VALLE VISTA COMMUNITY
TENTATIVE MAP
&
COMMON OPEN SPACE DEVELOPMENT

PREPARED FOR
LANDBANK DEVELOPMENT COMPANY, LLC

PREPARED BY:
CFA, INC.
1150 CORPORATE BOULEVARD
RENO, NV 89502
(775) 856-1150

FEBRUARY 15, 2018

PROJECT: 17-095.02

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Appendices

Project Description

Project Request

This application is a request for a common open space tentative map on a 15.33+/- acre parcel located at 550 E. 4th Avenue in Sun Valley (APN 085-122-03). At the time of submittal of this application, the applicant is nearing the final step in the process for a regulatory zone amendment (RZA), changing the zoning on the subject property from MDS (Medium Density Suburban) to HDS (High Density Suburban). If the RZA is approved on March 27th, the common open space tentative map request can move forward with review. The subject parcel is currently approved for a 75-unit mobile home park per Washoe County Case No. SB11-004. The RZA and tentative map would allow for the ultimate construction of up to 75, individual single-family parcels on which a manufactured home subdivision is proposed with this application. A copy of the Washoe County's Action Order and Staff Report is provided in Appendix C of this application.

Creation of individual lots, as proposed with this common open space tentative map application will allow for the homes and lots within the Valle Vista Community to both be real property, which is beneficial to the end home buyer and for multiple reasons:

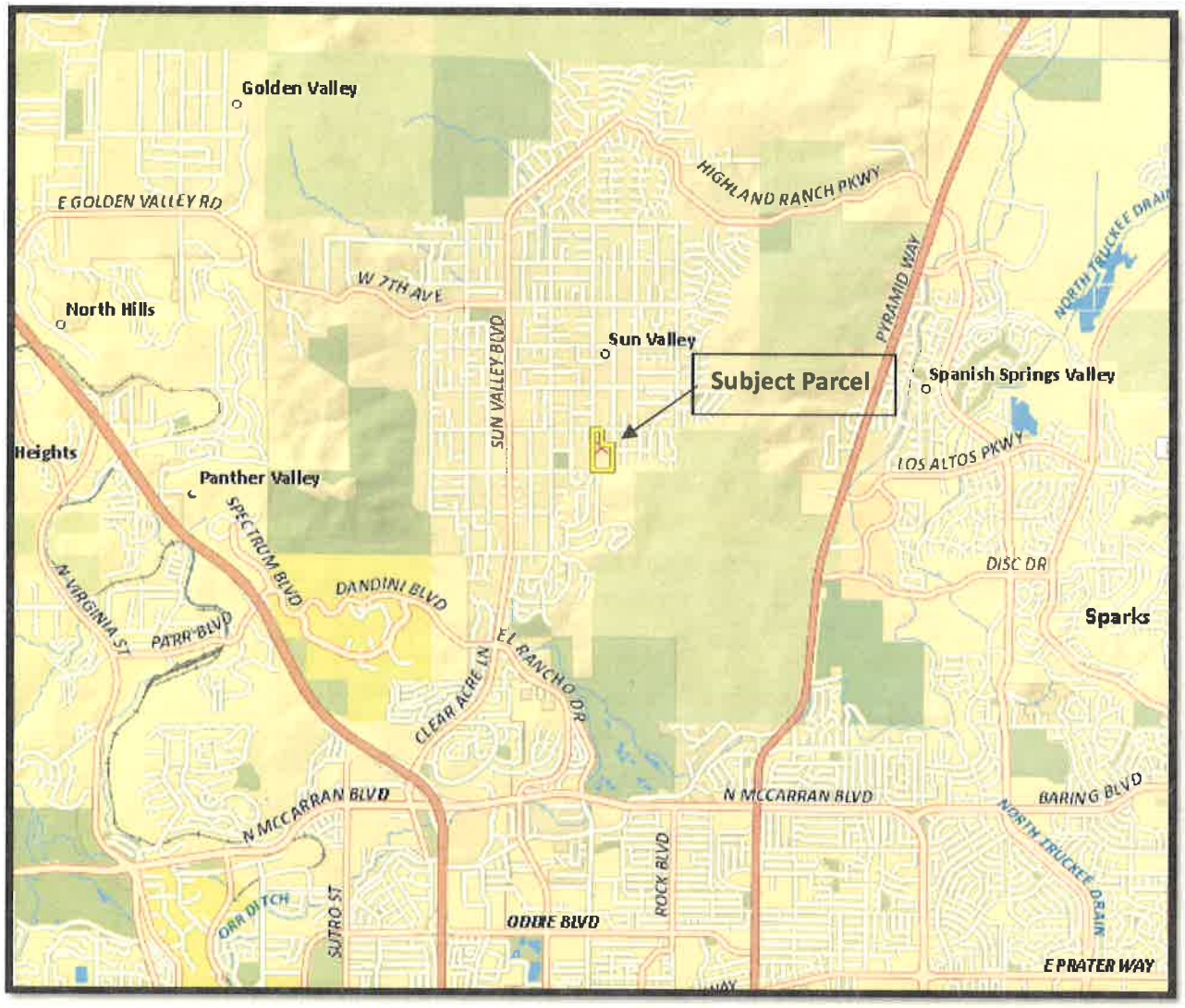
1. It is easier for a home owner to obtain a mortgage for a real property land and home through a conventional, FHA or VA loan rather than through a personal property (chattel) mortgage as there are many more lenders available to provide the conventional, FHA or VA loans.
2. The cost in interest associated with a conventional, FHA or VA loan are substantially less for the home owner as opposed to a chattel mortgage, which helps with the issue of overall affordability. Affordability has been a significant issue in northwestern Nevada with the well-documented industrial growth in the region.
3. The down payment requirement for a conventional, FHA or VA loan is typically substantially lower than that of a chattel mortgage. For example, FHA loans can require as little as 3% of the total purchase price for down payment and VA loans can require 0% while chattel mortgages require a minimum of 10% and often require 20-30% as a down payment. This has a huge impact on affordability.

The proposed project layout and design are very similar to the layout that was previously approved within the Valle Vista Mobile Home Park. Other than the fact that 75 individual residential parcels are proposed, rather than 75 mobile home spaces, modifications have been made to provide parking pockets within the community, some of the lots were widened to allow for are a greater variety of home sizes and a detention area was added.

Property Location

The subject property is located at 550 E. 4th Avenue at the southeast corner with Lupin Drive. A vicinity map is provided, below showing the location of the subject property.

Figure 1 – Vicinity Map



Project Summary

Overview – The Valle Vista Community is proposed to be a 75-lot manufactured home residential subdivision with common areas for landscaping and private street. The property is proposed to be gated and the upkeep and maintenance of the common areas, inclusive of the private streets will be the responsibility of the Valle Vista Community Homeowners Association.

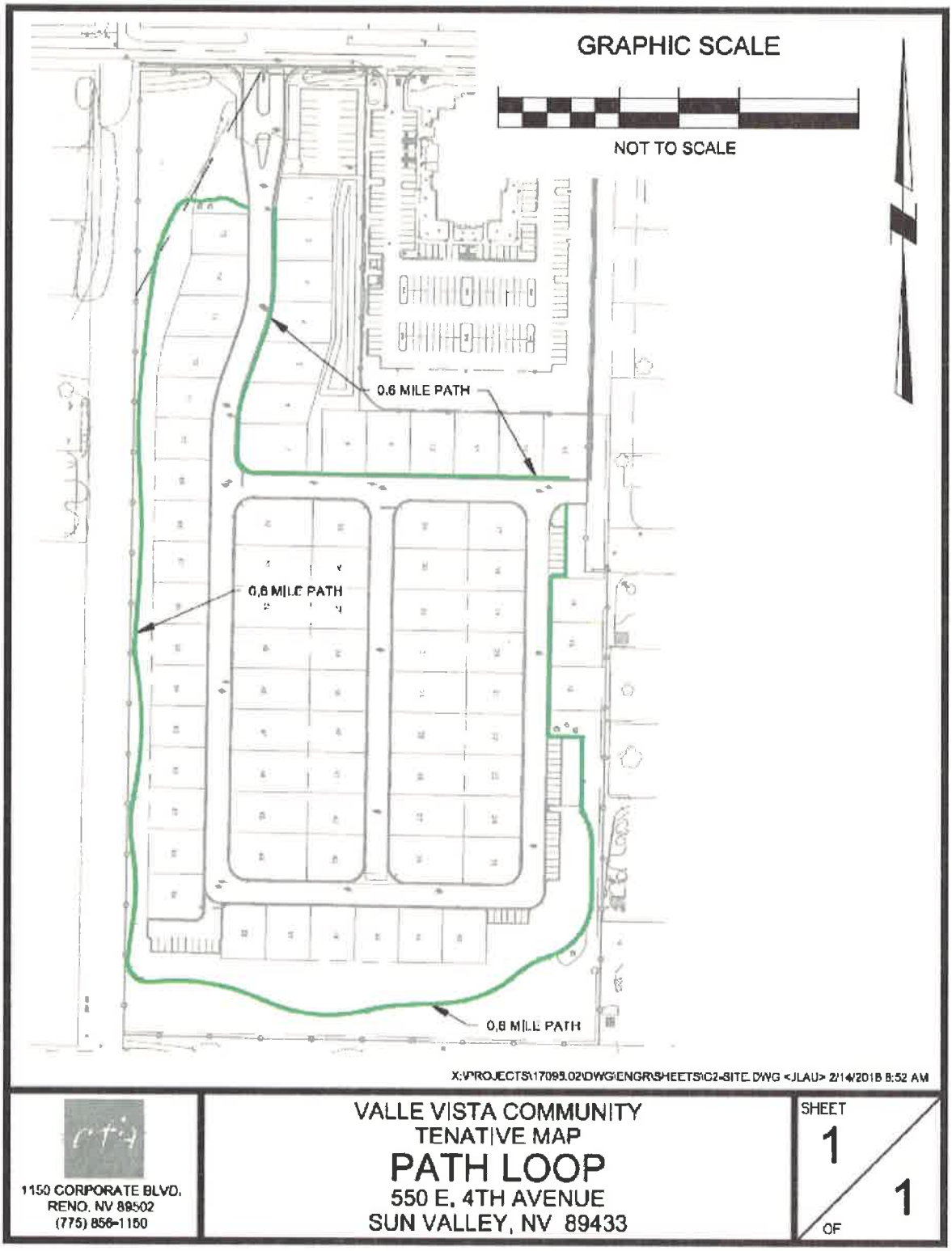
Development Statistics – Following are development statistics for the Valle Vista Community.

Total Project Area:	15.33+/- AC
Maximum Dwelling Units Allowed (Per TMRPA constraint of 5 DU/AC):	76 Residential Lots
Total Dwellings Proposed:	75 Residential Lots
Gross Density Proposed:	4.9 DU/AC
Common Area Lots:	1 Parcel
Areas of Use	
Residential Lot Area:	8.08+/- AC
Total Common Area (Streets, Storage and Landscape Area):	7.25+/- AC
Common Area (Landscape)	4.49+/- AC
Common Area (Street and Storage Area):	2.76+/- AC
Lot Sizes	
Minimum Lot Size:	4,015+/- SF
Maximum Lot Size:	6,293+/- SF
Average Lot Size:	4,689+/- SF
Proposed Setbacks	
Front to House:	10 feet
Front to Carport:	20 feet
Rear:	10 feet
Side:	5 feet
Developed & Undisturbed Area	
Undisturbed Area:	1.67+/- AC
Developed & Graded Area:	13.66+/- AC

Project Amenities – The Valley Vista Community is proposed to be a gated community containing 75 manufactured housing lots and 1 parcel containing the common area (roads and open space) within the subdivision. The subdivision plan contains the following amenities that will be commonly owned and maintained by the residents of the community:

- 4.44+/- Acres of landscaped or natural common open space with pedestrian trail.
- Approximately 0.6 miles of pedestrian path/trail looping the perimeter of the subdivision through the common open space.
- A community garden area
- Picnic tables and benches along the pedestrian path/trail in appropriate locations.
- A storage area for residents who have trailers or medium size RV's (rental of space for storage will likely be extra for those who use the storage)

Figure 2 – Pedestrian Path Loop



Access to Public/Community Facilities and Infrastructure

Parks – In addition to the pedestrian path that is to be located within the Valle Vista Community, the property is located approximately 1/8 mile from a neighborhood park (Sun Valley Park)
Schools – The property is located approximately 1/5 mile from Sun Valley Elementary School, which is the school for which this property is zoned. The property is also zoned for Sparks Middle School and Hug High School. The School district is commencing construction on a new middle school in Sun Valley and there are plans to build a new high school, relocating and upgrading Hug High School.
Churches – Two churches exist adjacent to the subject property to the north, an LDS and Baptist Church.
RTC Bus Stop – The nearest RTC Bus Stop to the site is located ¼ mile north of the subject property at the corner of E. 5th Avenue and Lupin Drive. This is within easy walking distance for someone who does not own a private vehicle or wishes to take the bus.
Traffic Vehicular Access – E. 4th Avenue is identified by the Sun Valley Area Plan Streets and Highways System Plan to be a collector status street. E. 4th Avenue connects directly to Sun Valley Boulevard (SR 443) approximately ½ mile to the west at a signalized intersection providing safe and controlled access onto the area arterial road. Direct access to U.S. 395 (I-580) is provided south on Sun Valley Boulevard (SR 443) approximately 2.25 miles to the southwest of the E. 4th Avenue traffic signal via on and off ramps for both the northbound and southbound travel lanes of the freeway. An updated review of the expected traffic volumes was prepared in conjunction with this application. Speaking with the Traffic Engineer, Mr. Solaegui noted that the single-family Calculations are based on a single-family home, whether 2 or 10 bedrooms. As such, there is a discrepancy between mobile homes and single-family homes. Given this, it is fully expected that the traffic estimates for a single family manufactured home subdivision would be less than is roughly calculated per the ITE standards. The traffic estimate fell below the 80-peak hour rate that would require a traffic impact report.
Water and Sewer Services – Based on conversation with the Sun Valley General Improvement District, water and sewer lines exist adjacent to the site on E. 4th Avenue. It was noted that a water line also runs up the right of way for Lupin Drive, west of the subject property.

