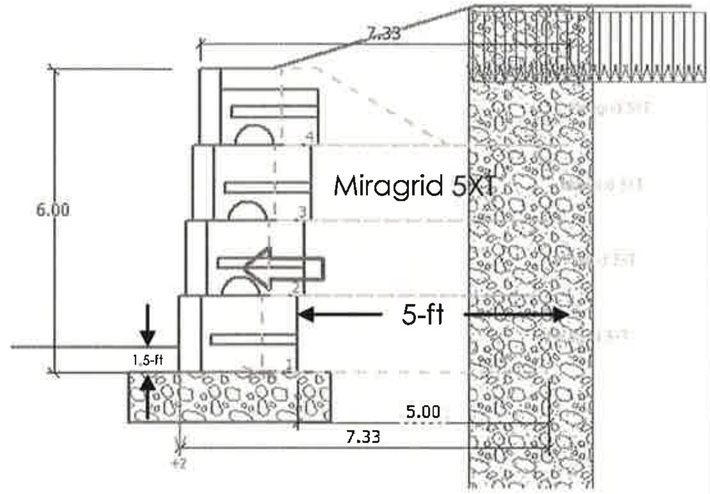
Wall-2 & Wall-3 Upper Tier Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

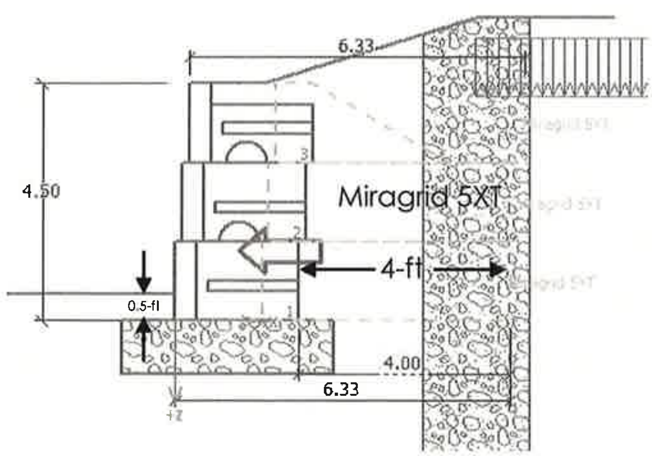
Plate A-4a



Wall-2 & Wall-3 Upper Tier 7-ft Exposed Cross Section



Wall-2 & Wall-3 Upper Tier 5.5-ft Exposed Cross Section



Wall-2 & Wall-3 Upper Tier 4-ft Exposed Cross Section

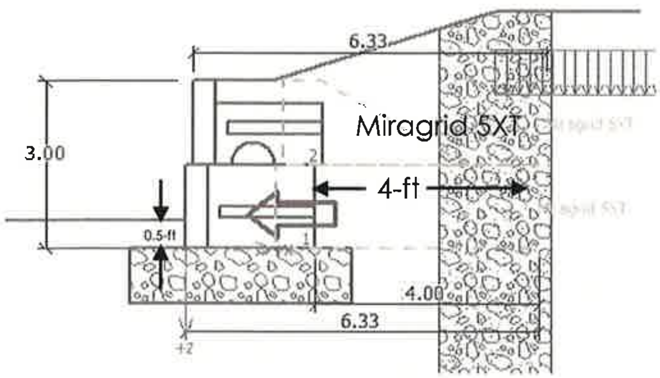
- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

GeoStrata

Wall-2 & Wall-3 Upper Tier Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

Plate A-4b



Wall-2 & Wall-3 Upper Tier 2.5-ft Exposed Cross Section

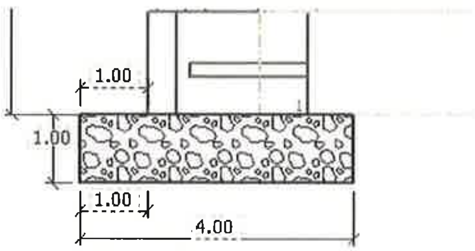
- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

GeoStrata

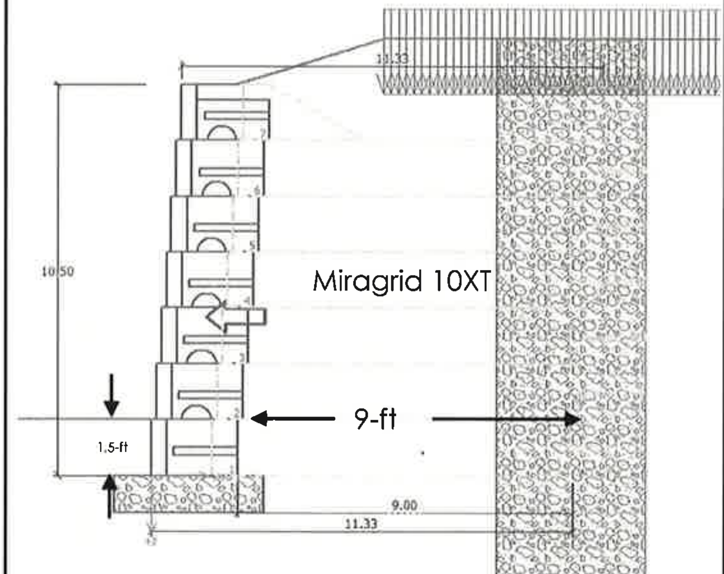
Wall-2 & Wall-3 Upper Tier Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

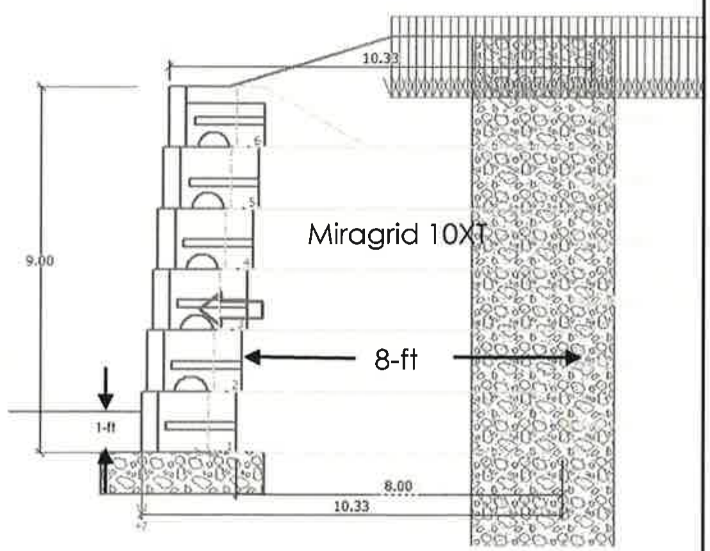
Plate A-4c



Wall-3 Lower Tier Base Dimensions



Wall-3 Lower Tier 9-ft Exposed Cross Section



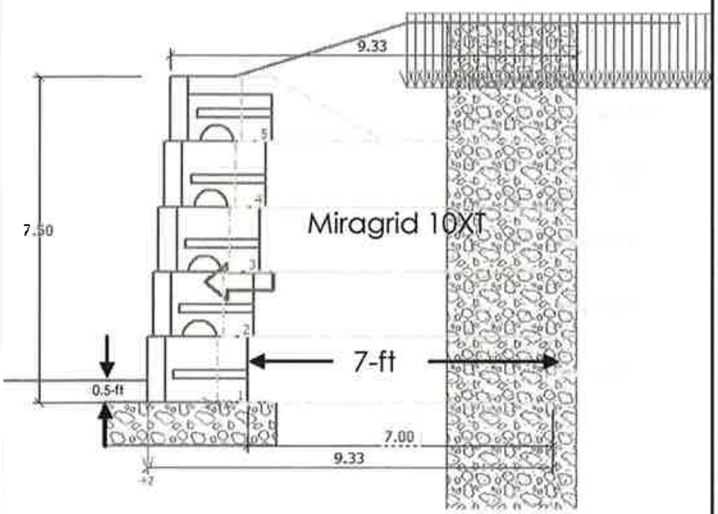
Wall-3 Lower Tier 8-ft Exposed Cross Section

- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

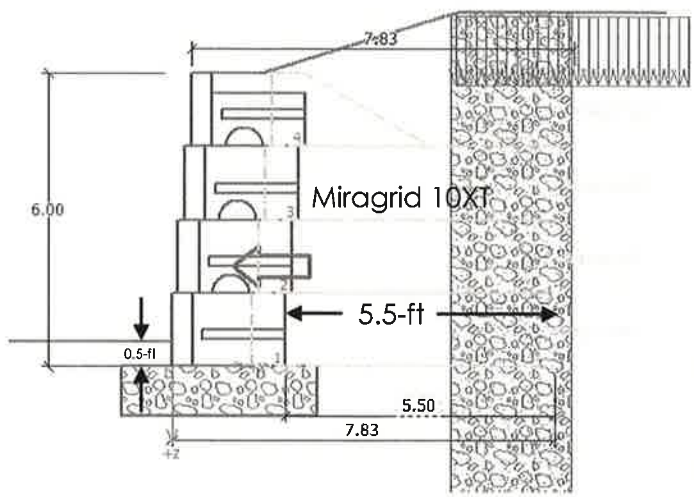
Wall-3 Lower Tier Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

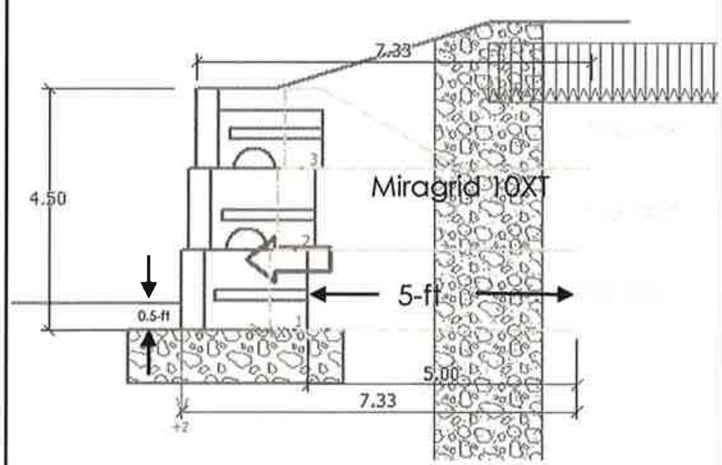
Plate A-5a



Wall-3 Lower Tier 7-ft Exposed Cross Section



Wall-3 Lower Tier 5.5-ft Exposed Cross Section



Wall-3 Lower Tier 4-ft Exposed Cross Section

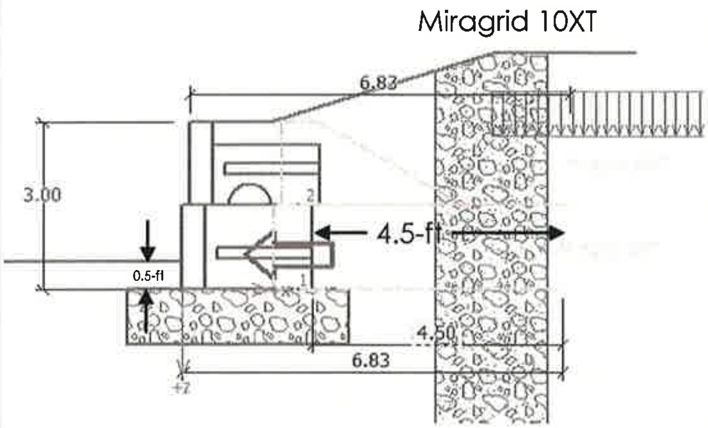
- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

GeoStrata

Wall-3 Lower Tier Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

Plate A-5b



Wall-3 Lower Tier 2.5-ft Exposed Cross Section

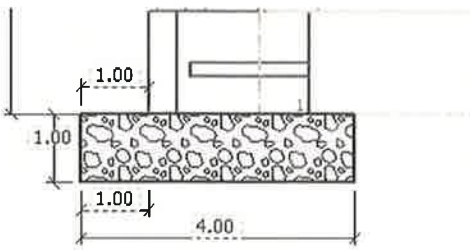
- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

GeoStrata

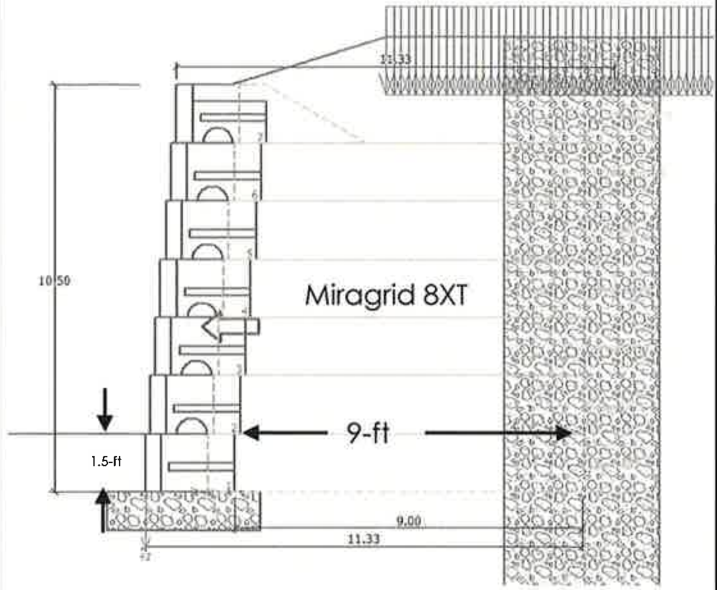
Wall-3 Lower Tier Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

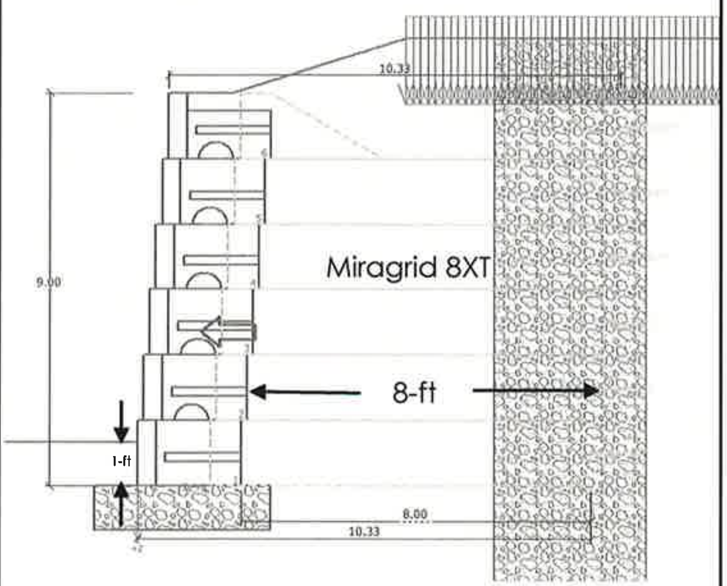
Plate A-5c



Wall-4 Lower Tier Base Dimensions



Wall-4 Lower Tier 9-ft Exposed Cross Section



Wall-4 Lower Tier 8-ft Exposed Cross Section

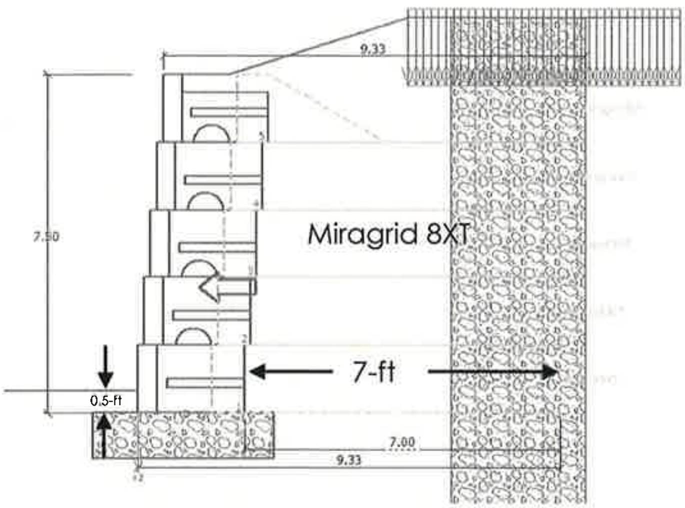
- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

GeoStrata

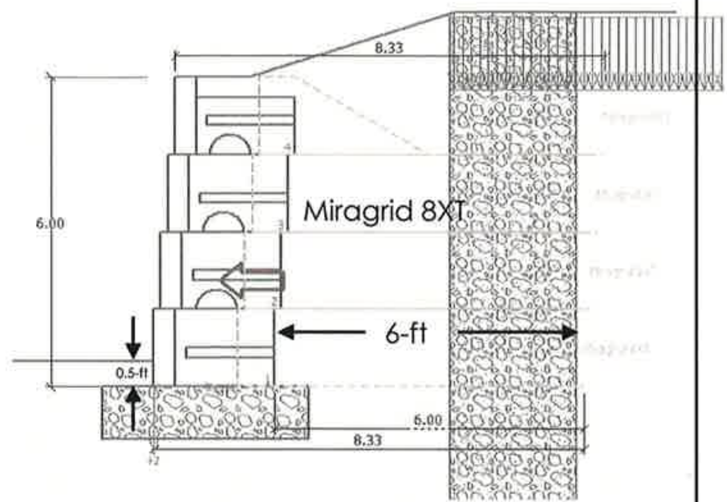
Wall-4 Lower Tier Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

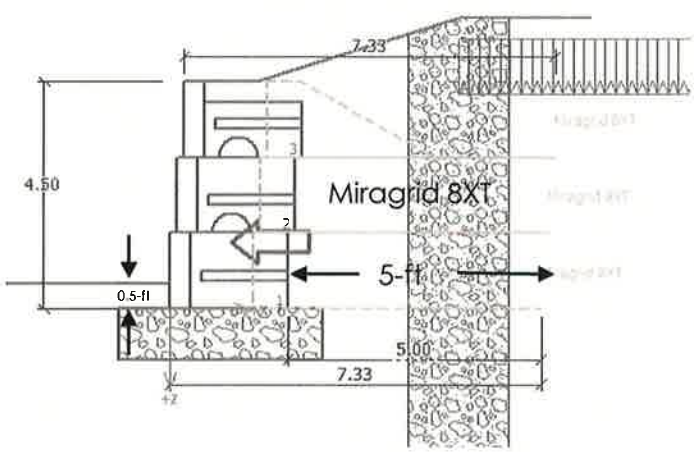
Plate A-6a



Wall-4 Lower Tier 7-ft Exposed Cross Section



Wall-4 Lower Tier 5.5-ft Exposed Cross Section



Wall-4 Lower Tier 4-ft Exposed Cross Section

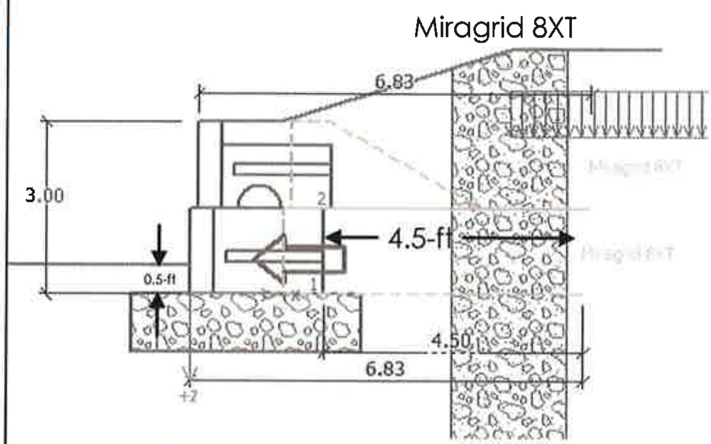
- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

GeoStrata

Wall-4 Lower Tier Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

Plate A-6b



Wall-4 Lower Tier 2.5-ft Exposed Cross Section

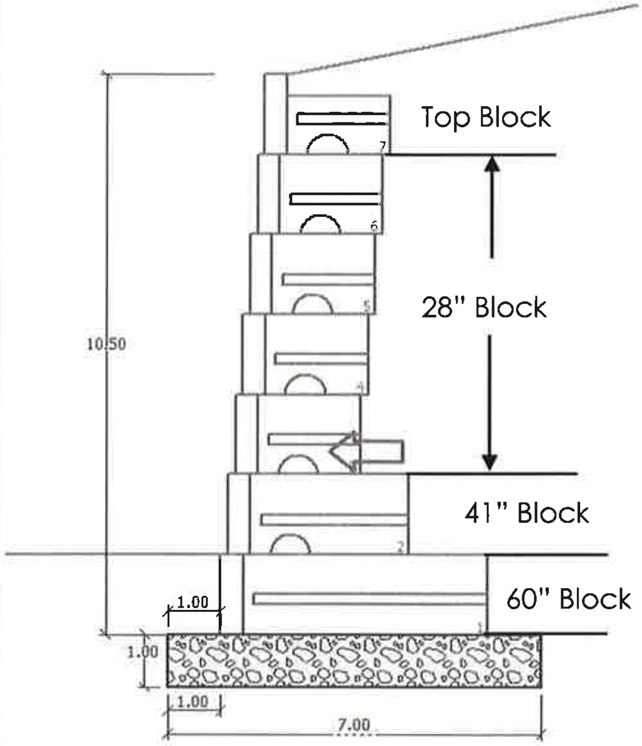
- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