Master Plan and Zoning Conformance

Master Plan -- The subject property is designated Suburban Residential within the Sun Valley Area Plan and is contained within the Sun Valley Suburban Character Management Area and Truckee Meadows Service Area. The proposed Valle Vista Community, containing 75 residential lots is consistent with the Washoe County Master Plan and Sun Valley Area Plan. See Planning/Policy Analysis section of the project description for an identification of the master plan goals and policies that are met with this proposed common open space tentative map request.

Zoning –At the timing of this application submittal an RZA request was nearing completion of review through the Washoe County review process.. If the RZA obtains its final approval, the zoning designation on the property will be HDS (High Density Suburban), allowing for the review of this tentative map request

to move forward through the Washoe County review process. The proposed development plan is consistent with the HDS zoning designation.

Common Open Space Development Considerations

Article 408 of the Washoe County Development Code requires that project requesting development as a Common Open Space Development shall review (at a minimum) 16 Site Analysis considerations, per 110.408.30 relative to the project location, design and area infrastructure and facility connectivity and availability. Following is a listing of the 16 considerations and a response relative to each item. A Site Analysis Map has been provided as part of this application submittal. Some of the responses to considerations reference that map, other maps in the tentative map package or other reports or documents contained within this application. This review of Common Open Space Development Considerations is duplicated on the Site Analysis Map provide with this application.

a) Location Map – a location map is provided on the cover of the tentative map set that is provided with this application

b) Land Use – Current land use is "vacant." The planned land use is illustrated and defined and mapped in tentative form on the other sheets provided with this application.

c) Existing Structures – there are no existing structures on the site.

d) Existing Vegetation – the vegetation that exists of the site can be described as natural high desert vegetation. No trees exist on the subject property.

e) Prevailing Winds – prevailing winds for the area are shown on this Site Analysis map.

f) Topography – A slope analysis map is provided in the application document. The site slope calculations show that 1.44+/- acres of the 15.33+/- acre site (9.4%) is contained in 15% or steeper slopes. The steepest areas of the site (30% or greater) are held within the southeastern corner of the site, which is proposed to remain as open space within this Common Open Space Development.

g) Soils – A geotechnical report is provided in the application package identifying the soil characteristics of the site.

h) Natural Drainageways – A floodplain exists in the northwestern corner of the site and it is held within a drainage easement. It is unclear whether this floodplain constitutes a "natural" drainageway or not as the water flows onto the site, nipping the northwestern corner through a culvert running under E. Fourth Avenue.

i) Wetlands and Waterbodies – no wetlands or water bodies appear on the subject property.

j) Flood Hazards – a 100-year floodplain is located at the northwestern corner of the site. A +/-24,000 s.f. drainage easement exists for protection and maintenance access to this floodplain area.

k) Seismic Hazards – A preliminary geotechnical investigation is provided in the application materials submitted with this project covering geologic and seismic considerations on the subject property.

l) Avalanche Hazards - the preliminary geotechnical investigation, provided with this application identifies that the geotechnical engineer does not believe rock falls or landslides will impact the site.

m) Sensitive Habitat and Migration Routes – The Washoe County Master Plan Conservation Element Habitat and Migration Route Maps show that Coopers Hawk habitat may exist in the area of the site (as it also appears to exist in all of Sun Valley, sparks and the northwest portion of Reno). No Mule Deer, Bighorn, Black Bear, Pronghorn Antelope Sage Grouse or Wild Horse and Burro Herd habitats are shown to exist in the area of the subject property, per the Washoe County Conservation Element Habitat and Migration Route Maps.

n) Significant Views – the northeastern corner of the site provides the highest elevation on the property. From that point, views across Sun Valley and views of Mt. Rose can be witnessed.

o) Easements – existing easements are shown on this Site Analysis Map.

p) Utilities – Utility connections are shown on the Utilities Map provided with the tentative map sheets. Electric service is the only service identified in the requirements that is not shown on the Utilities Map. It is expected to enter the site at the project entrance off E. Fourth Avenue and will run underground through the proposed subdivision.

q) Appropriate Access Points – The best access to the site is served off E. Fourth Street, which is identified to be a collector status street and connects to Sun Valley Boulevard (SR 443) through a signalized intersection. Secondary or emergency access could be served off Pearl Drive on the eastern side of the site or E. Gepford Parkway/Wall Canyon Drive could potentially provide a secondary or emergency access point.

Tentative Map Findings

Article 821 of the Washoe County Development Code identifies findings that must be made in order to approve a common open space tentative map application. Following is an identification of each finding and the applicant's response as to how or why this finding is met with this request.

(a) Plan Consistency.

The requested regulatory zone amendment is consistent with the Washoe County Master Plan. The subject property is contained within the Sun Valley Area Plan Suburban Character Management Area. The

proposed zoning designation of HDS is consistent with the Washoe County Master Plan and policies. Some of the specific policies noting consistency are identified below:

Sun Valley Area Plan Goals and Policies

SUN.1.3, The following Regulatory Zones are permitted within the Sun Valley Suburban Character Management Area:
a. High Density Rural (HDR – One unit per 2.5 acres).
b. Low Density Suburban (LDS – One unit per acre).
c. Medium Density Suburban (MDS – Three units per acre).
d. High Density Suburban (HDS – Seven units per acre).
e. Medium Density Urban (MDU – Twenty-one units per acre).
f. Neighborhood Commercial/Office (NC).
g. General Commercial (GC).
h. Industrial (I).
i. Public/Semi-Public Facilities (PSP).
j. Parks and Recreation (PR).
k. General Rural (GR).
l. Open Space (OS).

HDS is specifically identified as allowed regulatory zone within the Suburban Character Management Area of Sun Valley.

Per the Washoe County Master Plan, Land Use and Transportation Element, the HDS and MDS designations are identified to be highly compatible. (see Table 3: Land Use Compatibility Matrix, p.55 of the Washoe County Master Plan).

SUN.2.7 The Nevada Department of Transportation, Regional Transportation Commission and Washoe County shall jointly seek funding to construct sidewalks or paved paths along both sides of Sun Valley Boulevard and main streets such as: 4th, 5th, 6th and 7th Avenues when the safety of pedestrians and children walking to and from schools requires such facilities.

A sidewalk is provided along the E. 4th Avenue project frontage. These improvements will be consistent with and match up to the improvements that were constructed with the LDS Church located immediately adjacent to the subject property at the northeast corner on E. 4th Avenue.

SUN.10.1 Whenever applicable, all development within the Sun Valley Suburban Character Management Area and the Downtown Character Management Area will connect to a community water service.

The Valle Vista Community will be served off community water. The project applicant and engineering firm have been in conversation and study with SVGID since December of 2017 regarding the future connection of water and sewer for the project.

SUN.12.1 Whenever applicable, all development within the Sun Valley Suburban Character Management Area and the Downtown Character Management Area will connect to a community sewer service.

The Valle Vista Community will be served off community water. The project applicant and engineering firm have been in conversation and study with SVGID since December of 2017 regarding the future connection of water and sewer for the project.

Land Use and Transportation Element Policies

LUT.3.1 Require timely, orderly, and fiscally responsible growth that is directed to existing suburban character management areas (SCMAs) within the Area Plans as well as to growth areas delineated within the Truckee Meadows Service Area (TMSA).

The subject property is an infill site within the suburban character management area of Sun Valley. Access is served by a Washoe County identified collector street (E. 4th Avenue) and utilities are adjacent to and available to the site.

LUT.3.3 Single family detached residential development shall be limited to a maximum of five (5) dwelling units per acre.

The proposed Valle Vista Community is proposed for development at 4.9 dwelling units per acre for the residential lots. This conforms with LUT 3.3.

Housing Element Goals and Policies

Goal One: Remove Regulatory Barriers to increase the availability of affordable and workforce housing for all.

Policy 1.2: Evaluate the role of manufactured and mobile homes as an affordable housing option in the unincorporated County.

The Valle Vista Community proposes the incorporation of manufactured homes in the development of the subdivision.

Program 3.5: The County will promote residential development in areas where services and infrastructure already exist or are planned. The County will foster the development of vacant and underutilized parcels by giving priority to applicants who are developing housing affordable to low- and moderate-income households.

The Valle Vista Community is proposed to provide market affordable housing products and the site is consistent with the criteria set forth in Program 3.5. Services and infrastructure already exist and the parcel is a vacant, infill site.

Goal Seven: Promote Homeownership opportunities.

Policy 7.4: Promote home ownership as a community asset.

This policy is directly related to the reason that the applicant desired to pursue subdivision of the previously approved Valle Vista Mobile Home Park. Given that affordable housing is very scarce within the region, dividing the 75 mobile home spaces into 75 single family parcels helps address and promote homeownership.

(b) Design or Improvement.

Finding b addresses consistency with master plan goals and policies, similar to finding a. As such, please see the address to finding a as the responses are the same.

(c) Type of Development

The areas of the subject property identified for development are categorized to be within the area "most suitable" for development per the Development Suitability Map within the Sun Valley Area Plan. This categorization is additionally supported by the slope analysis map that was prepared with this project tentative map application.

(d) Availability of Services.

Based on preliminary discussion and review with utility purveyors that would serve the Valle Vista Community, utilities necessary to serve this in-fill site are generally adjacent to the site. available and nearby. Water, sewer, electric and storm drainage are available to the site and have capacity to serve the project.

(e) Fish or Wildlife.

The Washoe County Master Plan Conservation Element Habitat and Migration Route Maps show that Coopers Hawk habitat may exist in the area of the site (as it also appears to exist in all of Sun Valley, sparks and the northwest portion of Reno). No Mule Deer, Bighorn, Black Bear, Pronghorn Antelope Sage Grouse or Wild Horse and Burro Herd habitats are shown to exist in the area of the subject property, per the Washoe County Conservation Element Habitat and Migration Route Maps.

(f) Public Health.

A single-family manufactured home subdivision does not present any anticipated public health problems.

(g) Easements

All easements identified within the property title report are located along the perimeter of the property and will be maintained and protected with the development of the Valle Vista Community subdivision.

(h) Access

Primary access is provided on E. Fourth Avenue, a collector status street as defined within the Sun Valley Area Plan Streets and Highways System Plan. Secondary/emergency access is provided to Pearl Drive as a gated emergency access.

(i) Dedications

The Valle Vista Community is proposed to contain private streets and private common area. No new dedications of roads or parks is expected. The existing flood plain at the northwest corner of the property is already contained within a protected drainage easement and no development is proposed for the storm water carrying feature.

(j) Energy

The orientation of the majority of the homes within the Valle Vista Community will be conducive to the application of solar panels, if the home owner wishes to install them. 84% of the homes will provide a southern facing roof surface that will provide ample area and direction for appropriate solar exposure for renewable energy.

APPENDIX A

Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information	**Staff Assigned Case No.:**
Project Name: Valle Vista Community	
Project Description: A common open space tentative map is proposed for a 75 lot single family detached subdivision.	
Project Address: 550 E 4th Avenue	
Project Area (acres or square feet): 15.33 +/- Acres	
Project Location (with point of reference to major cross streets **AND** area locator): Located at the southeast corner of East 4th Avenue and Lupin Drive in Sun Valley.	

Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
085-122-03	15.33+/- Ac		

Section(s)/Township/Range: Sec. 20, T. 20N, R. 20E

Indicate any previous Washoe County approvals associated with this application:
Case No.(s). SB11-004 and WRZA17-00006

Applicant Information (attach additional sheets if necessary)

Property Owner:	**Professional Consultant:**
Name: Landbank Development Co., LLC	Name: CFA, Inc.
Address: 1227 Baring Blvd, Sparks, NV 89434	Address: 1150 Corporate Blvd.
Sparks, NV Zip: 89434	Zip:
Phone: Fax:	Phone: 775-856-7073 Fax:
Email: darren@newmarkinvestments.com	Email: dsnelgrove@cfareno.com
Cell: Other:	Cell: 775-737-8910 Other:
Contact Person: Darren Proulx	Contact Person: Dave Snelgrove, AICP
Applicant/Developer:	**Other Persons to be Contacted:**
Name: Same as Owner	Name: Trainor & Associates
Address:	Address: P.O. Box 20713, Reno, Nevada
Zip:	Reno, Nevada Zip: 89515
Phone: Fax:	Phone: Fax:
Email:	Email:
Cell: Other:	Cell: 775-771-6533 Other:
Contact Person:	Contact Person: Jack Trainor

For Office Use Only

Date Received: Initial:	Planning Area:
County Commission District:	Master Plan Designation(s):
CAB(s):	Regulatory Zoning(s):

Property Owner Affidavit

Applicant Name: Landbank Development Co. LLC

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA)
)
COUNTY OF WASHOE)

I, Darren K. Proulx, Manager of Landbank Development Company, LLC,
(please print name)

being duly sworn, depose and say that I am the owner* of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true, and correct to the best of my knowledge and belief. I understand that no assurance or guarantee can be given by members of Planning and Building.

(A separate Affidavit must be provided by each property owner named in the title report.)

Assessor Parcel Number(s): 085-122-03

Printed Name Darren K. Proulx

Signed D KP

Address 1227 Baring Blvd, Sparks, NV 89434

Subscribed and sworn to before me this 13th day of February, 2018.