GeoStrata

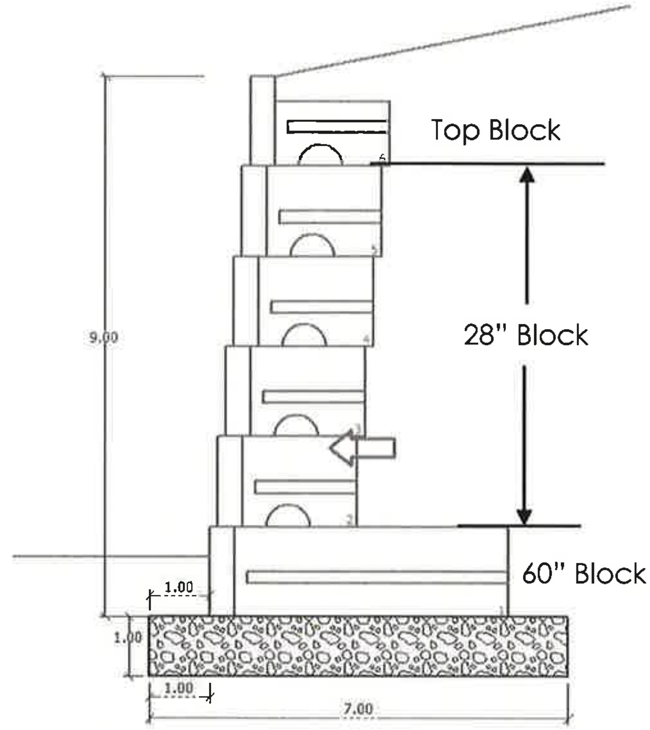
Wall-4 Lower Tier Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

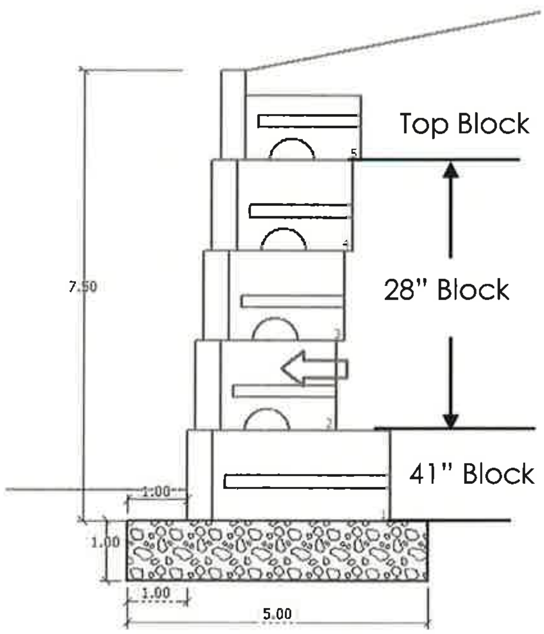
Plate A-6c



Wall-4 Upper Tier 9-ft Exposed Cross Section



Wall-4 Upper Tier 8-ft Exposed Cross Section



Wall-4 Upper Tier 7-ft Exposed Cross Section

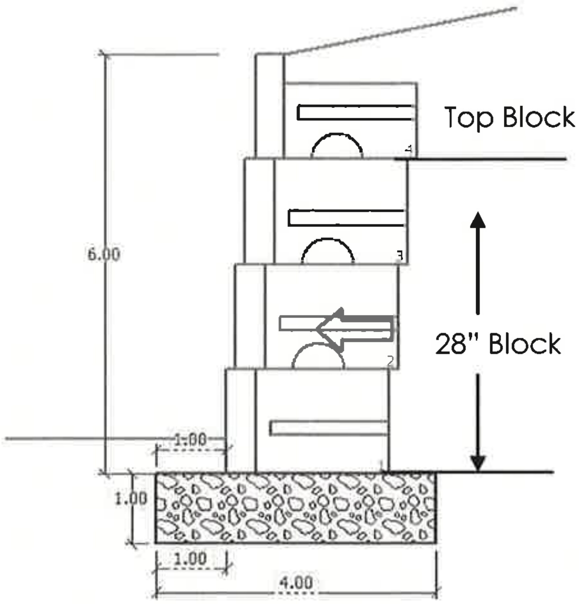
- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

GeoStrata

Wall-4 Upper Tier Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

Plate A-7a



Wall-4 Upper Tier 5.5-ft Exposed Cross Section

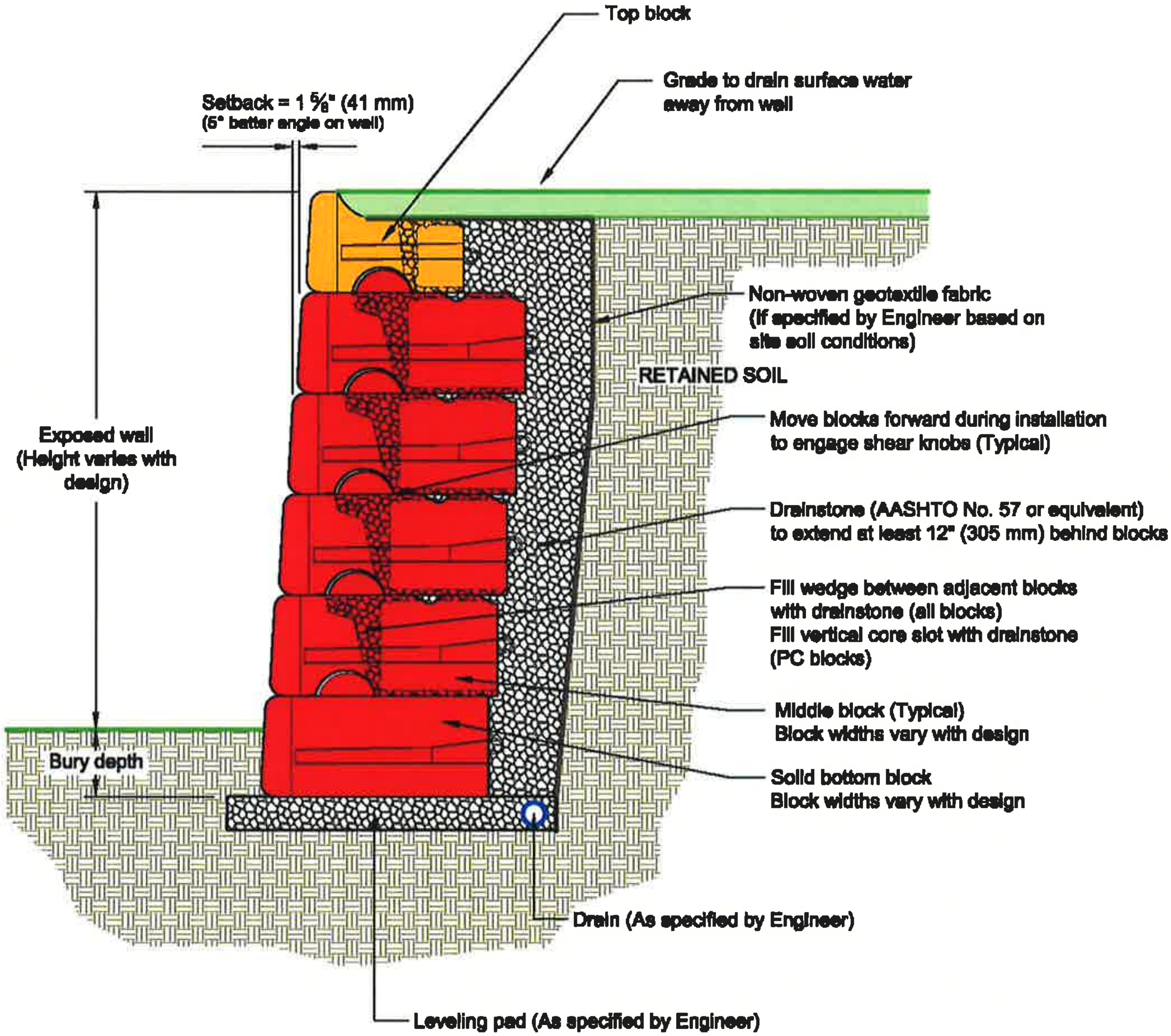
- Grade the surface above the wall to drain surface water away from wall
- Move blocks forward during installation to engage shear knobs
- Use AASHTO No. 57 or equivalent drain rock for leveling pad, block void backfill, and to backfill behind blocks
- Drain rock to extend at least 12" behind blocks
- Perforated drain to be installed at base of leveling pad as shown on Open Graded Crushed Stone Leveling Pad drawing on Plate A-10
- Additional construction details are included on Plate A-8 to Plate A-14

GeoStrata

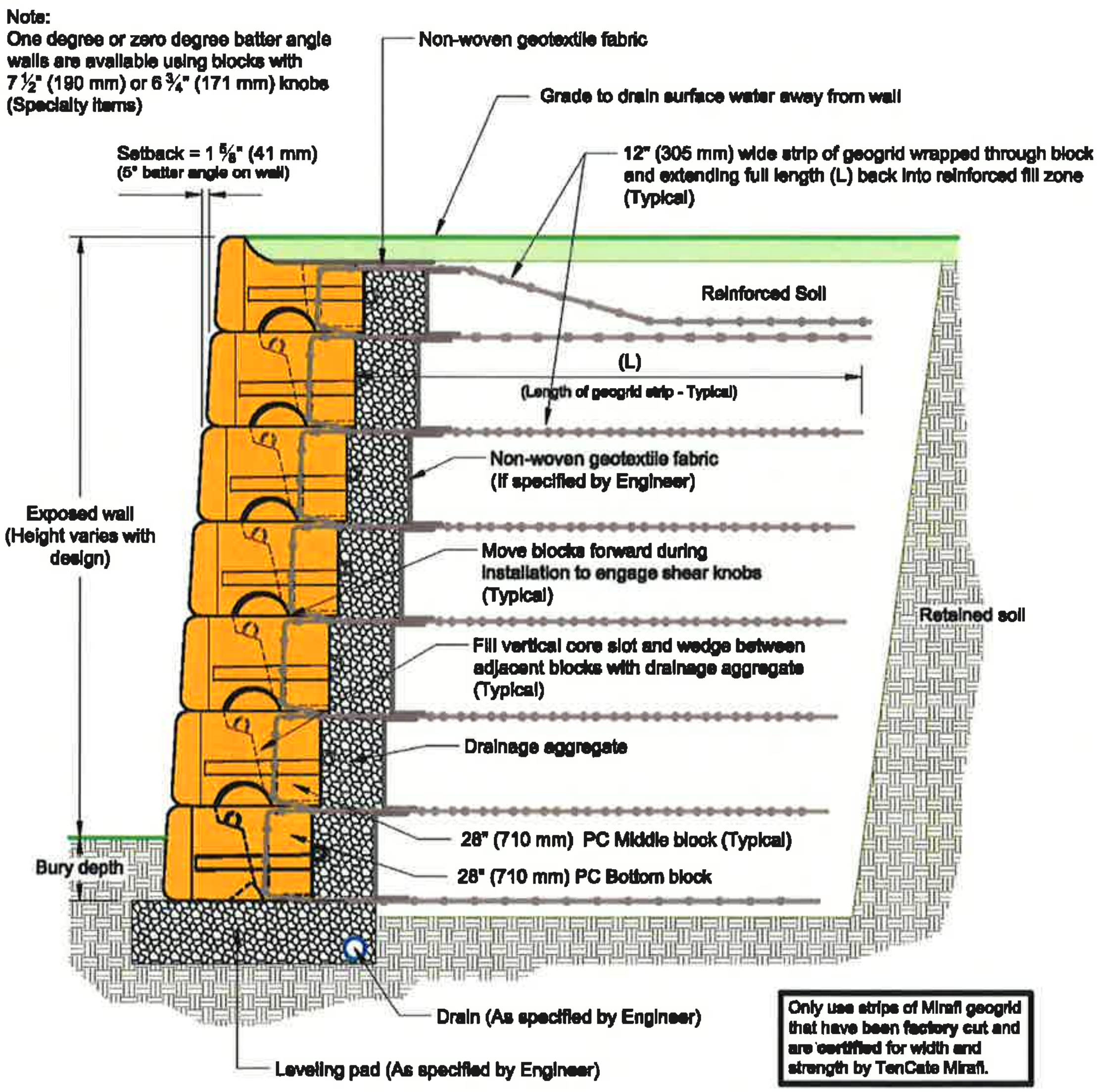
Wall-4 Upper Tier Cross Sections

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

Plate A-7a



GeoStrata	Typical Gravity Wall Detail	
Copyright GeoStrata, 2018	Six Blue Bison, LLC Summit Pointe Redi-Rock Wall Alpine, UT Project Number: 1312-004	Plate A-8

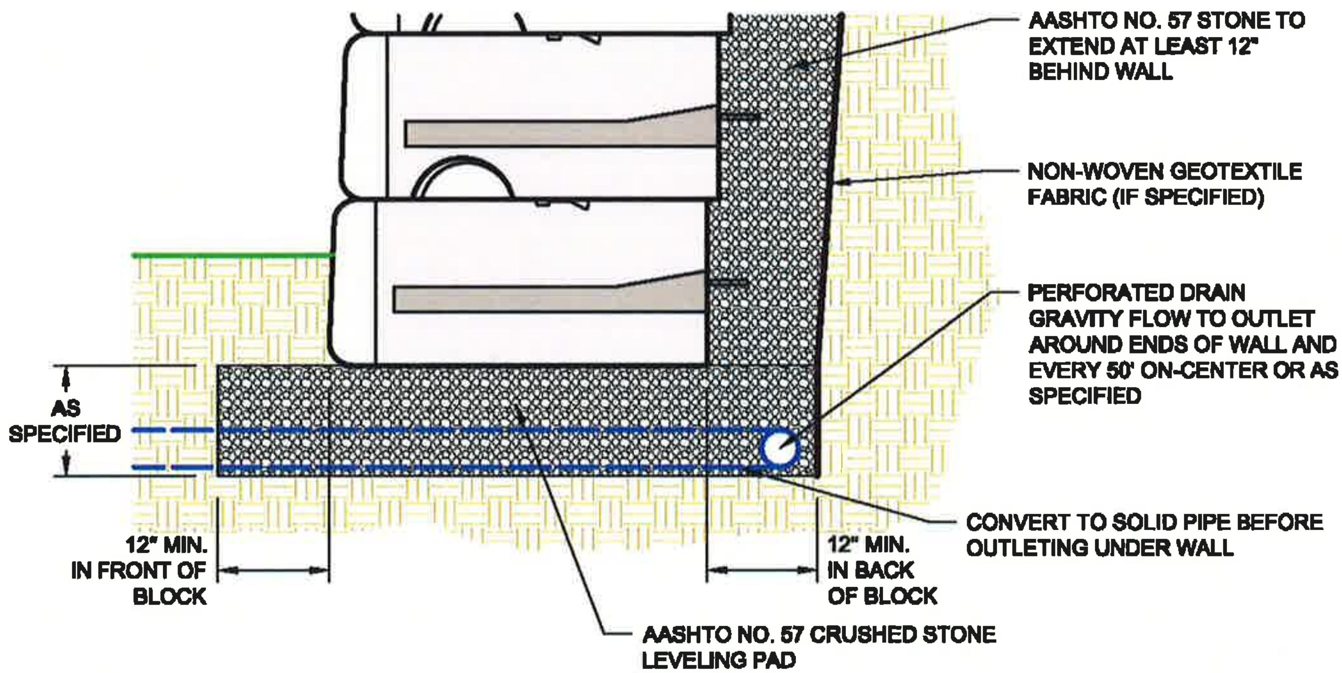


GeoStrata

Typical Reinforced Wall Detail

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

Plate
A-9



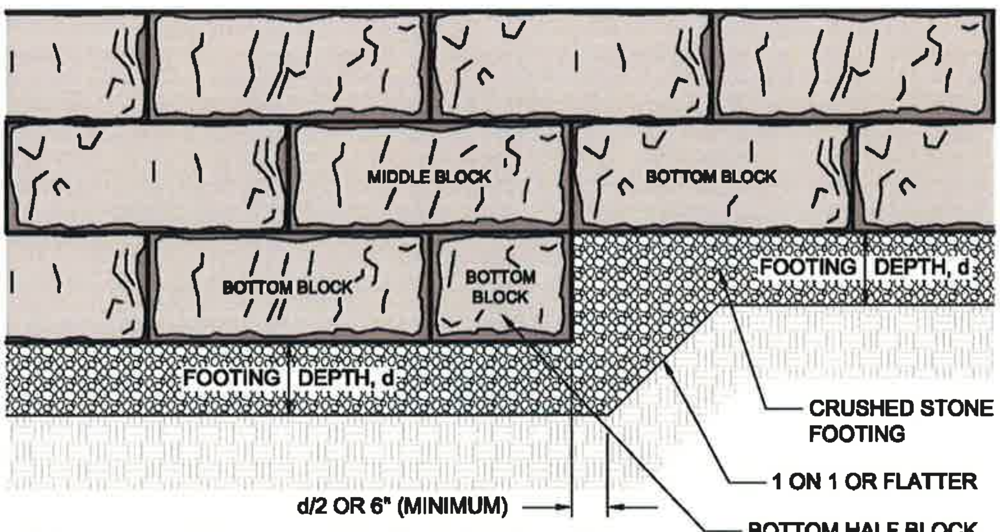
OPEN-GRADED CRUSHED STONE LEVELING PAD

GeoStrata

Leveling Pad Detail

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

Plate A-10



PROFILE VIEW - CRUSHED STONE FOOTING

(No Scale)

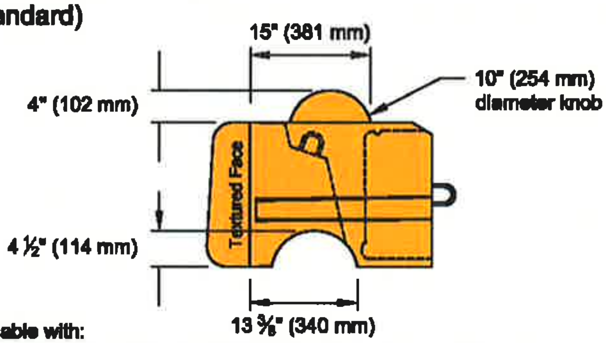
GeoStrata

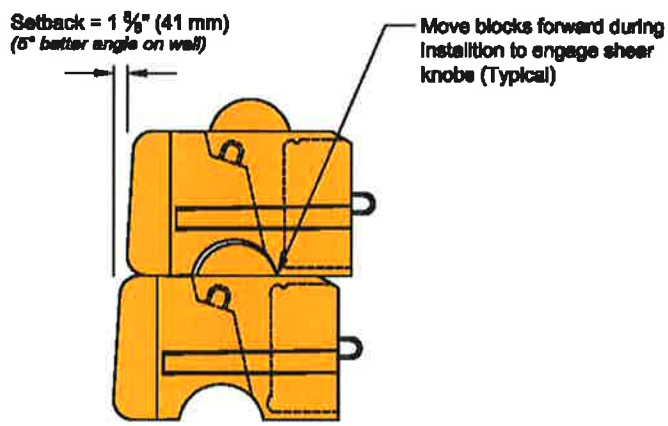
Step Footing Detail

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

Plate A-11

Five degree (5°) setback
(Standard)





Available with:

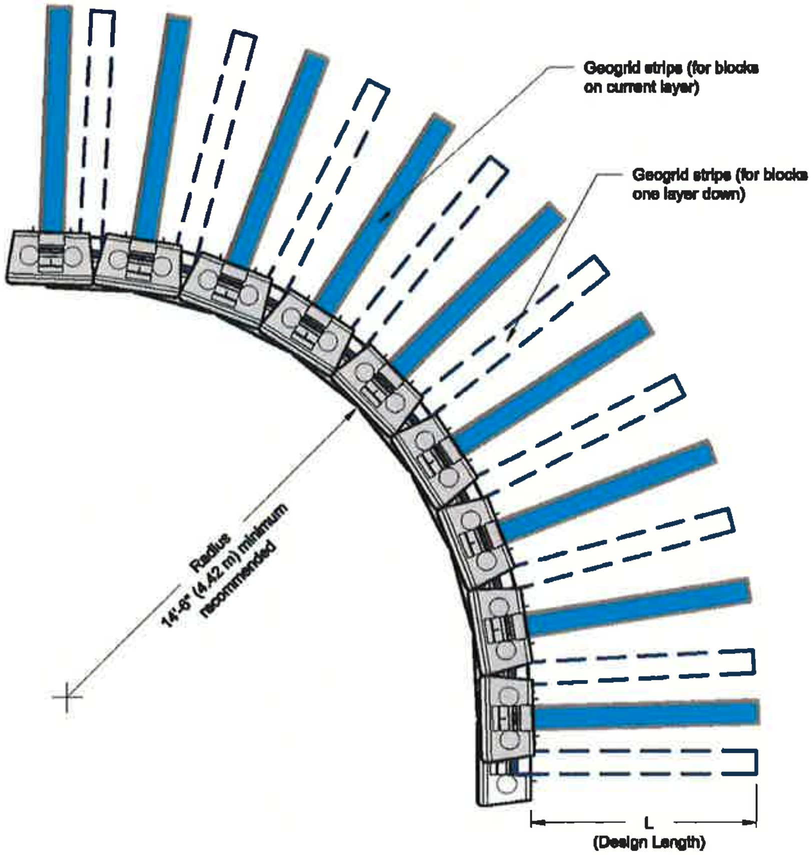
- 28" (710 mm) blocks, 41" (1030 mm) blocks, and 60" (1520 mm) blocks
- 28" (710 mm) PC blocks (shown here) and 41" (1030 mm) PC blocks