H Chrisman
Notary Public in and for said county and state

My commission expires: May 19, 2018

(Notary Stamp)

H. CHRISMAN
Notary Public - State of Nevada
Appointment Recorded in Washoe County
No: 10-2648-2 - Expires May 19, 2018

*Owner refers to the following: (Please mark appropriate box.)

- ☐ Owner
- ■ Corporate Officer/Partner (Provide copy of record document indicating authority to sign.)
- ☐ Power of Attorney (Provide copy of Power of Attorney.)
- ☐ Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- ☐ Property Agent (Provide copy of record document indicating authority to sign.)
- ☐ Letter from Government Agency with Stewardship

LandBank Development Co. LLC

RESOLUTION

November 14, 2017

A special meeting of the directors of LandBank Development Co. LLC, was held at the corporation's principal offices at 1227 Baring Blvd, Sparks, NV 89434 and called to order at 9am pursuant to notice or waiver of notice; and a quorum being present, the following resolutions were adopted:

WHEREAS, LandBank Development Co. LLC hereinafter referred to as LLC, desires to entitle/engineer a piece of real property known as Assessor's Parcel #085-122-03 (East 4th Avenue, Sun Valley, NV 89433)

RESOLVED, that the Managing Member of this LLC are hereby authorized to execute all instruments and make all payments necessary to complete the engineering of the real estate mentioned above.

I, Darren K. Proulx, certify that I am the duly appointed Managing Member of LandBank Development Co. LLC, and the above resolution was adopted by the directors and that such resolution is now in full force and effect.

This Resolution shall have an expiration date of November 14, 2019.

IN WITNESS THEREOF, I certify by hand that this is a true and correct copy.

Darren K. Proulx
Managing Member

Tentative Subdivision Map Application
Supplemental Information

(All required information may be separately attached)

Chapter 110 of the Washoe County Code is commonly known as the Development Code. Specific references to tentative subdivision maps may be found in Article 608, Tentative Subdivision Maps.

1. What is the location (address or distance and direction from nearest intersection)?

The subject property is located in Sun Valley at 550 East 4th Avenue and is recognized by the Washoe County Assessor's Office as APN 085-122-03. The property is located at the southeast corner of East 4th Avenue and Lupin Street in Sun Valley, Nevada.

2. What is the subdivision name (proposed name must not duplicate the name of any existing subdivision)?

Valle Vista Community

3. Density and lot design:

a. Acreage of project site	15.33 acres
b. Total number of lots	75 residential lots - 1 common area lot
c. Dwelling units per acre	4.9 DU/AC
d. Minimum and maximum area of proposed lots	Minimum - 4,015+/- s.f., Maximum - 6,293+/- s.f.
e. Minimum width of proposed lots	55 feet
f. Average lot size	4,689+/- SF

4. Utilities:

a. Sewer Service	Sun Valley GID
b. Electrical Service	NV Energy
c. Telephone Service	AT&T
d. LPG or Natural Gas Service	NV Energy
e. Solid Waste Disposal Service	Waste Management
f. Cable Television Service	Charter
g. Water Service	Sun Valley GID

5. For common open space subdivisions (Article 408), please answer the following:

   a. Acreage of common open space:

   7.2 acres (includes streets, storage and landscape area). 4.44 acres of landscape common open space is provided.

   b. Development constraints within common open space (slope, wetlands, faults, springs, ridgelines):

   The slope analysis map, provided with this application shows that there is a total of 1.44+/- acres of slopes in excess of 15% on the subject site. The steeper slopes are largely contained within the southeastern corner of the site, an area that is largely being provided in common open space. The geotechnical investigation identifies one post-tertiary age fault crossing the site but indicates that the "the inferred age of the feature [this fault] may be considered to be inactive for design purposes and that construction offsets are not warranted. There are not wetlands, springs or ridgelines on the subject property.

   c. Range of lot sizes (include minimum and maximum lot size):

   Minimum - 4,015+/- s.f., Maximum - 6,293+/- s.f.

   d. Average lot size:

   4,689+/- SF

   e. Proposed yard setbacks if different from standard:

   Front to Home- 10 feet
   Front to Carport or Garage - 20 feet
   Sides - 5 feet
   Rear - 10 feet

   f. Justification for setback reduction or increase, if requested:

   The smaller lots are meritorious of maintaining open space areas that both preserve the constraint areas (described in b.) and connective open space that provides for onsite amenities. with the smaller lot sizes, the standard front and rear setback connot be me in most cases. As such, a reduced setback allowance of 10 foot minimums for both the front and read yards are proposed. The housing sizes are still similar to others int he neighborhood, but the primary difference is that the homes in Valle Vista benefit from a Common Area network that is not typical in neighboring developments.

   g. Identify all proposed non-residential uses:

   Valle Vista will include a walking path looping the common area, a play/recreation area and a screened storage area as amenities to the project.

h. Improvements proposed for the common open space:

The common area on the site will be comprised of both the natural and enhances landscape area around most of the perimeter of the site and the streets and parking pockets within the subdivision. The area within the landscape common area is 4.44+/- acres (29+/-% of the site) and the total common area (inclusive of landscape, streets, and storage areas) is 7.2+/- acres (47+/-% of the site). The amenities within the common area include a walking path that loops the site (approximately 0.6 mile, a community garden area, picnic tables and benches along the walking path and an 18 space storage area for small to medium size trailers, RV's or similar items.

i. Describe or show on the tentative map any public or private trail systems within common open space of the development:

The trail system is shown on the tentative map sheets provided with this application and is highlighted on the Valle Vista Community Path Loop graphic contained within the project description of this application.

j. Describe the connectivity of the proposed trail system with existing trails or open space adjacent to or near the property:

A trail exists south of the property within the Juniper Heights Subdivision common area. This trail can be connected to if a man gate is provided at the south side of the property. As Valle Vista is proposed to be a gated community, it has not been determined whether a pedestrian access gate could or should be provided at this location. This can be discussed with County staff through the review process.

k. If there are ridgelines on the property, how are they protected from development?

There are no ridgelines on the subject property.

l. Will fencing be allowed on lot lines or restricted? If so, how?

Fencing will be constructed on each lot with the construction of each phase of the project.

m. Identify the party responsible for maintenance of the common open space:

The Valle Vista Homeowner's Association will be responsible for maintenance of the Common Open Space within the project.

6. Is the project adjacent to public lands or impacted by "Presumed Public Roads" as shown on the adopted April 27, 1999 Presumed Public Roads (see Washoe County Engineering website at http://www.washoecounty.us/pubworks/engineering.htm). If so, how is access to those features provided?

The Washoe County Engineering website and "Presumed Public Roads" map linked to that site does not show any "presumed public roads" crossing the subject property.

7. Is the parcel within the Truckee Meadows Service Area?

■ Yes	❑ No

8. Is the parcel within the Cooperative Planning Area as defined by the Regional Plan?

❑ Yes	■ No	If yes, within what city?

9. Will a special use permit be required for utility improvement? If so, what special use permits are required and are they submitted with the application package?

None. The subject property is an infill site and utilities are available adjacent to the property.

10. Has an archeological survey been reviewed and approved by SHPO on the property? If yes, what were the findings?

It is unknown whether or not there has been a study by SHPO covering the subject property.

11. Indicate the type and quantity of water rights the application has or proposes to have available:

a. Permit #		acre-feet per year	
b. Certificate #		acre-feet per year	
c. Surface Claim #		acre-feet per year	
d. Other #		acre-feet per year	

e. Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources):

Water is proposed to be served through SVGID. The applicant has been in discussion with SVGID regarding this project and has commissioned sewer and water studies through SVGID's engineer. The applicant is fully aware that any necessary water rights to serve the project will have to be purchased by the applicant/project developer.

12. Describe the aspects of the tentative subdivision that contribute to energy conservation:

The orientation of the majority of the homes within the Valle Vista Community will be conducive to the application of solar panels, if the home owner wishes to install them. All homes are anticipated to be Energy Star rated.

13. Is the subject property in an area identified by Planning and Building as potentially containing rare or endangered plants and/or animals, critical breeding habitat, migration routes or winter range? If so, please list the species and describe what mitigation measures will be taken to prevent adverse impacts to the species:

The Washoe County Master Plan Conservation Element Habitat and Migration Route Maps show that Coopers Hawk habitat may exist in the area of the site (as it also appears to exist in all of Sun Valley, sparks and the northwest portion of Reno). No Mule Deer, Bighorn, Black Bear, Pronghorn Antelope Sage Grouse or Wild Horse and Burro Herd habitats are shown to exist in the area of the subject property, per the Washoe County Conservation Element Habitat and Migration Route Maps.

14. If private roads are proposed, will the community be gated? If so, is a public trail system easement provided through the subdivision?

Private roads are proposed and the community will be gated. There is no need for a public trail system easement to cross the property as there are existing roadway or rights-of-way surrounding, which provide appropriate legal access for both vehicles and pedestrians.

15. Is the subject property located adjacent to an existing residential subdivision? If so, describe how the tentative map complies with each additional adopted policy and code requirement of Article 434, Regional Development Standards within Cooperative Planning Areas and all of Washoe County, in particular, grading within 50 and 200 feet of the adjacent developed properties under 5 acres and parcel matching criteria:

This section of code addresses policies from the 2002 Regional Plan, which are not longer application. Discussion with Washoe County staff identified that this section of code is no longer valid.

16. Are there any applicable policies of the adopted area plan in which the project is located that require compliance? If so, which policies and how does the project comply?

Please see the Planning/Policy Review provided in the project description of this application.

17. Are there any applicable area plan modifiers in the Development Code in which the project is located that require compliance? If so, which modifiers and how does the project comply?

There are no applicable area plan modifiers in the Development Code that would apply to this project.

18. Will the project be completed in one phase or is phasing planned? If so, please provide that phasing plan:

The project will be constructed in a total of three (3) Phases. The proposed phasing lines are shown on the tentative map sheets provided with this application package.

19. Is the project subject to Article 424, Hillside Development? If yes, please address all requirements of the Hillside Ordinance in a separate set of attachments and maps.

☐ Yes	■ No	If yes, include a separate set of attachments and maps.

20. Is the project subject to Article 418, Significant Hydrologic Resources? If yes, please address Special Review Considerations within Section 110.418.30 in a separate attachment.

☐ Yes	☐ No	If yes, include separate attachments.

Grading

Please complete the following additional questions if the project anticipates grading that involves: (1) Disturbed area exceeding twenty-five thousand (25,000) square feet not covered by streets, buildings and landscaping; (2) More than one thousand (1,000) cubic yards of earth to be imported and placed as fill in a special flood hazard area; (3) More than five thousand (5,000) cubic yards of earth to be imported and placed as fill; (4) More than one thousand (1,000) cubic yards to be excavated, whether or not the earth will be exported from the property; or (5) If a permanent earthen structure will be established over four and one-half (4.5) feet high:

21. How many cubic yards of material are you proposing to excavate on site?

48,495+/- CY

22. How many cubic yards of material are you exporting or importing? If exporting of material is anticipated, where will the material be sent? If the disposal site is within unincorporated Washoe County, what measures will be taken for erosion control and revegetation at the site? If none, how are you balancing the work on-site?

21,119+/- CY are estimated to be exported from the site. There are a couple projects on-going or beginning in the Sun Valley area that may be able to accept fill material (the Sun Valley Middle School or Sun Mesa). It is fully recognized that an acceptable, approved export site will need to be located prior to construction activities commencing and the increase in construction activity in the area and region may expose other sites that are more advantageous relative to hauling distances than those potentially recognized at this tentative map phase.

23. Can the disturbed area be seen from off-site? If yes, from which directions, and which properties or roadways? What measures will be taken to mitigate their impacts?

Most of the disturbed areas associated with site grading will be screened by the proposed development. Any portions that will remain visible will be revegetated, landscaped or left natural. Revegetation and landscaping are the primary mitigative treatments for such areas.

24. What is the slope (Horizontal/Vertical) of the cut and fill areas proposed to be? What methods will be used to prevent erosion until the revegetation is established?

3:1 maximum slope will be incorporated in the grading design. Fiber rolls and/or other BMP's will be incorporated into the SWPPP for prevention of erosion escaping the site prior to revegetation or stabilization.

25. Are you planning any berms and, if so, how tall is the berm at its highest? How will it be stabilized and/or revegetated?

No berms are proposed.

26. Are retaining walls going to be required? If so, how high will the walls be, will there be multiple walls with intervening terracing, and what is the wall construction (i.e. rockery, concrete, timber, manufactured block)? How will the visual impacts be mitigated?

There are retaining walls on the site. The maximum height of any wall is 6 feet, benching is incorporated where multiple walls are necessary.

27. Will the grading proposed require removal of any trees? If so, what species, how many, and of what size?

There are no trees on the site.

28. What type of revegetation seed mix are you planning to use and how many pounds per acre do you intend to broadcast? Will you use mulch and, if so, what type?

A revegetation seed mix is identified on the Tentative Map Landscape Plan. The total pounds per acre is identified to be 30+/- lbs/AC.

29. How are you providing temporary irrigation to the disturbed area?

No temporary irrigation is proposed for revegetation areas. Hydroseeding is the anticipated method of treatment for revegetated areas.

30. Have you reviewed the revegetation plan with the Washoe Storey Conservation District? If yes, have you incorporated their suggestions?

No, the plan has not been reviewed with the Washoe Storey Conservation District.