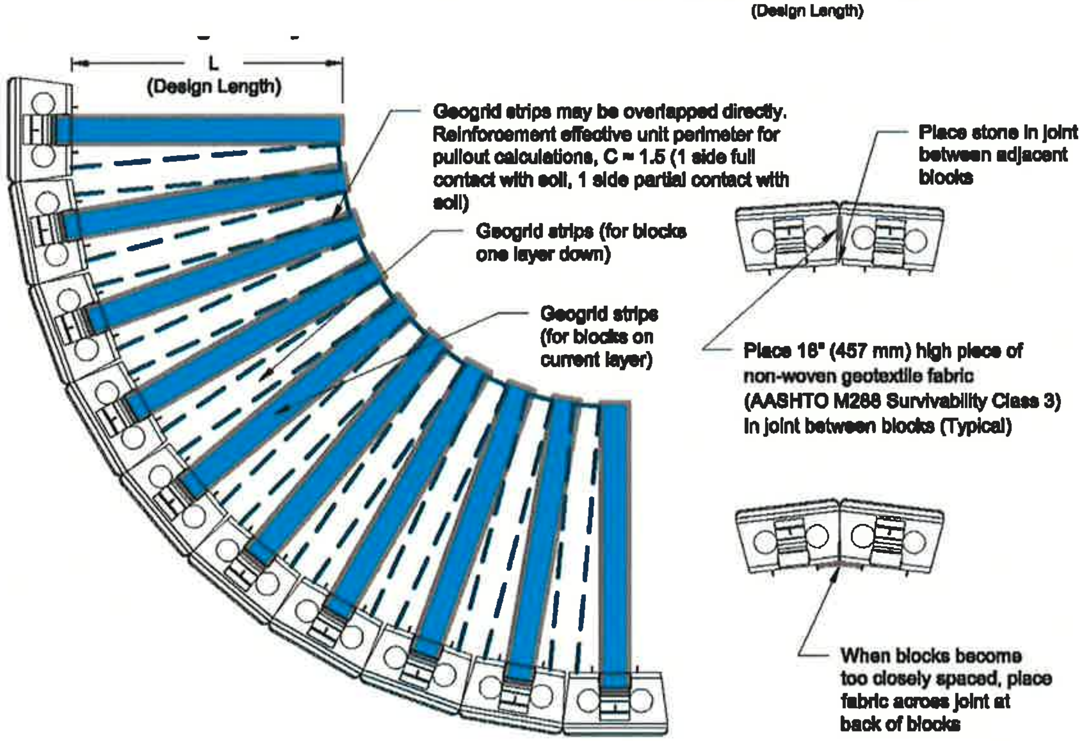
GeoStrata

Block Setback Detail

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

Plate A-12



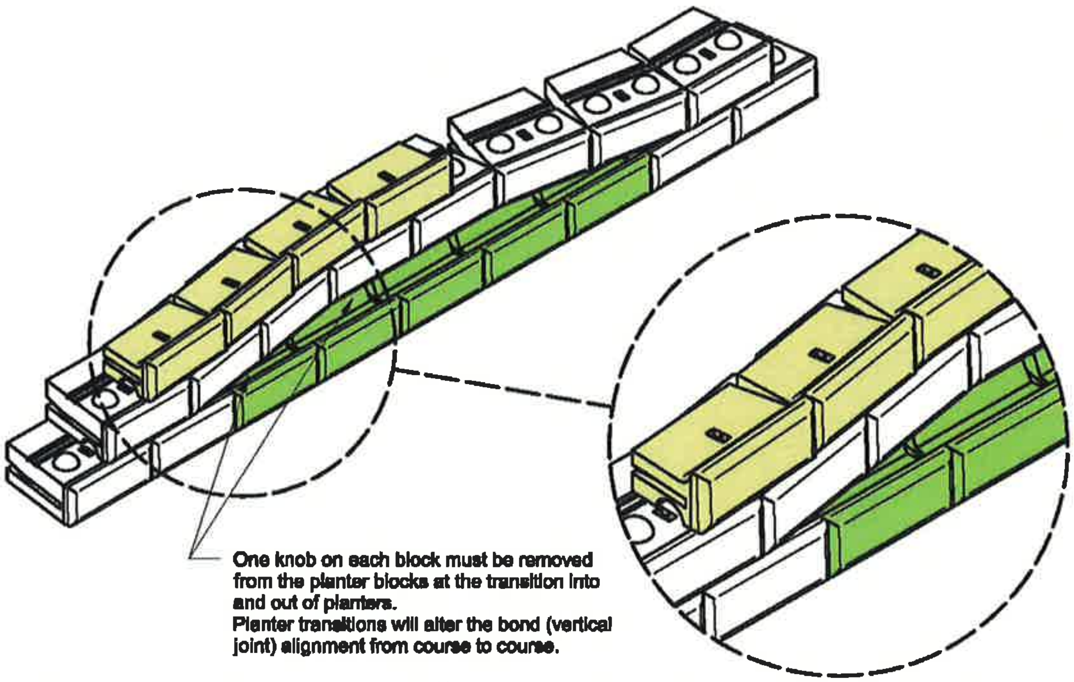


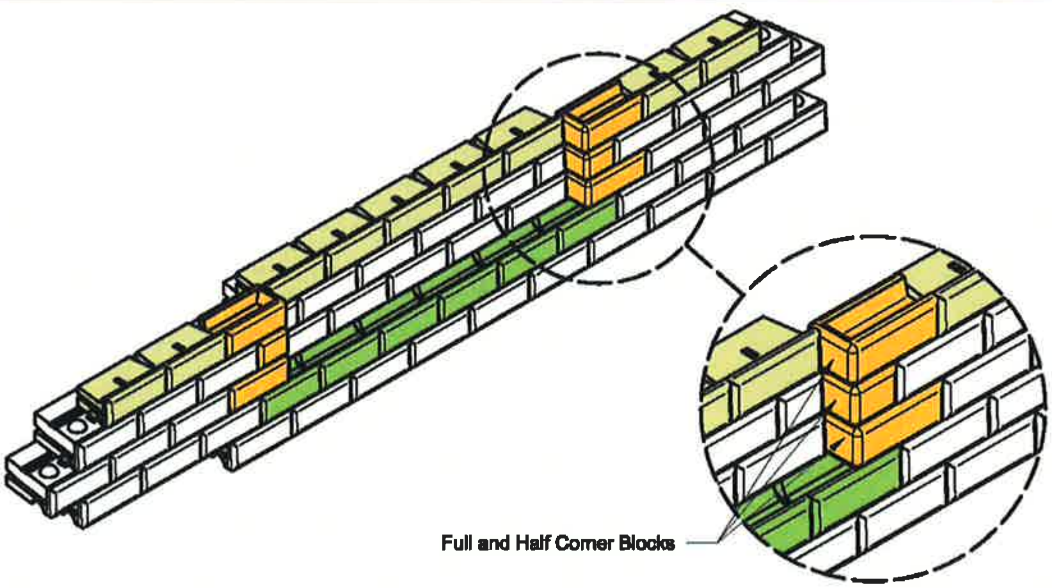
GeoStrata

Geogrid Layout for Curves

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

Plate A-13





GeoStrata

Transitions to Planters

Six Blue Bison, LLC
Summit Pointe Redi-Rock Wall
Alpine, UT
Project Number: 1312-004

Plate A-14

ALPINE PLANNING COMMISSION AGENDA

SUBJECT: **Public Hearing – Amendment to Ordinance – Dwelling Clusters – Article 3.1.11; Article 3.9.6 & Article 3.5.1**

FOR CONSIDERATION ON: **15 January 2019**

PETITIONER: **Staff**

ACTION REQUESTED BY PETITIONER: **Receive public comment and recommend approval of amendment to ordinance.**

BACKGROUND INFORMATION:

Staff is proposing an amendment regarding development clusters/ dwelling clusters, which seeks to define and clarify these sections of code.

STAFF RECOMMENDATION:

Review and recommend approval of amendment to Article 3.1.11; Article 3.9.6; and Article 3.5.1 of the Development Code.

ALPINE CITY
ORDINANCE 2019-02

AN ORDINANCE ADOPTING AMENDMENTS TO ARTICLE 3.09.060; 3.01.110; AND 3.05.010 OF THE ALPINE CITY DEVELOPMENT CODE PERTAINING TO DWELLING CLUSTERS

WHEREAS, The City council of Alpine, Utah has deemed it in the best interest of Alpine City to amend the ordinance to allow minor subdivisions to be approved administratively; and

WHEREAS, the Alpine City Planning Commission has reviewed the proposed Amendments to the Development Code, held a public hearing, and has forwarded a recommendation to the City Council; and

WHEREAS, the Alpine City Council has reviewed the proposed Amendments to the Development Code:

NOW THEREFORE, be it ordained by the Alpine City Council that: The amendments to Article 3.09.060; 3.01.110; and 3.05.010 contained in the attached document will supersede Article 3.9.6 ; 3.1.11; and 3.5.1 as previously adopted. This ordinance shall take effect upon posting.

SECTION 1: **AMENDMENT** "3.09.060 Dwelling Clusters; Lot Size; Buildable Area; Setback" of the Alpine City Municipal Code is hereby *amended* as follows:

AMENDMENT

3.09.060 Dwelling Clusters; Lot Size; Buildable Area; Setback

1. All lots, dwellings, habitable structures, and accessory buildings shall be located within a designated ~~development c~~Dwelling Cluster. A project may contain more than one ~~development c~~Dwelling Cluster. Each cluster shall contain not less than three (3) separate lots (except for developments having fewer than 3 lots for the entire development). Where a project contains land located within and outside the Sensitive Lands Overlay Zone, ~~development c~~Dwelling Clusters will be located outside of the Sensitive Lands Overlay Zone, to the maximum extent possible. No portion of lots within a PRD shall be located on lands which are required to be designated as open space.