APPENDIX B

VALLE VISTA COMMUNITY

TENATIVE MAP

550 E. 4TH AVENUE
SUN VALLEY, NV 89433
APN: 085-122-03

OWNER/DEVELOPER:

LANDBANK DEVELOPMENT CO., LLC
325 HARBOR COVE DRIVE, STE 211
SPARKS, NV 89434
(775) 358-4425 VOICE
(775) 358-4464 FAX

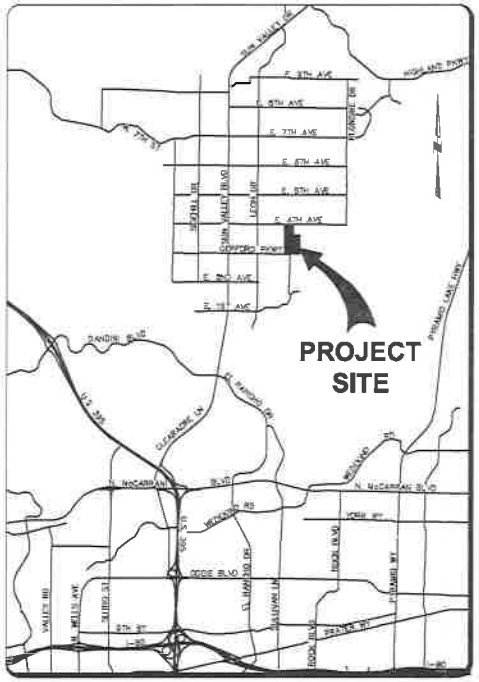
CIVIL ENGINEER:

ENGINEERS • LAND SURVEYORS
PLANNERS
1150 CORPORATE BOULEVARD • RENO, NEVADA 89502
775-856-1150 MAIN • 775-856-1160 FAX • CFAINC.COM

ENGINEERS STATEMENT:

TO THE BEST OF MY KNOWLEDGE, THE PLANS PREPARED ARE IN COMPLIANCE WITH APPLICABLE PROVISIONS OF THE WASHOE COUNTY DEVELOPMENT CODE.

JONATHON LAU, P.E.
CFA INC.



VICINITY MAP
SCALE: NTS

SHEET INDEX:

BASIS OF BEARINGS AND COORDINATES:

NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983/1994, HIGH ACCURACY REFERENCE NETWORK (NAD 83/94-HARN), AS DETERMINED USING REAL TIME KINEMATIC (RTK) GPS OBSERVATIONS WITH CORRECTIONS TRANSMITTED BY WASHOE COUNTY CONTINUOUSLY OPERATING REFERENCE STATION (CORS) "SIERRA." THE BEARING BETWEEN CORS "SIERAPKP" AND CORS "SIERZZ" IS TAKEN AS NORTH 05°11'01" WEST. ALL DIMENSIONS SHOWN ARE GROUND DISTANCES. COMBINED GRID-TO-GROUND FACTOR = .999978998.

BASIS OF ELEVATIONS:

NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83/94)

TENATIVE MAP
02-15-2018

ABBREVIATIONS

Abbreviation	Meaning
AB	ANCHOR BOLT
ABAN	ABANDONED
ABC	AGGREGATE BASE COURSE
AC	ASPHALT CONCRETE
ADD	ADDITIONAL
ADJ	ADJACENT
APPROX	APPROXIMATE
APPR	APPROVED
ARV	AIR RELEASE VALVE
BC	BEGIN CURVE
BCR	BEGIN CURB RETURN
BFC	BACK FACE OF CURB
BLDG	BUILDING
BM	BENCH MARK
BOT	BOTTOM
BSW	BACK OF SIDEWALK
BVC	BEGIN VERTICAL CURVE
CB	CATCH BASIN
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CJ	CONSTRUCTION JOINT
℄ or CL	CENTERLINE
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
COORD	COORDINATE
CTR	CENTER
CU	CUBIC
CU FT	CUBIC FEET
CU IN	CUBIC INCH
CU YD	CUBIC YARD
CULV	CULVERT
DBL	DOUBLE
DTL	DETAIL
DI	DROP INLET
DIA	DIAMETER
DWG	DRAWING
E	EASTING
EX or EXIST	EXISTING
EA	EACH
EC	END CURVE
ECR	END CURB RETURN
ECC	ECCENTRIC
EL	ELEVATION
ELEC	ELECTRIC
ENGR	ENGINEER
EVC	END OF VERTICAL CURVE
EW	EACH WAY
EXP JT	EXPANSION JOINT
FES	FLARED END SECTION
FFC	FRONT FACE OF CURB
FG	FINISH GRADE
FH	FIRE HYDRANT
FIG	FIGURE
FL or FL	FLOWLINE
FPS	FEET PER SECOND
FT	FOOT or FEET
F	DEGREE FAHRENHEIT
G	GAS
GAL	GALLON
GALV	GALVANIZED
GB	GRADE BREAK
GPD	GALLONS PER DAY
HORIZ	HORIZONTAL
HP	HORSEPOWER
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH
INV	INVERT
IRR	IRRIGATION
KW	KILOWATT
L	LENGTH
LAT	LATERAL
LB	POUNDS
LB/CU FT	POUNDS PER CUBIC FOOT
LONG	LONGITUDINAL
LT	LEFT
MAX	MAXIMUM
MDD	MAXIMUM DRY DENSITY
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MPH	MILES PER HOUR
N	NORTHING
NDP	NO DIRECT PAYMENT
NTS	NOT TO SCALE
OC	ON CENTER
OG	ORIGINAL GROUND
OZ	OUNCE
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PI	POINT OF INTERSECTION
PL or PL	PROPERTY LINE
PRC	POINT OF REVERSE CURVE
PREFAB	PREFABRICATED
PROP	PROPERTY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
R	RADIUS
RCB	REINFORCED CONCRETE BOX CULVERT
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REF	REFERENCE or REFER
REINF	REINFORCED
REQD	REQUIRED
RT	RIGHT
RW or ROW	RIGHT-OF-WAY
SCH	SCHEDULE
SD	STORM DRAIN
SECT	SECTION
SF	SQUARE FOOT
SI	SQUARE INCH
SSE	SANITARY SEWER EASEMENT
STA	STATION
SIM	SIMILAR
SPEC	SPECIFICATIONS
SQ	SQUARE
SS	SANITARY SEWER
STD	STANDARD
SW	SIDEWALK
SYM	SYMMETRICAL
TAN	TANGENT
TB	THRUST BLOCK
TC	TOP OF CURB
TC-DC	TOP OF CURB - DEPRESSED
TECH	TECHNICAL
TEL	TELEPHONE
TEMP	TEMPERATURE
TF	TOP FACE
TW or TOW	TOP OF WALL
TYP	TYPICAL
V	VELOCITY
VC	VERTICAL CURVE
VERT	VERTICAL
VG	VALLEY GUTTER
W	WATER
WWF	WELDED WIRE FABRIC
YD	YARD

LEGEND

Symbol	Description
	EXISTING CURB & GUTTER
	PROPOSED CURB & GUTTER
— — 4391 — —	EXISTING 1' CONTOUR
— — 4390 — —	EXISTING 5' CONTOUR
—— 4391 ——	PROPOSED 1' CONTOUR
—— 4390 ——	PROPOSED 5' CONTOUR
	SAWCUT
(97.86) TC	EXISTING SPOT ELEVATION
97.55 FG	PROPOSED SPOT ELEVATION
—— PL ——	PROPERTY/BOUNDARY LINE
—— S ——	EXISTING SANITARY SEWER
—— D ——	EXISTING STORM DRAIN
—— E ——	EXISTING ELECTRIC
—— G ——	EXISTING GAS
—— T ——	EXISTING TELEPHONE
—— OH ——	EXISTING OVERHEAD LINES
—— CATV ——	EXISTING CABLE
—— FO ——	EXISTING FIBER OPTIC
—— W ——	EXISTING WATER LINE
—— W-G ——	EXISTING WATER AND GAS LINE
	EXISTING CHAINLINK FENCE
	EXISTING STREET SIGN
	EXISTING STREET LIGHTING AND TRAFFIC SIGNAL
	EXISTING FIRE HYDRANT
	EXISTING FIRE DEPARTMENT CONNECTIONS
	EXISTING SURVEY MONUMENT
	EXISTING POWER POLE
	EXISTING TRANSFORMER PAD
	EXISTING ELECTRIC VAULT
	EXISTING TELEPHONE VAULT
	EXISTING SANITARY SEWER MANHOLE
	EXISTING STORM DRAIN MANHOLE
	EXISTING ELECTRIC MANHOLE
	EXISTING UTILITY MANHOLE
	EXISTING GAS VALVE
	EXISTING WATER METER
	EXISTING WATER VALVE
	EXISTING TREE
	EXISTING TREE TO BE REMOVED

CAUTION – NOTICE TO CONTRACTOR

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND FEATURES AS SHOWN ON THESE PLANS IS BASED ON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE.

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5. CONTRACTOR TO PROVIDE TRAFFIC CONTROL IN CONFORMANCE WITH THE LATEST EDITION OF MUTCD WHENEVER CONSTRUCTION IS IN PROGRESS WITHIN THE PUBLIC TRAVEL WAY.