2. (Ord. 97-23: 9/24/97) The size of each individual lot shall conform to the following:

Minimum Lot Size

Zone District	Minimum Lot Size
CR-20,000	10,000 square feet
CR-40,000	20,000 square feet
CE-5	20,000 square feet
CE-50	N/A

3. (Ord 97-02, 2/25/97). Each individual lot shall contain at least one Designated Buildable Area of not less than five-thousand (5,000) square feet. All dwellings and other habitable structures and accessory buildings shall be located within the Designated Buildable Area.
    a. Each Designated Buildable Area shall conform to the criteria for qualification as a "buildable area" as defined in this ordinance. Except that the Planning Commission may approve or require the placement of the Designated Buildable Area in a location within the lot which does not conform to one or more of the criteria for buildable area, upon a finding that the proposed Designated Buildable Area:
        i. will more adequately accommodate subsequent development of the lot,
        ii. will not constitute a potential hazard to life or property, and
        iii. will serve to diminish the negative impact of subsequent development upon the lot or community (i.e. extraordinary construction of driveway access, mitigate visual intrusion of structure on ridge line).
    b. The location of each Designated Buildable Area shall be designated upon the preliminary plan and shall also be identified and described on the final recorded plat, together with a notation to the effect that all main and accessory buildings shall be located within the Designated Buildable Area. Each Designated Buildable Area on any lot shall be clustered with at least 2 other Designated Buildable Areas on neighboring lots, thus forming a ~~designated development c~~Dwelling Cluster.
    c. Where a Designated Buildable Area is shown on a lot, the boundary of said area shall constitute the Designated Setback envelope applicable to the lot. Where an entire lot area qualifies as a Buildable Area no designation on the final plat shall be required.
    d. Except as permitted pursuant to Part 3,a, any portion of a lot which has been graded to produce a percent of slope to qualify under the Buildable Area criteria shall be excluded from consideration as part of the Designated Buildable Area.
    e. The Designated Buildable Area may be amended by the City Planner and City Engineer as long as the minimum setback requirements of the underlying zone are met. (Ord. 2004-13, 9/28/04)
4. Each dwelling in the project shall be setback from the property line in accordance with

the setback lines as shown on the approved plat (Designated Setback Envelope). The Designated Setback Envelope shall be established in accordance with the following (setbacks are measured from the property line to the nearest foundation):

a. Front Yard. The minimum front yard setback shall be thirty (30) feet.
b. Side Yard - Corner Lots. On corner lots, the side that faces onto a public street shall be not less than thirty (30) feet.
c. Side Yard – Interior Lots. The minimum side yard setbacks for interior lots shall be an aggregate of thirty (30) feet with no less than twelve (12) feet on a side.
d. Rear Yard. The minimum rear yard setback shall be thirty (30) feet.

Subject to the prior recommendation of the Planning Commission, the City Council may approve an exception to the Designated Setback Envelope standards above for one or more lots within a PRD project, upon a finding that such exception is appropriate for the proper development of the lot and that the exception will not result in the establishment of a hazardous condition.

Where no designated building envelope is provided, the setbacks shall be the same as the minimum requirements within the underlying zone.

5. The maximum height of any dwelling or other main building shall be thirty-four (34) feet, as determined in accordance with the provisions of DCA 3.21.080, (Ord. 96-15, 12/18/96) except in the CE-50 zone the height shall not exceed 25 feet. (See DCA 3.06.070 Part 1)

(Ord. No. 95-04, 2/28/95; Amended Ord. No. 95-28, 11/28/95; Ord No. 2001-10, 4/10/01; Ord. No. 2004-13, 9/28/04; Ord. No. 2011-04, 01/11/11; Ord. No. 2012-10, 12/11/12; Ord. No. 2014-14, 09/09/14; Ord. No. 2015-11, 07/28/15)

SECTION 2: **<u>AMENDMENT</u>** "3.01.110 Definitions" of the Alpine City Municipal Code is hereby *amended* as follows:

A M E N D M E N T

3.01.110 Definitions

ACCESSORY APARTMENT. A subordinate dwelling unit within and part of a principle dwelling and which has its own cooking, sleeping and sanitation facilities.

ACCESSORY BUILDING. A detached subordinate building, the use of which is appropriate, subordinate, and customarily incidental to that of the main building or to the main use of the land and which is located on the same lot or parcel of land with the main building or use.

AGRICULTURE. The tilling of soil, the raising of crops, horticulture, the gardening, but not including the keeping or raising of domestic animals or fowl, except household pets, and not including any agricultural industry or business such as fruit packing plants, commercial egg production, or similar uses.

APIARY. Any place where one (1) or more colonies of bees are located.

AVERAGE SLOPE OF LOT. The average slope of a lot, expressed as the percent of slope, to be determined via computer modeling. AutoCAD or ESRI products are acceptable programs to be used for determining the average slope of lot; any other program must be pre-approved by the City Engineer.

BEEKEEPING EQUIPMENT. Anything used in the operation of an apiary, such as hive bodies, supers, frames, top and bottom boards, and extractors.

BUILDABLE AREA. (Ord. 94-02, 2/8/94) A lot or portion thereof possessing all of the following physical characteristics:

1. The area contains no territory having a natural slope of twenty (20) percent or greater;
2. The area contains no territory which is located in any identified flood plain or within any recognized inundation zone, mud flow zone or zone of deformation, or lands subject to earth slippage, landslide or rockfall;
3. The engineering properties of the soil provide adequate structural support for the intended use;
4. The area does not possess any other recognized natural condition, which renders it unsafe for building purposes;
5. The area is within the building setback envelope as determined in accordance with the setback provisions of the zone; and
6. The area is readily capable of vehicular access from the adjacent public street over a driveway having a slope of not more than twelve (12) percent with no cut or fill greater than five feet as measured at the finished grade of the centerline alignment.

BUILDING. Any structure having a roof supported by columns or walls, built for the support, shelter, or enclosure of persons, animals, chattels, or property of any kind.

CIVIC BUILDING. A structure owned by the City and used for governmental purposes, including administrative buildings (City Hall) fire stations, police stations, libraries, but not including shop and repair facilities.

COLONY. Bees in a hive including queens, workers, or drones.

CONDITIONAL USE. A use of land that, because of its unique characteristics or potential impact on the municipality, surrounding neighbors, or adjacent land uses, may not be compatible in some areas or may be compatible only if certain conditions are required that mitigate or eliminate the detrimental impacts.

CUSTOMARY RESIDENTIAL ACCESSORY STRUCTURE. A structure constructed on the same zoning lot as a dwelling and which is intended for the incidental and exclusive use of the residents of said dwelling, including but not limited to detached garages, carports, swimming pools, tennis courts, green houses, storage buildings, and satellite dishes.

DEVELOPMENT. Any change to a parcel of ground, which alters it from its natural state in any way. This includes clearing, excavation, grading, installation of any infrastructure or erection of any types of buildings.

DWELLING CLUSTER. A group of three or more Lots whose Buildable Areas are located no more than 2 times the minimum distance of the closest two Buildable Areas, with a maximum distance of 100 feet for the furthest Building Area within the Dwelling Cluster.

DWELLING UNIT. One or more rooms in a building or portion thereof designed, occupied, or intended as a residence for a family with complete and independent facilities for living, sleeping, eating, cooking, and sanitation provided within the dwelling unit. See also Dwelling, Single Family.

DWELLING, MULTIPLE-UNIT. A building arranged to be occupied by two (2) or more families, the structure having two (2) or more attached dwelling units.

DWELLING, SINGLE FAMILY. A building arranged or designed to include only one (1) dwelling unit occupied by one (1) family, including extended living areas or an accessory apartment which may be approved as provided elsewhere in this Code.

FAMILY. An individual or two (2) or more persons related by blood, marriage, adoption, or guardianship; or a group of not more than four (4) persons, (excluding domestic help) who are not related, living in a dwelling unit as a single housekeeping unit and using common cooking facilities. “Family” does not exclude the care of foster children.

FENCES. A fence shall include any tangible barrier, an obstruction of any material, a line of obstacles, lattice work, screen, wall, hedge, or continuous growth of shrubs with the purpose of preventing passage or view across a boundary or lot line. (Ord. 2004-13, 9/28/04)

1. Privacy fences are structures where the field of vision through the fence is less than 50%.
2. Open-style fences are structures where the field of vision through the fence is 50% or greater.

FLAG LOT. A lot with less frontage in the front part of the lot (flag pole) than required for the zone within which it is located, and the rear portion of the lot (flag) is wider than than the front portion. Also, any lot whose lot width at any point in the flag portion of the lot is less than 50 percent of the flag pole portion of the lot.

FRONTAGE. The width of the lot or parcel of land measured at the required front setback-line.

GARAGE/CARPORT (PRIVATE). A structure for the parking or temporary storage of automobiles, but which does not involve commercial repairing or storage.

GEOLOGIC HAZARD. A hazard inherent in the surface or subsurface of the earth or artificially created, which is dangerous or potentially dangerous to life, property, or improvements, due to movement, failure, or shifting of earth.

GROUP LIVING ARRANGEMENT. A group living or congregate living arrangement where groups of more than four unrelated persons live together in a single dwelling unit, including, but not limited to, a batching apartment, boarding house, Congregate Living Unit, Assisted Living Facility, Nursing Care Facility, Residential Facility for Persons With a Disability, dormitory, student housing, fraternity, club, institutional group, half-way house, or similar group living or congregate living arrangement.

GUEST HOUSE. An accessory building constructed on the same zoning lot as the principle Single-Unit dwelling to be used for temporary occupancy.

HANDICRAFT PRODUCTION. Production of an individual's one-of-a-kind objects for sale on the site.

HELICOPTER. A manned aircraft in which lift, flight and landing is achieved by means of one or more power-driven horizontal propellers.

HELIPORT. An area on land or upon a building or structure set aside and used for the landing or takeoff of helicopters or other manned rotary wing aircrafts capable of vertical takeoff or landing.

HIVE. A frame hive, box hive, box, barrel, log, gum skep, or other artificial or natural receptacle which may be used to house bees.

HOME OCCUPATION. Any gainful occupation, service, profession or similar activity conducted in a consistent and ongoing manner within a dwelling. Business activity consisting primarily of the sale of goods produced elsewhere on the premises (i.e. retail sales establishment) shall not qualify as a home occupation.

HOBBY BEEKEEPER. A person who owns or has charge of eight (8) or fewer hives of bees.

HONEYBEE. The common honeybee, Apis mellifera species, at any stage of development, but not including the African honeybee, Apis mellifera scutellata species, or any hybrid thereof.

HOUSEHOLD PETS. Animals or fowl ordinarily permitted to a residence and kept for company or pleasure, such as dogs, cats, fish and canaries. Household pets do not include inherently or potentially dangerous animals or fowl, or those normally considered agricultural livestock.

IMPERVIOUS MATERIAL. Matter that is impenetrable as by moisture.

LOT. A parcel or unit of land describable either by metes and bounds, or by other legal plat designation held or intended to be held in separate ownership or leasehold or a parcel or unit of land shown as a lot or parcel on a recorded subdivision map, or shown on a plat used in the lease or sale of land resulting from the division of a larger tract into smaller units.

LOT, CORNER. Shall mean a lot located at the junction of and fronting on two (2) or more intersecting streets.