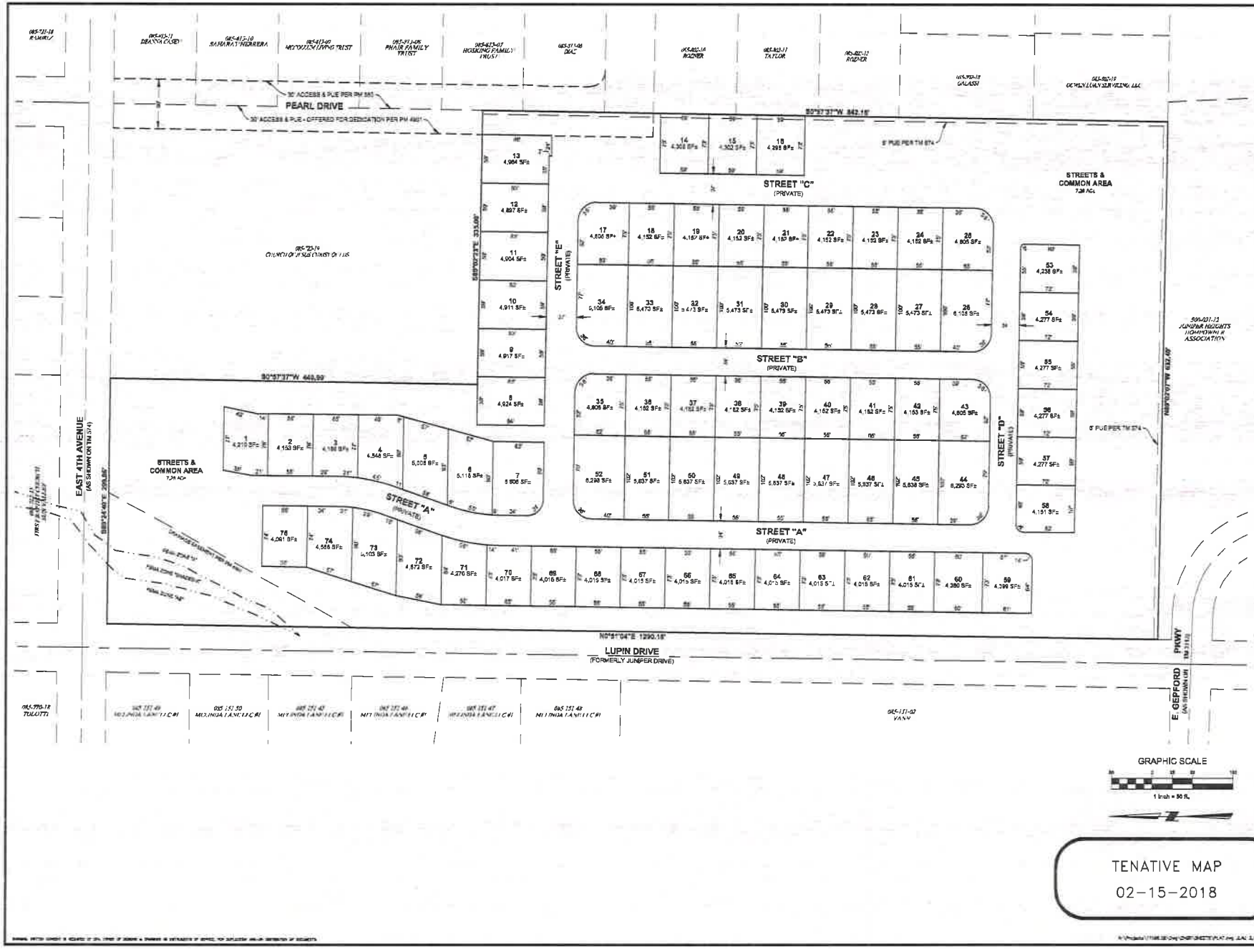
TENATIVE MAP
02-15-2018

PROFESSIONAL SEAL: JONATHON LAU, CIVIL, No. 21735, Exp. 12-31-18

VALLE VISTA COMMUNITY
TENATIVE MAP
NOTES, LEGENDS, ABBREVIATIONS
550 E. 4TH AVENUE
SUN VALLEY, NV 89433

JOB NO.	17065.00
DESIGNED BY	JL
CHECKED BY	MW
DATE	02-15-2018

SHEET C1.1 OF 10



PROFESSIONAL SEAL

JONATHON LAU
No. 21178
CIVIL

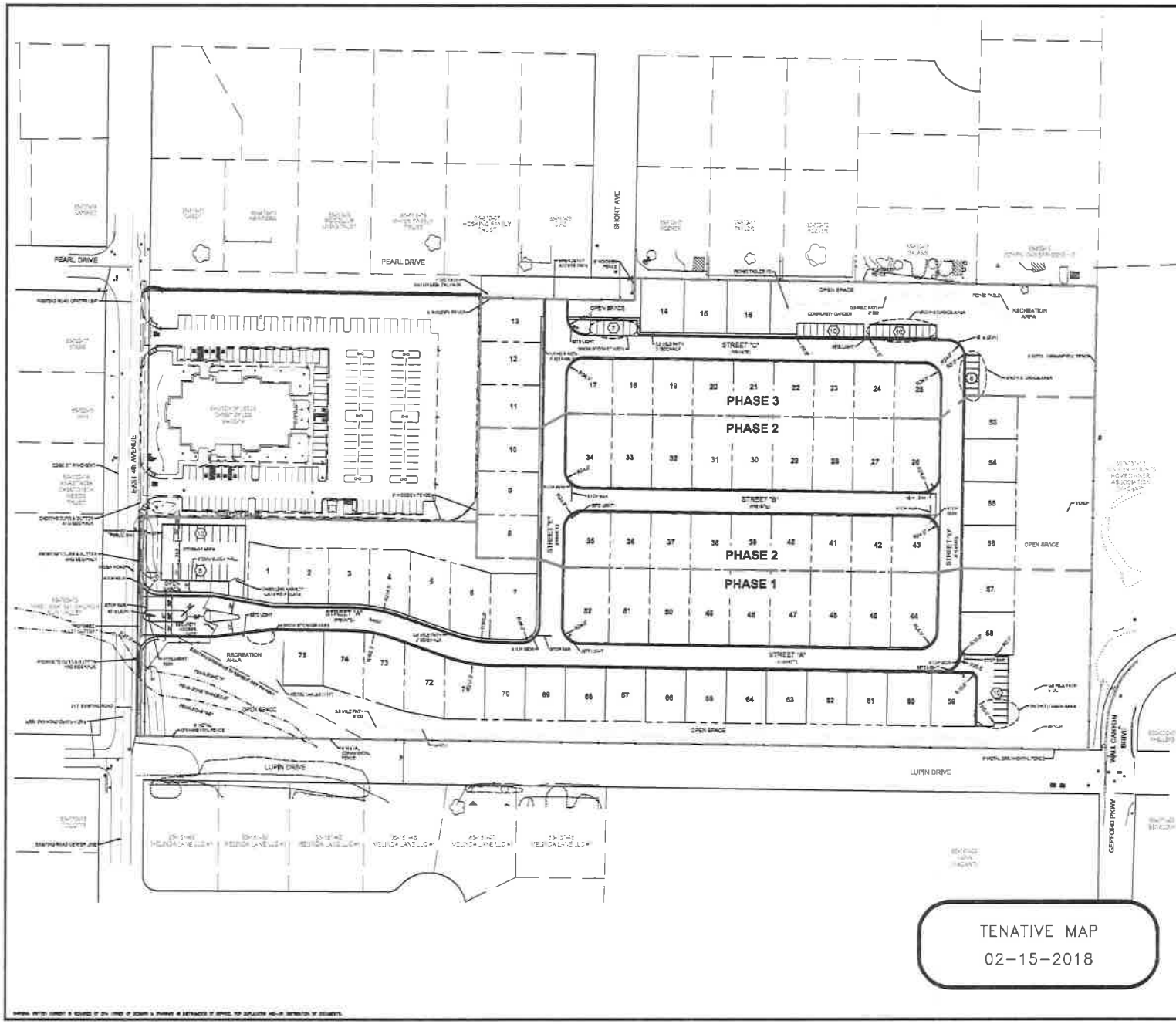
ENGINEERS • LAND SURVEYORS
PLANNERS
3247 DISCOVERY BOULEVARD • RENO, NEVADA 89503
775-856-1150 PHONE • 775-856-1160 FAX • CTCENGINEERS.COM

VALLE VISTA COMMUNITY
TENATIVE MAP

SUBDIVISION PLAT

550 E. 4TH AVENUE
SUN VALLEY, NV 89433

JOB NO.	17085.03
DESIGNED BY	J.
CHECKED BY	MR
DATE	02-15-2018
SHEET	C2.0
OF	10



GRAPHIC SCALE

1 inch = 60 ft.

SITE INFORMATION

SITE STATISTICS:

TOTAL AREA: 15.33 AC
MAXIMUM TOTAL DWELLING UNITS ALLOWED: 76
TOTAL DWELLINGS: 75
COMMON AREA LOT: 1

AREA STATISTICS:

TOTAL RESIDENTIAL LOT AREA:	353,872± SF	(8.12 AC)
TOTAL COMMON AREA:	193,464± SF	(4.44 AC)
TOTAL STREET AREA:	120,387± SF	(2.76 AC)
TOTAL:		15.33 AC

GROSS DENSITY: 4.9 DWELLINGS PER ACRE

COUNTY REGULATIONS:

MINIMUM LOT SIZE:	4,015 SF
MAXIMUM LOT SIZE:	6,299 SF
AVERAGE LOT SIZE:	4,716 SF

SETBACKS:
FRONT: 10 FT
REAR: 10 FT
SIDEYARD: 5 FT

MISCELLANEOUS STATISTICS:

ASSESSOR PARCEL NUMBER: 085-133-03

STREET ADDRESS: 550 S. 4TH AVENUE
SUN VALLEY, NV. 89433

LANDSCAPE STATISTICS:

TOTAL SITE AREA:	15.33 AC
UNDISTURBED AREA:	1.87 AC
TOTAL DEVELOPED AND GRADED AREA:	13.46 AC
REQUIRED LANDSCAPING (20%):	3.07 AC OR 133,868 SF
LANDSCAPE AREA PROVIDED:	1.35 AC OR 169,135 SF

Ref: LANDSCAPE PLAN FOR ADDITIONAL INFORMATION

PARKING INFORMATION

(#) # OF PARKING SPACES IN A ROW

43 SURFACE PARKING STALLS PROVIDED

TENATIVE MAP
02-15-2018

CAUTION – NOTICE TO CONTRACTOR

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PROFESSIONAL SEAL

JONATHON LAU — 12-31-18 — CIVIL

ENGINEERS • LAND SURVEYORS • PLANNERS
550 CORPORATE BOULEVARD • RENO, NEVADA 89502
775.856.1150 MAIN • 775.856.1160 FAX • STANTEC.COM

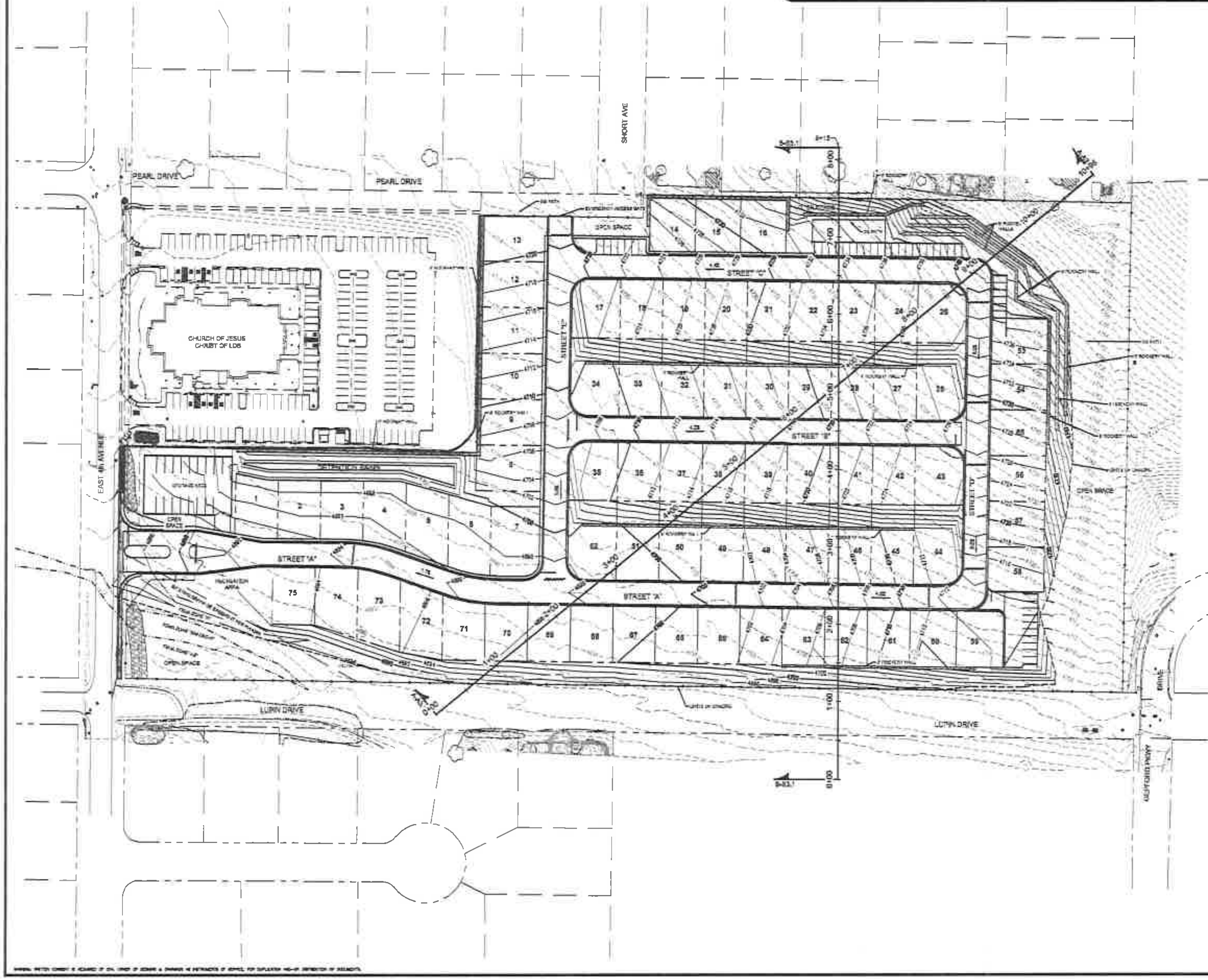
VALLE VISTA COMMUNITY
TENATIVE MAP
SITE PLAN
550 E. 4TH AVENUE
SUN VALLEY, NV 89433

JOB NO.	17085.00
DESIGNED BY	JL
CHECKED BY	MW
DATE	02-15-2018
SHEET	C3.0
	10

Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
Volume Surface	1.000	1.000	657940 Sq. Ft.	48493 Cu. Yd.	27376 Cu. Yd.	21119 Cu. Yd.<Cut>
Totals			657940 Sq. Ft.	48493 Cu. Yd.	27376 Cu. Yd.	21119 Cu. Yd.<Cut>

GRAPHIC SCALE
1 inch = 60 ft.



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TENATIVE MAP
02-15-2018

PROFESSIONAL SEAL
JONATHON LAU
CIVIL

CFA
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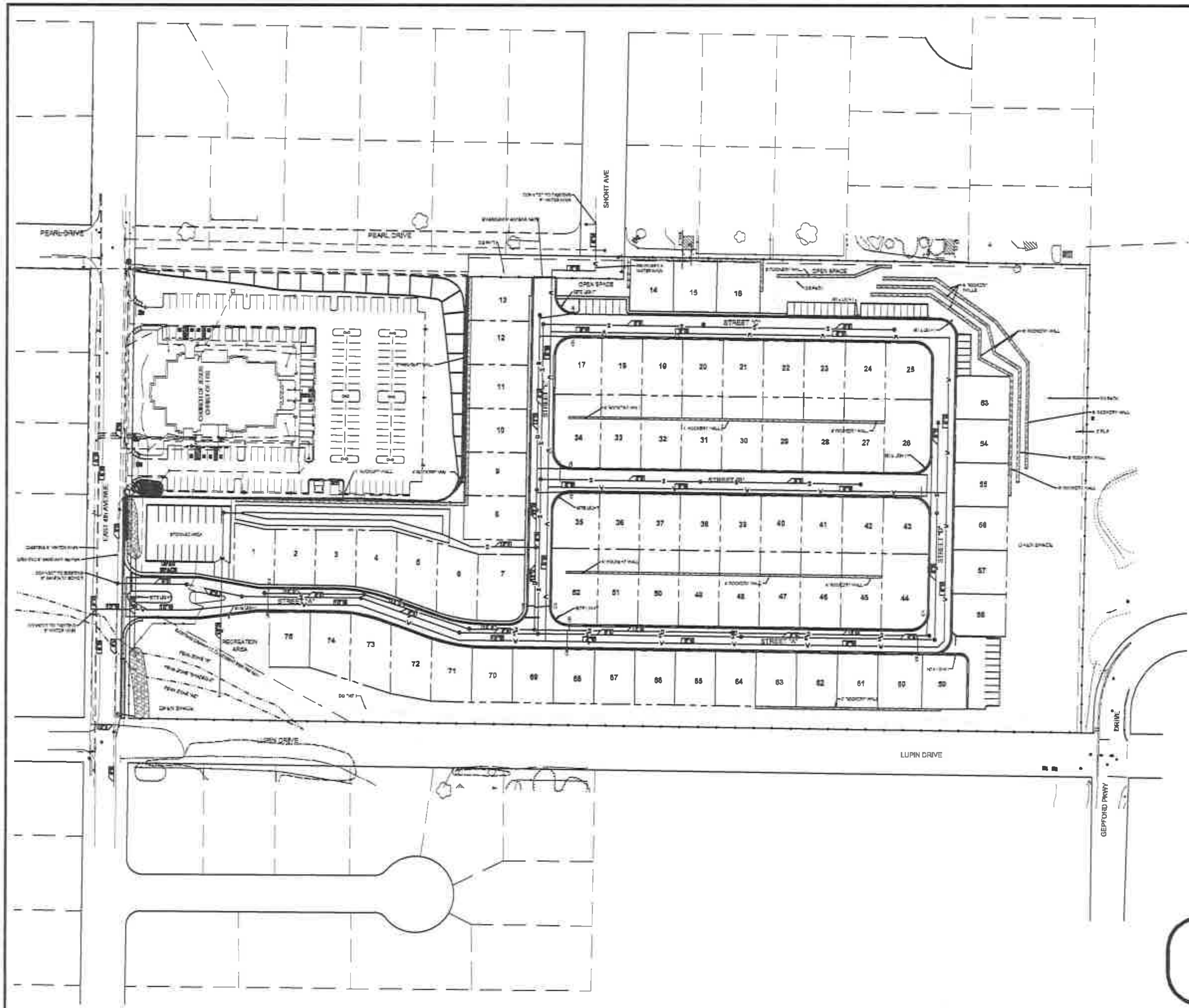
PLANNING

VALLE VISTA COMMUNITY
TENATIVE MAP
GRADING PLAN
550 E. 4TH AVENUE
SUN VALLEY, NV 89433

JOB NO.	17085.03
DESIGNED BY	JL
CHECKED BY	MN
DATE	02-15-2018
SHEET	C4.0
OF	10



GRAPHIC SCALE

1 inch = 50 ft.

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TENATIVE MAP
02-15-2018

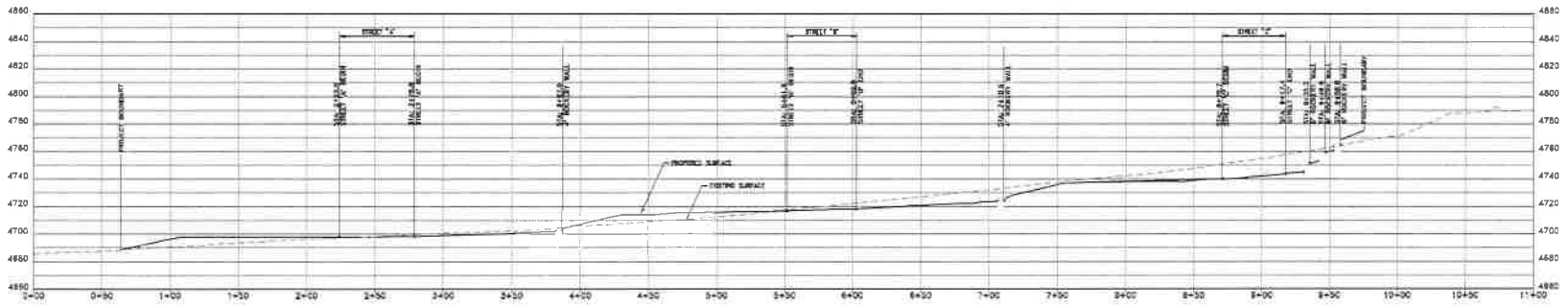
PROFESSIONAL SEAL

JONATHON LAU
CIVIL
No. 24179

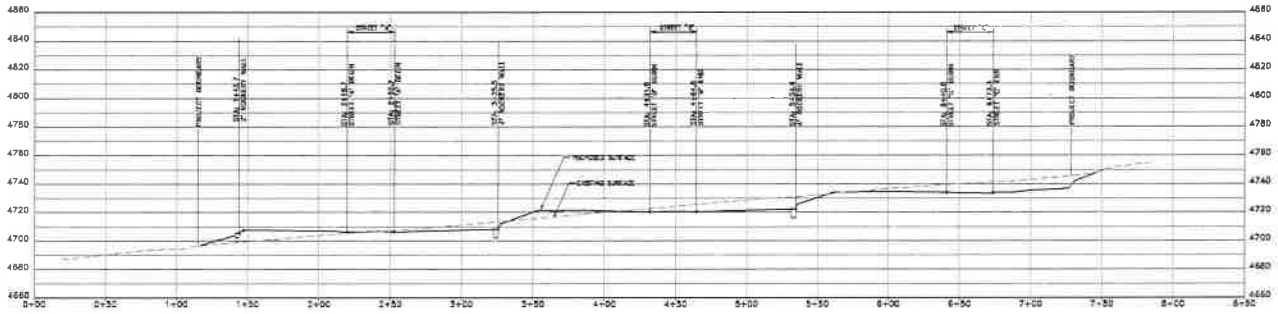
ENGINEERS • LAND SURVEYORS • PLANNERS

VALLE VISTA COMMUNITY
TENATIVE MAP
UTILITY PLAN
550 E. 4TH AVENUE
SUN VALLEY, NV 89433

JOB NO.	17085.03
DESIGNED BY	JL
CHECKED BY	MR
DATE	02-15-2018
SHEET	C5.0
OF	10



CROSS SECTION A-A
REF. SHEET C3.0



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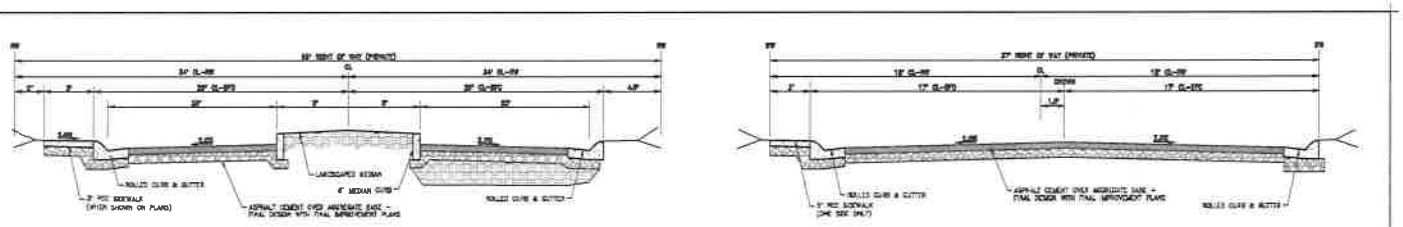
REF. SHEET C3.0



68' RIGHT OF WAY – (PRIVATE STREET)

37' RIGHT OF WAY – (PRIVATE STREET)

STREET CROSS SECTIONS
NOT TO SCALE

CAUTION – NOTICE TO CONTRACTOR

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND FEATURES AS SHOWN ON THESE PLANS IS BASED ON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE.

2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THESE LOCATIONS AND/OR ELEVATIONS AT THE PROPOSED POINTS OF CONNECTION AND IN AREAS OF POSSIBLE CONFLICT PRIOR TO BEGINNING CONSTRUCTION. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, HE SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.

3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE OR RELOCATE ALL EXISTING UTILITIES AND FEATURES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. CONTRACTOR SHALL OBTAIN APPROVALS FROM THE GOVERNING AGENCIES, THE ENGINEER, AND THE UTILITY COMPANIES PRIOR TO SUCH REMOVAL AND/OR RELOCATION.

4. THE CONTRACTOR ASSUMES ALL RISK FOR ANY CONSTRUCTION PERFORMED WITH PRELIMINARY OR NONAPPROVED PLANS.

5. CONTRACTOR TO PROVIDE TRAFFIC CONTROL IN CONFORMANCE WITH THE LATEST EDITION OF MUTCD WHENEVER CONSTRUCTION IS IN PROGRESS WITHIN THE PUBLIC TRAVEL WAY.

TENATIVE MAP
02–15–2018

PROFESSIONAL SEAL

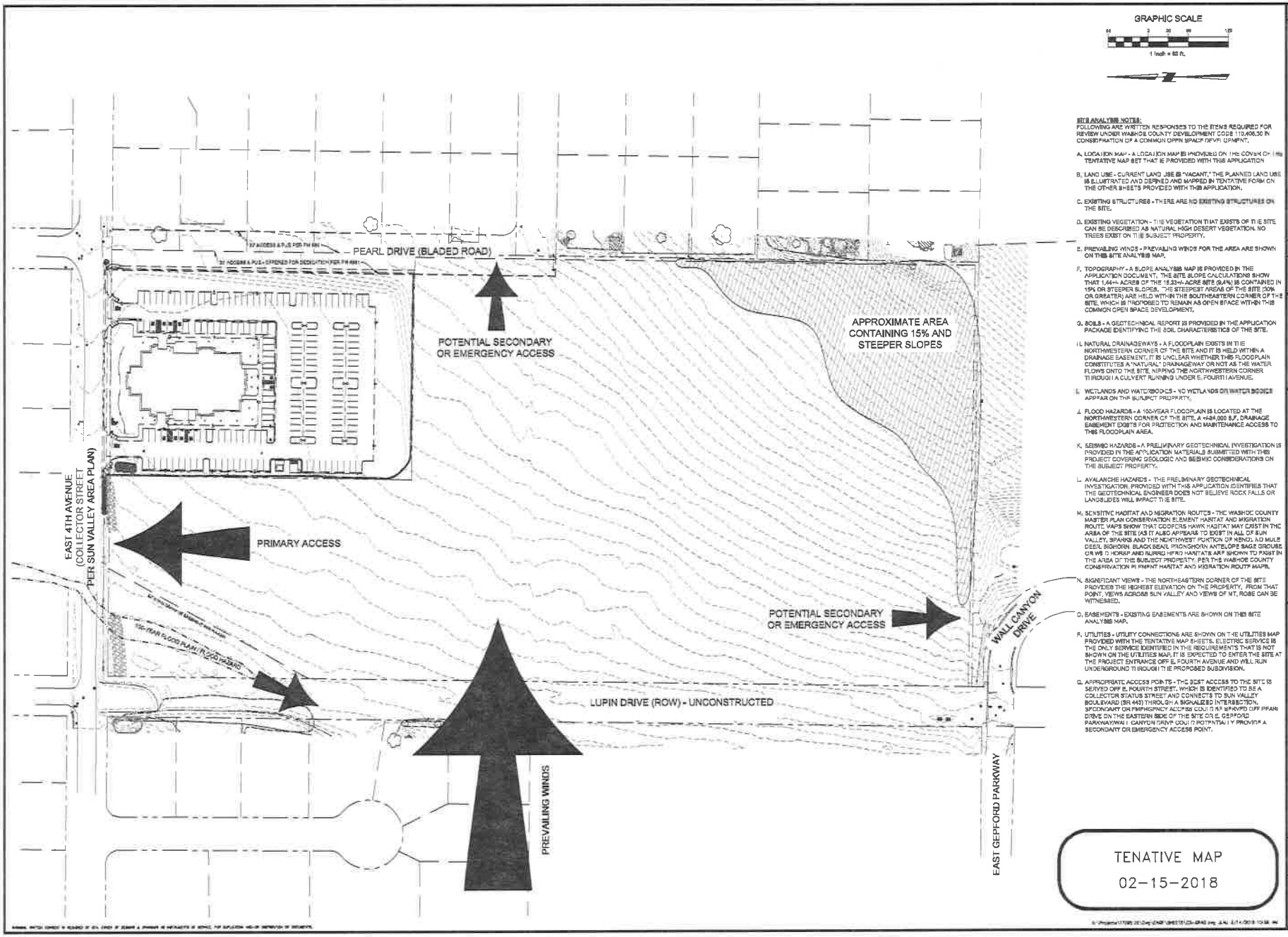
JONATHON LAU
No. 13178
CIVIL
STATE OF NEVADA
PROFESSIONAL ENGINEER
02-15-2018

ENGINEERING • LAND SURVEYING
PLANNING
9310 CORPORATE BOULEVARD • RENO, NEVADA 89521
775-858-1150 PHONE • 775-858-1160 FAX • CTARENO.COM

VALLE VISTA COMMUNITY
TENATIVE MAP
CROSS SECTIONS
530 E. 4TH AVENUE
SUN VALLEY, NV 89433

JOB NO.	17085.00
DESIGNED BY	JL
CHECKED BY	MR
DATE	02-15-2018

SHEET
C6.0
10



SITE ANALYSIS NOTES:
FOLLOWING ARE WRITTEN RESPONSES TO THE ITEMS REQUIRED FOR REVIEW UNDER WASHOE COUNTY DEVELOPMENT CODE 110.406.30 IN CONSIDERATION OF A COMMON OPEN SPACE DEVELOPMENT.

A. LOCATION MAP - A LOCATION MAP IS PROVIDED ON THE COVER OF THE TENTATIVE MAP SET THAT IS PROVIDED WITH THIS APPLICATION

B. LAND USE - CURRENT LAND USE IS "VACANT." THE PLANNED LAND USE IS ILLUSTRATED AND DEFINED AND MAPPED IN TENTATIVE FORM ON THE OTHER SHEETS PROVIDED WITH THIS APPLICATION.

C. EXISTING STRUCTURES - THERE ARE NO EXISTING STRUCTURES ON THE SITE.

D. EXISTING VEGETATION - THE VEGETATION THAT EXISTS OF THE SITE CAN BE DESCRIBED AS NATURAL HIGH DESERT VEGETATION. NO TREES EXIST ON THE SUBJECT PROPERTY.

E. PREVAILING WINDS - PREVAILING WINDS FOR THE AREA ARE SHOWN ON THIS SITE ANALYSIS MAP.

F. TOPOGRAPHY - A SLOPE ANALYSIS MAP IS PROVIDED IN THE APPLICATION DOCUMENT. THE SITE SLOPE CALCULATIONS SHOW THAT 1.44+/- ACRES OF THE 15.33+/- ACRE SITE (9.4%) IS CONTAINED IN 15% OR STEEPER SLOPES. THE STEEPEST AREAS OF THE SITE (30% OR GREATER) ARE HELD WITHIN THE SOUTHEASTERN CORNER OF THE SITE, WHICH IS PROPOSED TO REMAIN AS OPEN SPACE WITHIN THIS COMMON OPEN SPACE DEVELOPMENT.

G. SOILS - A GEOTECHNICAL REPORT IS PROVIDED IN THE APPLICATION PACKAGE IDENTIFYING THE SOIL CHARACTERISTICS OF THE SITE.

H. NATURAL DRAINAGEWAYS - A FLOODPLAIN EXISTS IN THE NORTHWESTERN CORNER OF THE SITE AND IT IS HELD WITHIN A DRAINAGE EASEMENT. IT IS UNCLEAR WHETHER THIS FLOODPLAIN CONSTITUTES A "NATURAL" DRAINAGEWAY OR NOT AS THE WATER FLOWS ONTO THE SITE, NIPPING THE NORTHWESTERN CORNER THROUGH A CULVERT RUNNING UNDER E. FOURTH AVENUE.