MOBILE HOME. A detached dwelling designed for long-term occupancy and to be transported on its own wheels, or on a flatbed or other trailer or detachable wheels, and arriving at the site where it is to be occupied as a complete dwelling unit ready for occupancy except for connections to utilities and other minor work. Removal of such wheels or placing such dwelling unit on a foundation shall not remove such unit from classification as a mobile home. Excluded from this definition shall be those permanent dwelling structures that are constructed of component parts that are transported to the building site and which meet structural requirements of the Uniform Building Code and which are finished with exterior building material that is typical of permanent residential buildings.

NON-CONFORMING USE. A building or structure, or portion thereof, or use of a building or land which does not conform to use regulations for the district in which it is situated, but which is in conformity with said regulations, if any, at the time of its establishment.

OFF STREET PARKING. An area adjoining a building providing for the parking of automobiles which does not include a public street but has convenient access to it.

OFFICE, PROFESSIONAL. A building or space used by persons such as accountants, architects, artists, dentists, designers, engineers, lawyers, physicians, realtors, teachers, and others who, by virtue of training and for license, are qualified to perform services of a professional nature, and where storage of goods and sale of merchandise is minimal and secondary to performance of the service.

OPEN SPACE. The use of land which leaves soil generally undisturbed and upon which natural vegetation, whether or not native to the area, occupies the major visible aspect of the land.

PERMITTED USE. A use of land for which no conditional use permit is required.

PRIVATE DRIVEWAY. Vehicular access point to an individual lot from a public street, whose specifications meet those defined in Buildable Area.

PUBLIC USE. A use operated or supervised exclusively by a public body, such use having the purpose of serving the public health, safety, or general welfare, and including uses such as public schools, parks, playgrounds, and other recreational facilities, administrative and service facilities, and public utilities.

QUASI PUBLIC USE. A use operated by a private non-profit educational, religious, recreational, charitable or philanthropic institution, having the primary purpose of serving the general public, such as churches, private schools, hospitals and similar uses.

REASONABLE ACCOMMODATION. A reasonable change in any rule, policy, practice, or service necessary to afford persons with a disability equal opportunity to use and enjoy a dwelling when compared to similarly-situated persons or groups.

RECREATION, PUBLIC. Recreation facilities operated by a public agency and open to the public with or without a fee.

RESIDENCE. A dwelling unit where an individual or family is actually domiciled at a given point in time and not a place of temporary sojourn or transient visit. Temporary sojourn or transient visit shall be thirty (30) days or less.

RESIDENTIAL FACILITY FOR PERSONS WITH A DISABILITY. A residence in which no more than eight (8) unrelated persons with a disability resides and which is:

1. Licensed or certified by the Department of Human Services under Title 62A, Chapter 2, of the Utah Code, Licensure of Programs and Facilities; or
2. Licensed or certified by the Department of Human Health under Title 26, Chapter 21, Health Care Facilities Licensing and Inspection Act.

RETAINING WALL. Any structure designed to resist the lateral displacement of soil or other materials. Examples include block walls, rock walls, concrete walls and segmented walls. A retaining wall is not considered a fence.

SHARED DRIVEWAY. A Private Driveway shared by two or more lots.

SIGN. Any device for visual communication to the public displayed out-of-doors, including signs painted on exterior walls, and interior illuminated signs, to be viewed from out-of-doors, but not including a flag, badge, or ensign of any government or government agency.

STREET, PUBLIC. A thoroughfare which has been dedicated and accepted by proper public authority (or abandoned to the public) or a thoroughfare not less than twenty-four (24) feet wide which has been made public by right of use and which affords the principal means of access to abutting property.

STRUCTURE. Anything constructed, the use of which requires fixed location upon the ground, or attached to something having a fixed location upon the ground, and which creates an impervious material on or above the ground; definition includes "building."

YARD. A required space on a lot other than a court, unoccupied and unobstructed from the ground upward, by buildings, except as otherwise provided herein.

YARD, FRONT. A space between the front of the main building on a lot and the front lot line or line of an abutting street or right-of-way and extending across the full width of a lot. The depth (or setback) of the front yard is the minimum distance between the front lot line, and the front-most part of the primary structure of the nearest main building at the foundation level. (Primary structure includes overhangs, porches, and decks).

YARD, REAR. A space between the back wall of the nearest main building extending the full width of the lot and the lot line that is most distant from, and is most nearly parallel with, the front lot line. If the rear lot line is less than ten feet (10') in length, or if the lot comes to a point at the rear, the rear lot line shall be deemed to be a ten foot (10') line parallel to the front line, lying wholly within the lot for the purpose of establishing the minimum rear yard. The depth (or setback) of the rear yard is the minimum distance between the rear lot line and the rearmost part of the primary structure of the nearest main building at the foundation level.

(Primary structure includes overhangs, porches and decks. See drawing in Appendix A). (Ord. 2004-13, 9/28/04)

YARD, SIDE. A yard that is neither a front yard nor a rear yard. The depth (or setback) of the side yard is the minimum distance between the side lot line and the nearest part of the primary structure of the nearest main building at the foundation level. (Primary structure includes overhangs, porches and decks).

ZONING LOT (Ord. 94-02, 2/8/94). A lot or parcel of land which:

1. Meets all area (lot size), frontage (width), setback (yard), and other zoning requirements applicable within the zone in which it is located;
2. Abuts upon and has direct access to a street which has been dedicated to the City or otherwise accepted by the City as a City Street;
3. Is served by the minimum level of improvements required for issuance of a building permit or for which the construction of the minimum level of improvements is secured through the posting of a performance guarantee; and
4. Is shown as a separate lot on the final plat of a subdivision or similar development, which has been approved in accordance with the applicable ordinance, or is legally exempted from compliance with said ordinance. A parcel which is part of an unapproved or illegal subdivision shall not qualify as a zoning lot.

(Amended by Ord. 2004-14 on 9/28/04; Ord. 2009-16, 10/13/09; Ord. 20011-06, 03/08/11; Ord. 2011-12, 10/25/11; Ord. 2014-11, 6/24/14; Ord. 2015-02, 02/10/15; Ord. 2015-07, 05/26/15)

SECTION 3: **AMENDMENT** "3.05.010 Legislative Intent And Public Purpose" of the Alpine City Municipal Code is hereby *amended* as follows:

A M E N D M E N T

3.05.010 Legislative Intent And Public Purpose

The CE-5 Zone consists primarily of the more mountainous areas of the City which, because of the presence of steep slopes, unique soil characteristics, wild fire hazard or similar natural condition are considered environmentally sensitive.

It is the intent and purpose of the City Council in establishing the zone to set minimum standards for the use of land within the zone and to establish guidelines for development activities thereon which recognize and balance the following:

1. The need to preserve sensitive environmental conditions;
2. The need to mitigate potentially unsafe conditions in the area and prevent development that might increase hazards due to such conditions;
3. The rights of property owners to the reasonable use and enjoyment of their land; and,
4. The need to preserve a healthy, safe and aesthetic living environment for occupants of the zone and the surrounding community.

It is anticipated that uses in the zone will be limited to one-family dwellings in naturalistic settings with associated personal uses and structures. Such uses will be permitted in those portions of the zone which are most suitable for development activity (~~development cluster~~Dwelling Cluster areas) interspersed with large and undisturbed open space areas.

(Ord. 95-28, 11/28/95)

PASSED AND ADOPTED BY THE ALPINE CITY COUNCIL JANUARY 09, 2019.

	AYE	NAY	ABSENT	ABSTAIN
Lon Lott	______	______	______	______
Kimberly Bryant	______	______	______	______
Carla Merrill	______	______	______	______
Ramon Beck	______	______	______	______
Jason Thelin	______	______	______	______

Presiding Officer

____

Troy Stout, Mayor, Alpine City

Attest

____

Charmayne G. Warnock, City Recorder Alpine City

ALPINE PLANNING COMMISSION AGENDA

SUBJECT: **Public Hearing – Amendment to Ordinance – Flag Lots, Private Driveways, & Shared Driveways – Article 3.1.11; Article 3.2.9; Article 3.3.10; Article 3.4.10 and Article 3.5.10**

FOR CONSIDERATION ON: **15 January 2019**

PETITIONER: **Staff**

ACTION REQUESTED BY PETITIONER: **Receive public comment and recommend approval of amendment to ordinance.**

BACKGROUND INFORMATION:

Staff is proposing to add definition for flag lots, private driveways and shared driveways to the development code in order to regulate these types of uses within the City.

STAFF RECOMMENDATION:

Review and recommend approval of amendment to Article 3.1.11; Article 3.2.9; Article 3.3.10; Article 3.4.10 and Article 3.5.10 of the Development Code.

ALPINE CITY
ORDINANCE 2019-03

AN ORDINANCE ADOPTING AMENDMENTS TO ARTICLE 3.02.090; 3.03.100; 3.04.100 AND 3.05.100 OF THE ALPINE CITY DEVELOPMENT CODE PERTAINING TO FLAG LOTS, PRIVATE DRIVEWAYS AND SHARED DRIVEWAYS.

WHEREAS, The City council of Alpine, Utah has deemed it in the best interest of Alpine City to amend the ordinance to allow minor subdivisions to be approved administratively; and

WHEREAS, the Alpine City Planning Commission has reviewed the proposed Amendments to the Development Code, held a public hearing, and has forwarded a recommendation to the City Council; and

WHEREAS, the Alpine City Council has reviewed the proposed Amendments to the Development Code:

NOW THEREFORE, be it ordained by the Alpine City Council that: The amendments to Article 3.02.090; 3.03.100; 3.04.100; and 3.05.100 contained in the attached document will supersede Article 3.2.9; 3.3.10; 3.4.10; and 3.5.10 as previously adopted. This ordinance shall take effect upon posting.

SECTION 1: **AMENDMENT** "3.02.090 Special Provisions" of the Alpine City Municipal Code is hereby *amended* as follows:

BEFORE AMENDMENT

3.02.090 Special Provisions

1. **Heliports**. The installation of a heliport for the use of a helicopter or other manned rotary wing aircrafts capable of vertical takeoff or landing is prohibited.

(Ord. 2015-02, 02/10/15)

AFTER AMENDMENT

3.02.090 Special Provisions

1. **Heliports**. The installation of a heliport for the use of a helicopter or other manned rotary wing aircrafts capable of vertical takeoff or landing is prohibited.
2. **Flag Lots.** Flag Lots, as outlined in definitions, are prohibited in the TR-10,000 Zone.
3. **Private Driveways.** Shall be no longer than 150 feet.
4. **Shared Driveway.** The installation of a shared access is prohibited.

(Ord. 2015-02, 02/10/15)

SECTION 2: **AMENDMENT** "3.03.100 Special Provisions" of the Alpine City Municipal Code is hereby *amended* as follows:

BEFORE AMENDMENT

3.03.100 Special Provisions

1. **Heliports**. The installation of a heliport for the use of a helicopter or other manned rotary wing aircrafts capable of vertical takeoff or landing is prohibited.