I. WETLANDS AND WATERBODIES - NO WETLANDS OR WATER BODIES APPEAR ON THE SUBJECT PROPERTY.

J. FLOOD HAZARDS - A 100-YEAR FLOODPLAIN IS LOCATED AT THE NORTHWESTERN CORNER OF THE SITE. A +/-24,000 S.F. DRAINAGE EASEMENT EXISTS FOR PROTECTION AND MAINTENANCE ACCESS TO THIS FLOODPLAIN AREA.

K. SEISMIC HAZARDS - A PRELIMINARY GEOTECHNICAL INVESTIGATION IS PROVIDED IN THE APPLICATION MATERIALS SUBMITTED WITH THIS PROJECT COVERING GEOLOGIC AND SEISMIC CONSIDERATIONS ON THE SUBJECT PROPERTY.

L. AVALANCHE HAZARDS - THE PRELIMINARY GEOTECHNICAL INVESTIGATION, PROVIDED WITH THIS APPLICATION IDENTIFIES THAT THE GEOTECHNICAL ENGINEER DOES NOT BELIEVE ROCK FALLS OR LANDSLIDES WILL IMPACT THE SITE.

M. SENSITIVE HABITAT AND MIGRATION ROUTES - THE WASHOE COUNTY MASTER PLAN CONSERVATION ELEMENT HABITAT AND MIGRATION ROUTE MAPS SHOW THAT GOSHAWK HABITAT MAY EXIST IN THE AREA OF THE SITE (AS IT ALSO APPEARS TO EXIST IN ALL OF SUN VALLEY, SPARKS AND THE NORTHWEST PORTION OF RENO), AND MULE DEER, BIGHORN, BLACK BEAR, PRONGHORN ANTELOPE, SAGE GROUSE OR WILD HORSE AND BURRO HERD HABITATS ARE SHOWN TO EXIST IN THE AREA OF THE SUBJECT PROPERTY, PER THE WASHOE COUNTY CONSERVATION ELEMENT HABITAT AND MIGRATION ROUTE MAPS.

N. SIGNIFICANT VIEWS - THE NORTHEASTERN CORNER OF THE SITE PROVIDES THE HIGHEST ELEVATION ON THE PROPERTY. FROM THAT POINT, VIEWS ACROSS SUN VALLEY AND VIEWS OF MT. ROSE CAN BE WITNESSED.

O. EASEMENTS - EXISTING EASEMENTS ARE SHOWN ON THIS SITE ANALYSIS MAP.

P. UTILITIES - UTILITY CONNECTIONS ARE SHOWN ON THE UTILITIES MAP PROVIDED WITH THE TENTATIVE MAP SHEETS. ELECTRIC SERVICE IS THE ONLY SERVICE IDENTIFIED IN THE REQUIREMENTS THAT IS NOT SHOWN ON THE UTILITIES MAP. IT IS EXPECTED TO ENTER THE SITE AT THE PROJECT ENTRANCE OFF E. FOURTH AVENUE AND WILL RUN UNDERGROUND THROUGH THE PROPOSED SUBDIVISION.

Q. APPROPRIATE ACCESS POINTS - THE BEST ACCESS TO THE SITE IS SERVED OFF E. FOURTH STREET, WHICH IS IDENTIFIED TO BE A COLLECTOR STATUS STREET AND CONNECTS TO SUN VALLEY BOULEVARD (SR 443) THROUGH A SIGNALIZED INTERSECTION. SECONDARY OR EMERGENCY ACCESS COULD BE SERVED OFF PEARL DRIVE ON THE EASTERN SIDE OF THE SITE OR E. GEPFORD PARKWAY/WALL CANYON DRIVE COULD POTENTIALLY PROVIDE A SECONDARY OR EMERGENCY ACCESS POINT.

TENATIVE MAP
02-15-2018

PROFESSIONAL SEAL
JONATHON LAU
No. 21179
CIVIL

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PLANNING
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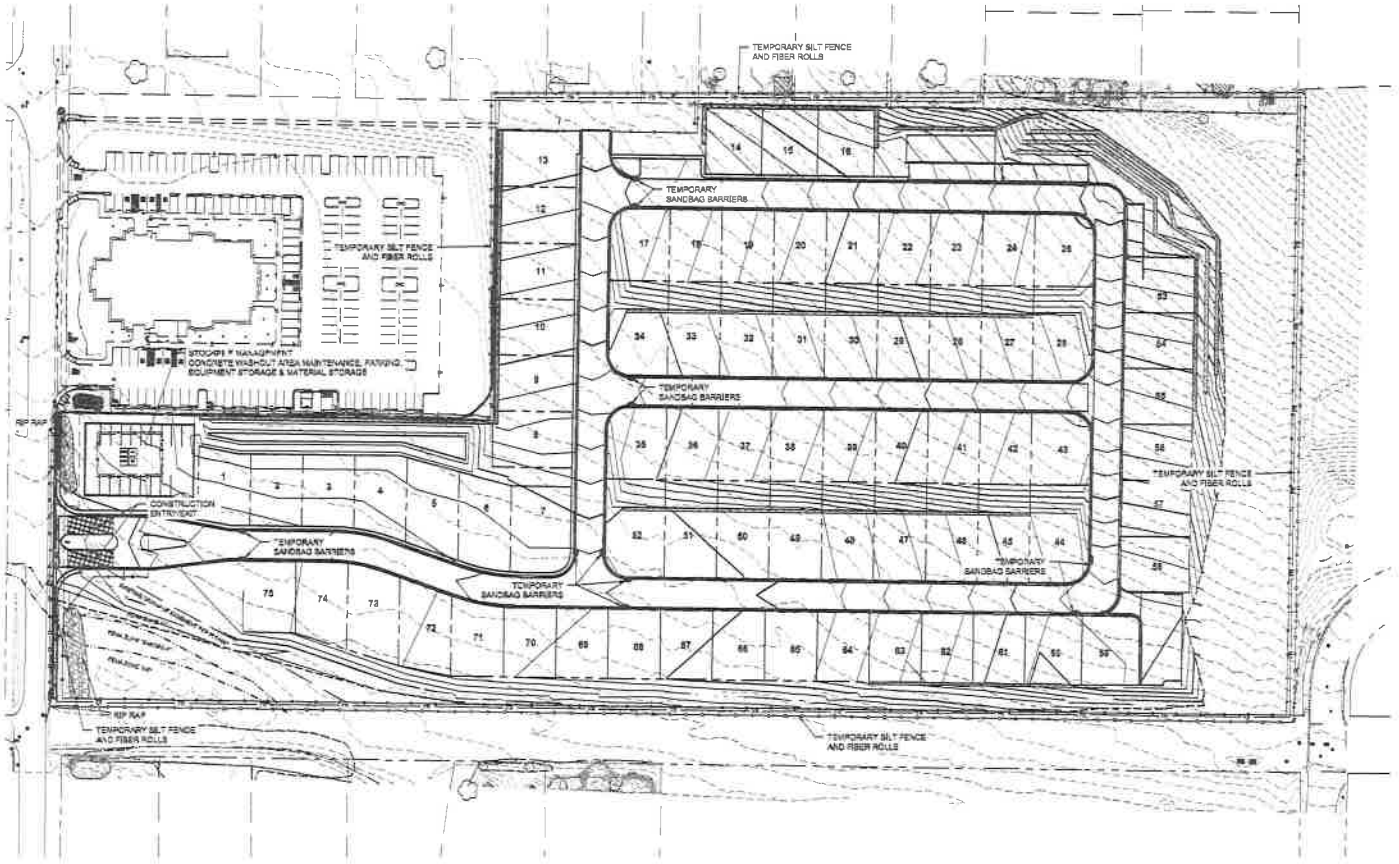
775-856-1500 MAIN • 775-856-1160 FAX • CTEAENG.COM

VALLE VISTA COMMUNITY
TENTATIVE MAP
SITE ANALYSIS MAP
550 E. 4TH AVENUE
SUN VALLEY, NV 89433

JOB NO.	17095.02
DESIGNED BY	JL
CHECKED BY	MH
DATE	02-15-2018
SHEET	C7.0
OF	1



GRAPHIC SCALE

1 inch = 60 ft.

LEGEND:

BMP NO.	BMP NAME	MAP SYMBOL
SC-6	CONSTRUCTION SITE ENTRANCES AND EXITS	
EC-7	RIP RAP	
DP-3	SAND BAG BARRIERS (STORM DRAIN INLET PROTECTION)	
SM-2	STOCK PILE MANAGEMENT	
SM-5	STREET SWEEPING	
SM-6	VEHICLE AND EQUIPMENT MAINTENANCE AND FUELING	
SM-8	HANDLING AND DISPOSAL OF CONCRETE AND CEMENT	
SM-10	MATERIAL DELIVERY, HANDLING, STORAGE, AND USE	
SC-1	FIBER ROLLS (WATTLES)	
SC-1	SILT FENCE (MAY BE ATTACHED TO TEMP. CONSTRUCTION FENCE.	

STORMWATER QUALITY NOTES

1. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATE IN, THE PUBLIC RIGHTS OF WAYS OF THE CITY OF RENO OR WASHOE COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIAL SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN WASHOE COUNTY CODE AND THE TRUCKEE MEADOWS CONSTRUCTION SITE BEST MANAGEMENT PRACTICES HANDBOOK.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY, REFER TO STORMWATER GENERAL PERMIT NVR100000, SECTION 1.B.1.b.(2).
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS AND ALL BMPS WEEKLY, PRIOR TO A FORECASTED RAIN EVENT AND WITHIN 24 HOURS AFTER ANY ACTUAL RAIN EVENT. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS FROZEN GROUND CONDITIONS OR SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO STORMWATER GENERAL PERMIT NVR100000, SECTION 1.B.1.g.
5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.
6. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL PERMANENTLY REVEGETATE ALL AREAS DISTURBED WHERE CONSTRUCTION ACTIVITIES HAVE PERMANENTLY CEASED.
7. TEMPORARY BMPS SHALL BE REMOVED UPON COMPLETION OF CONSTRUCTION AND ACCEPTANCE OF MAINTENANCE BY WASHOE COUNTY.

REFERENCE TRUCKEE MEADOWS CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (BMP) HANDBOOK FOR DETAILS ON INSTALLATION, INSPECTION AND MAINTENANCE PROCEDURE.

CAUTION – NOTICE TO CONTRACTOR

1. THE CONTRACTOR IS HEREBY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND FEATURES AS SHOWN ON THESE PLANS IS BASED ON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THESE LOCATIONS AND/OR ELEVATIONS AT THE PROPOSED POINTS OF CONNECTION AND IN AREAS OF POSSIBLE CONFLICT PRIOR TO BEGINNING CONSTRUCTION. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, HE SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
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5. CONTRACTOR TO PROVIDE TRAFFIC CONTROL IN CONFORMANCE WITH THE LATEST EDITION OF MUTCD WHENEVER CONSTRUCTION IS IN PROGRESS WITHIN THE PUBLIC TRAVEL WAY.

TENATIVE MAP
02-15-2018

PROFESSIONAL SEAL

JONATHON LAU
No. 13417
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF NEVADA

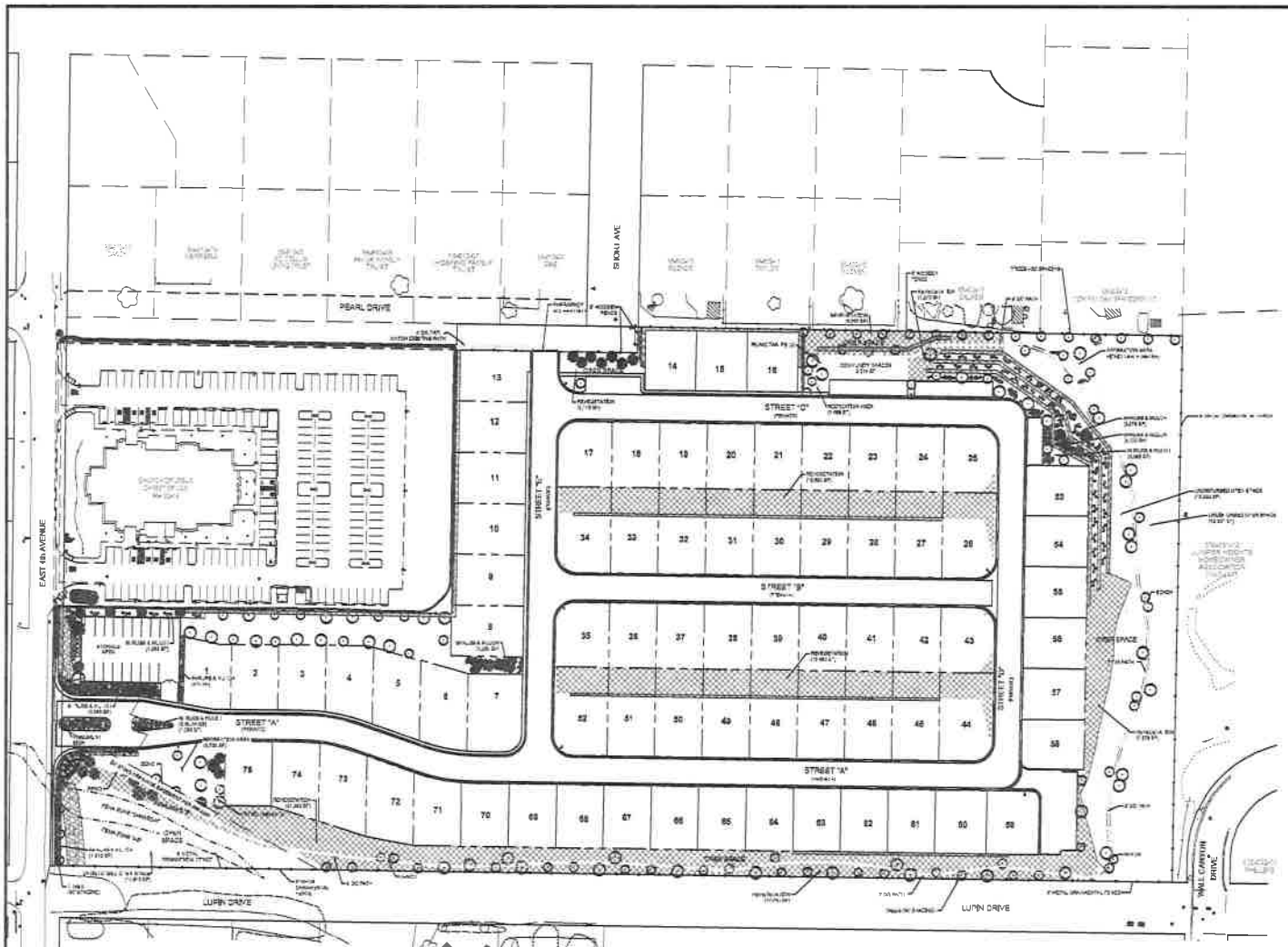
ENGINEERS • LAND SURVEYORS
PLANNERS
510 CORPORATE BOULEVARD • RENO, NEVADA 89502
775 856 1160 MAIN • 775 856 1150 FAX • CTNEVADA.COM

VALLE VISTA COMMUNITY
TENTATIVE MAP

PROPOSED BMPS

559 E. 4TH AVENUE
SUN VALLEY, NV 89433

JOB NO.	17085.03
DESIGNED BY	JL
CHECKED BY	VH
DATE	02-13-2018
SHEET	C8.0
OF	10



GRAPHIC SCALE

1 inch = 60 ft.