(Ord. 95-24, 11/14/95; Ord. 2014-11, 6/24/14)

AFTER AMENDMENT

3.03.100 Special Provisions

1. **Heliports**. The installation of a heliport for the use of a helicopter or other manned rotary wing aircrafts capable of vertical takeoff or landing is prohibited.
2. **Flag Lots.** Flag Lots, as outlined in definitions, are prohibited in the CR-20,000 Zone.
3. **Private Driveways.** Shall be no longer than 150 feet.
4. **Shared Driveway.** The installation of a shared access is prohibited.

(Ord. 95-24, 11/14/95; Ord. 2014-11, 6/24/14)

SECTION 3: **AMENDMENT** "3.04.100 Special Provisions" of the Alpine City Municipal Code is hereby *amended* as follows:

BEFORE AMENDMENT

3.04.100 Special Provisions

1. **Heliports**. The installation of a heliport for the use of a helicopter or other manned rotary wing aircrafts capable of vertical takeoff or landing is prohibited.

(CR-1 Created by Ord. 91-01, 4/9/91 and amended by Ord. 95-04, 2/3/95; Ord. 2014-11, 6/24/14)

AFTER AMENDMENT

3.04.100 Special Provisions

1. **Heliports**. The installation of a heliport for the use of a helicopter or other manned rotary wing aircrafts capable of vertical takeoff or landing is prohibited.
2. **Flag Lots.** Flag Lots, as outlined in definitions, are prohibited in the CR-40,000 Zone.
3. **Private Driveways.** Shall be no longer than 150 feet.
4. **Shared Driveway.** The installation of a shared access is prohibited.

(CR-1 Created by Ord. 91-01, 4/9/91 and amended by Ord. 95-04, 2/3/95; Ord. 2014-11, 6/24/14)

SECTION 4: **AMENDMENT** "3.05.100 Special Provisions" of the Alpine City Municipal Code is hereby *amended* as follows:

BEFORE AMENDMENT

3.05.100 Special Provisions

1. **Heliports**. The installation of a heliport for the use of a helicopter or other manned rotary wing aircrafts capable of vertical takeoff or landing is prohibited.

(Ord. 95-28, 11/28/95)

AFTER AMENDMENT

3.05.100 Special Provisions

1. **Heliports**. The installation of a heliport for the use of a helicopter or other manned rotary wing aircrafts capable of vertical takeoff or landing is prohibited.
2. **Flag Lots.** Flag Lots, as outlined in definitions, are prohibited in the CE-5 Zone.
3. **Private Driveways.** Shall be no longer than 150 feet.
4. **Shared Driveway.** The installation of a shared access is prohibited.

(Ord. 95-28, 11/28/95)

PASSED AND ADOPTED BY THE ALPINE CITY COUNCIL
_______________________________.

	AYE	NAY	ABSENT	ABSTAIN
Lon Lott	_______	_______	_______	_______
Kimberly Bryant	_______	_______	_______	_______
Carla Merrill	_______	_______	_______	_______
Ramon Beck	_______	_______	_______	_______
Jason Thelin	_______	_______	_______	_______

Presiding Officer

Attest

____
Troy Stout, Mayor, Alpine City

____
Charmayne G. Warnock, City Recorder Alpine City

ALPINE PLANNING COMMISSION AGENDA

SUBJECT: Planning Commission Minutes December 4, 2018

FOR CONSIDERATION ON: 15 January 2019

PETITIONER: Staff

ACTION REQUESTED BY PETITIONER: Approve Minutes.

BACKGROUND INFORMATION:

Minutes from the December 4, 2018 Planning Commission Meeting.

STAFF RECOMMENDATION:

Review and approve the Planning Commission Minutes.

ALPINE CITY PLANNING COMMISSION MEETING
Alpine City Hall, 20 North Main, Alpine, UT
December 4, 2018

I. GENERAL BUSINESS

A. Welcome and Roll Call: The meeting was called to order at 7:00 pm by Chairman David Fotheringham. The following were present and constituted a quorum:

Chairman: Dave Fotheringham
Commission Members: Bryce Higbee, John MacKay, Jane Griener, John Gubler, Sylvia Christiansen
Excused: Alan MacDonald
Staff: Austin Roy, Marla Fox, Jed Muhlestein
Others: Britney Green, Jo White

B. Prayer/Opening Comments: Jane Griener
C. Pledge of Allegiance: Austin Roy

II. PUBLIC COMMENT

III. ACTION ITEMS

A. Public Hearing – Open Space Property Exchange – 539 N. Pfeifferhorn Drive
The petitioner, Jeffrey White with White Diamond Homes, has submitted a request to exchange a 5190 square foot piece of private property for a 5190 square foot piece of public open space. The property is located at 539 North Pfeifferhorn Drive.

The open space in question includes an easement with a large gas pipeline that runs through it, which has been vacated or retired by Dominion Energy. The easement does allow for certain things to be built within it, such as: a driveway, curbing, and landscaping (no deep-rooted trees permitted). The piece of open space also contains a ground moisture box that would have to remain, but any future property owner would be able to landscape around it.

The petitioner is seeking the property exchange in order to add frontage to the existing lot (currently legal non-conforming with 59.9 ft of frontage) and make the lot a more traditional rectangle shaped lot.

Any alteration to public open space requires Planning Commission recommendation, and City Council approval.

Article 3.16.4.2 says:

Land included in these parks shall not be materially changed, improved, altered, disposed of in any manner or used for any other purpose except after a recommendation

> *of the Planning Commission following a public hearing and by a super majority vote of the City Council (4 positive votes out of 5 City Council members are required). A material change shall include, but is not limited to, a change to the park's present and essential defining characteristics, creation of or improvement of roadways or parking lots within the park.*

From the piece of private property that would be acquired by the City in the proposed exchange, the City would gain a clean, straight property line between the neighboring private property and the City public open space.

The Planning Commission had a discussion about the City property, the open space area and the trail that runs behind the back of this property running north and south. Jed Muhlestein said there is a ten foot easement for the trail and Highland owns ten feet and Alpine owns ten feet. Austin Roy showed on a map where a ground moisture box was located on the property that was being traded and it was discussed again that nothing could be built on top of that box but that the homeowner could landscape around it. He also showed where the easement was on the property and said the old gas line is no longer active. Austin Roy said the homeowner would have to work with Dominion Energy if they wanted to remove the gas line so they could build something on top of that area.

Jane Griener asked if Dominion Energy would still maintain the right-of-way of the easement. Jed Muhlestein said they would but if the homeowner removed the gas line then Dominion Energy would be more receptive to what they wanted to do on the lot.

David Fotheringham opened the Public Hearing. There were no comments and the Public Hearing was closed.

MOTION: Jane Griener moved to recommend approval of the proposed Open Space Property Exchange at 539 N Pfeifferhorn Drive as written. Sylvia Christiansen seconded the motion. There were 6 Ayes and 0 Nays (recorded below). The motion passed.

Ayes:	**Nays:**
Bryce Higbee	None
John MacKay	
David Fotheringham	
Jane Griener	
John Gubler	
Sylvia Christiansen	

B. Public Hearing – Amendment to Ordinance – Dwelling Clusters – Article 3.9.6

Staff have reviewed the Development Code and have recommended changes to Article 3.9.6 (Dwelling Clusters) to clarify what a development cluster is and what is intended by this requirement in the ordinance.

Austin Roy said there was a misunderstanding to the meaning of clustered lots and what can be built in the cluster. He said staff has an intention to add a definition to what a development cluster is. The first part to be amended is in 3.9.6.1 is add the underlined part:

All lots, *dwellings, habitable structures, and necessary buildings*, shall be located within a designated development cluster.

In 3.9.6.3b add:

Each designated buildable area on any lot shall be clustered with at least 2 other designated buildable areas on neighboring lots, thus forming a designated development cluster.

A project may contain more than one development cluster. Each cluster shall contain not less than three (3) separate lots (except for developments having fewer than 3 lots for the entire development). Where a project contains land located within and outside the Sensitive Lands Overly Zone, development clusters will be located outside of the Sensitive Lands Overlay Zone, to the maximum extent possible. No portion of lots within a PRD shall be located on lands which are required to be designated as open space.

The Planning Commission had a discussion about cluster developments and asked how other cities deal with this situation. Jed Muhlestein said the definition cluster needs to be defined and that's where you'll see spacing requirements and setbacks. Jane Griener said she would like to see a radius and a percentage of the lot has to lie within that. She said she would like to see a little bit of math put into our definition so developers can't come up with creative ways to get around the ordinance. John Gubler said maybe the ordinance could say all lots within the subdivision have to have similar setbacks from the frontage. Jed Muhlestein said if you eliminate flag lots, you are forcing homes to be closer to their frontage. He also said if we address flag lots, it will help with the cluster lots.

David Fotheringham opened the Public Hearing. No comment was made, and the Public Hearing was closed.

The Planning Commission decided to table this agenda item until the definition was completed and can be brought back.

C. Public Hearing – Amendment to Ordinance – Driveway Cut/Fill – Article 3.12.6.2.f & 4.3.1.6.f

In September 2018 an amendment to Article 3.1.11.7, regarding cut/fill on driveways, was recommended by the Planning Commission and approved by the City Council. It has since been discovered that the same clarification needs be made to Article 3.12.6.2.f and Article 4.3.1.6.f of the Development Code where the same information regarding cut/fill on driveways is mentioned.

Jed Muhlestein said we are making our ordinance consistent with what we've previously done. He said we are clarifying the definition of where you measure your driveway cut or fills.

David Fotheringham opened the Public Hearing. There were no comments and the Public Hearing was closed.

MOTION: Sylvia Christiansen moved to recommend approval of the Amendment to Ordinance – Driveway Cut/Fill – Article **3.12.6.2.f &** Article **4.3.1.6.f as proposed.** Jane Griener seconded the motion. There were 6 Ayes and 0 Nays (recorded below). The motion passed.

Ayes:	**Nays:**
Bryce Higbee	None
John MacKay	
David Fotheringham	
Jane Griener	
John Gubler	
Sylvia Christiansen	

IV. Communications

Bryce Higbee asked why we are not using our Alpine sign at the entrance to Alpine. Jed Muhlestein said the Alpine Sign was originally put on private property and the city was asked to take it down. Bryce Higbee said the sign could be placed in the round-about and the Art Center could put a big Elk in there as well.

V. APPROVAL OF PLANNING COMMISSION MINUTES: November 6, 2018

MOTION: Jane Griener moved to approve the minutes for November 6, 2018, with the change made by Bryce Higbee. Bryce Higbee seconded the motion. There were 6 Ayes and 0 Nays (recorded below). The motion passed.

Ayes:	**Nays:**
Bryce Higbee	None
John MacKay	
David Fotheringham	
Jane Griener	
John Gubler	
Sylvia Christiansen	

The meeting was adjourned at7:40 pm.