PLANT LEGEND:

BOTANICAL NAME	COMMON NAME	SIZE	SPACING	NO.
DECIDUOUS TREES:				
MALUS "PRAIRIFIRE"	PRAIRIFIRE CRABAPPLE	1.5"	SEE PLAN	
PRUNUS SERRULATTA "KWANSAN"	KWANSAN CHERRY	2.5"	SEE PLAN	132
FRAXINUS OXYCARPA "RAYWOOD"	RAYWOOD ASH	2.5"	SEE PLAN	
EVERGREEN TREES:				
PICEA PUNGENS	COLORADO SPRUCE	6'	SEE PLAN	29
PINUS NIGRA	AUSTRIAN PINE	6'	SEE PLAN	
SHRUBS				
ACER GINNALA "FLAME"	FLAME AMUR MAPLE			
CORNUS STOLONIFERA "KELSEYI"	DWARF REDTWIG DOGWOOD			
EUONYMUS ALATUS "COMPACTA"	DWARF BURNING BRUSH			
JUNIPERUS CHINENSIS "TORULOSA"	HOLLYWOOD JUNIPER			
PHOTINIA FRASERI	RED TIP PHOTENIA			
PINUS MUGO	MUGO PINE			
SYRINGA VULGARIS	COMMON LILAC			
GROUNDCOVERS, GRASSES AND VINES:				
CALAMAGROSTIS ACUTIFOLIA	FEATHER REED GRASS			
CERASTIUM TOMENTOSUM	SNOW-IN-SUMMER			
EUONYMUS FORTUNEI "COLORATA"	PURPLELEAF WINTERCREEPER			
GENISTA LYDIA	DWARF BROOM			
HELICTOTRICHON SEMPERVIRONS	BLUE OAT GRASS			
JUNIPERUS SABINA "BUFFALO	BUFFALO JUNIPER			
LONICERA JAPONICA "PURPUREA"	PURPLELEAF HONEYSUCKLE			
PARTHENOCISSUS QUINQUEFOLIA	VIRGINIA CREEPER			
COTONEASTER DAMMERI "LOWFAST"	BEARBERRY COTONEASTER			

REVEGETATION SEED MIX:

SEED TYPE	PLS LBS/ACRE
SAGEBRUSH, WYOMING BIG	0.20
RABBITBRUSH, RUBBER	0.20
SPINY HOSPAGE	0.20
BITTERBRUSH ANTELOPE	0.50
SALTBRUSH, FOURWING	1.00
MORMONO TEA, GREEN	0.25
PENSTEMON, PALMER	0.50
FLAX, BLUE	2.00
LUPINE BLEND AGRENTUS ALPESTRIS	1.00
WHITE YARROW	0.50
BUCKWHEAT SULFUR	0.20
POPPY CALIFORNIA	1.00
FESCUE, SHEEP COVAR	7.00
WILDRYE, BASIN NATIVE	1.00
INDIAN RICEGRASS NIPPAR	2.00
WHEATGRASS, BLUEBUNCH GOLDAR	3.00
WHEATGRASS, FAIRFIELD PRYOR	3.00
WHEATGRASS, SIBERIAN P-27	3.00
BARLEY, CEREAL	5.46
TOTAL:	30.0

AREA STATISTICS:

REVEGETATED AREAS:	83,857 SF
SHRUBS & MULCH:	24,371 SF
RECREATION AREAS:	11,799 SF
NATURAL VEGETATION: (ACCESSIBLE BY TRAILS)	72,420 SF
TOTAL:	188,436 SF (4.33 AC)

LANDSCAPE LEGEND

- GROUND COVER
- SHRUBS
- EVERGREEN TREES
- DECIDUOUS TREES
- REVEGETATION

NOTE

1. THE NUMBER OF SHRUBS AND GROUND COVER SHOWN ON THE PLANS DO NOT REPRESENT THE ACTUAL NUMBER OF PLANTS BUT REPRESENTS THE GENERAL LIMITS OF THE TYPES OF PLANTS.
2. FINAL DESIGN SHALL DETERMINE THE EXACT NUMBERS AND THE TYPES OF PLANTS.
3. PLANT PALETTES SHALL BE IN ACCORDANCE WITH WASHOE COUNTY REQUIREMENTS.
4. NUMBER OF AND TYPE OF TREES LISTED BELOW ARE APPROXIMATE AND SHALL BE ADJUSTED WITH FINAL PLANS.
5. ALL PLANTING BED AREAS SHALL BE MULCHED.
6. REVEGETATION SHALL BE HYDROSEEDED WITH A SEED MIX LISTED BELOW OR APPROVED EQUAL.

TENATIVE MAP
02-15-2018

PROFESSIONAL SEAL

JONATHON LAU
No. 21178
CIVIL

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PLANNERS
1150 CORPORATE BOULEVARD • RENO, NEVADA 89502
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VALLE VISTA COMMUNITY
TENATIVE MAP

LANDSCAPE PLAN

500 E. 4TH AVENUE
SUN VALLEY, NV 89433

JOB NO.	17085.02
DESIGNED BY	JL
CHECKED BY	BW
DATE	02-15-2018
SHEET	C9.0
	10

APPENDIX C

WASHOE COUNTY
NEVADA

Board of Adjustment Action Order

Special Use Permit Case No. SB11-004

Decision:	Approval with Conditions
Decision Date:	October 6, 2011
Applicant:	Probert Engineering
Property Owner:	Landbank Development Co., LLC
Assigned Planner:	Sandra Monsalve, AICP, Senior Planner Washoe County Department of Community Development Phone: 775.328.3608 E-Mail: smonsalve@washoecounty.us

Project Description: **Special Use Permit Case No. SB11-004 - Valle Vista** - To establish a gated manufactured home park consisting of 75 units on private streets.

- Location: 550 E. 4th Avenue, Sun Valley
- Assessor's Parcel Number: 085-122-03
- Parcel Size: 15.33 acres
- Regulatory Zone: Medium Density Suburban (MDS)
- Area Plan: Sun Valley
- Citizen Advisory Board: Sun Valley
- Commission District: 5 – Commissioner Weber
- Development Code: Article 314, Manufactured Home Parks.
- TMSA: Within the Truckee Meadows Service Area
- Area of Interest: Within the Cities of Reno and Sparks Areas of Interest
- Section/Township/Range: Within Section 20, T20N, R20E, MDM Washoe County, NV
- Staff: Sandra Monsalve, AICP, Senior Planner
Phone: 775.328.3608
Email: smonsalve@washoecounty.us

Notice is hereby given that the Washoe County Board of Adjustment granted approval with conditions of the above referenced case number based on the findings in accordance with Washoe County Development Code Article 810. If no appeals have been filed within 10 days after the date of decision, the approval by the Washoe County Board of Adjustment is final. If filed, an appeal stays any further action on the permit until final resolution of the appeal. If the end of the appeal period falls on a non-business day, the appeal period shall be extended to include the next business day. An appeal shall be filed in accordance with the provisions found in Article 810 of the Washoe County Development Code.

This Action Order of approval is granted subject to the attached conditions and Washoe County development standards. Please contact the planner assigned to your project at the above-referenced phone number within 7 days of receipt of this Order to review the steps necessary to satisfy the Conditions of Approval. A business license, certificate of occupancy or final approval shall not be issued until all of the Conditions of Approval (attached) are satisfied. Additionally, compliance shall be required with all federal, state and local statutes, ordinances and regulations applicable to the approved project.

This Action Order does not authorize grading or building without issuance of the necessary permits from the Washoe County Building and Safety Department.

Washoe County
Community Development

Kimberly H. Robinson, MUP
Secretary to the Board of Adjustment

KHR/SM/ds (SB11-004 Valle Vista Action Order)

Attachments:

- Conditions of Approval

Action Order xc: Greg Salter, Esq., District Attorney's Office; Carol Buonanoma, Assessor's Office (CAAS); Theresa Wilkins, Assessor's Office; Mike Aritzia, Sun Valley General Improvement District (SVGID); Kimble Corbridge/Leo Vesely, Engineering Division; Kurt Latipow, Fire Services Coordinator, Joan Presley, Reno Fire Department, Dean Schultz, Reno-Tahoe International Airport, Sun Valley Citizen Advisory Board, Chair

EXHIBIT A

WASHOE COUNTY
NEVADA

Conditions of Approval

Special Use Permit Case No. SB11-004

The project approved under Special Use Permit Case No: SB10-004 shall be carried out in accordance with the Conditions of Approval granted by the Board of Adjustment on October 6, 2011. Conditions of Approval are requirements placed on a permit or development by each reviewing agency. These Conditions of Approval may require submittal of documents, applications, fees, inspections, amendments to plans, and more. These conditions do not relieve the applicant of the obligation to obtain any other approvals and licenses from relevant authorities required under any other act.

Unless otherwise specified, all conditions related to the approval of this Special Use Permit shall be met or financial assurance must be provided to satisfy the conditions of approval prior to issuance of a grading or building permit. The agency responsible for determining compliance with a specific condition shall determine whether the condition must be fully completed or whether the applicant shall be offered the option of providing financial assurance. All agreements, easements, or other documentation required by these conditions shall have a copy filed with the County Engineer and the Department of Community Development.

Compliance with the conditions of approval related to this Special Use Permit is the responsibility of the applicant, his/her successor in interest, and all owners, assignees, and occupants of the property and their successors in interest. Failure to comply with any of the conditions imposed in the approval of the Special Use Permit may result in the institution of revocation procedures.

Operational Conditions are subject to review by the Department of Community Development prior to the renewal of a business license each year. Failure to adhere to the Operational Conditions may result in the Department of Community Development recommending that the business license not be renewed until conditions are complied with to the satisfaction of Washoe County.

Washoe County reserves the right to review and revise the conditions of approval related to this Special Use Permit should it be determined that a subsequent license or permit issued by Washoe County violates the intent of this approval.

For the purpose of conditions imposed by Washoe County, "may" is permissive and "shall" or "must" is mandatory.

Conditions of Approval are usually complied with at different stages of the proposed project. Those stages are typically:

- Prior to permit issuance (i.e., grading permits, building permits, etc.).
- Prior to obtaining a final inspection and/or a certificate of occupancy.
- Prior to the issuance of a business license or other permits/licenses.
- Some "Conditions of Approval" are referred to as "Operational Conditions". These conditions must be continually complied with for the life of the project or business.

The Washoe County Commission oversees many of the reviewing agencies/departments with the exception of the following agencies.

- **The DISTRICT BOARD OF HEALTH, through the Washoe County Health District, has jurisdiction over all public health matters in the Health District. Any conditions set by the District Health Department must be appealed to the District Board of Health.**
- **The RENO-TAHOE AIRPORT AUTHORITY is directed and governed by its own Board. Therefore, any conditions set by the Reno-Tahoe Airport Authority must be appealed to their Board of Trustees.**
- **The REGIONAL TRANSPORTATION COMMISSION (RTC) is directed and governed by its own board. Therefore, any conditions set by the Regional Transportation Commission must be appealed to that Board.**

FOLLOWING ARE CONDITIONS OF APPROVAL REQUIRED BY THE REVIEWING AGENCIES. EACH CONDITION MUST BE MET TO THE SATISFACTION OF THE ISSUING AGENCY.

Washoe County Community Development

1. The following conditions are requirements of the Department of Community Development, which shall be responsible for determining compliance with these conditions.

Contact Name – Sandra Monsalve, AICP, Senior Planner, 775.328.3608

a. The applicant shall demonstrate substantial conformance to the plans approved as part of this special use permit. The Department of Community Development shall determine compliance with this condition.

b. The project shall be build in two phases:

i. Phase One (42 units/spaces) shall be completed in its entirety (all site improvements, landscaping, building permits, and other project requirements completed) within eight (8) years of the date of final approval by Washoe County.

ii. Phase Two (33 units/spaces) shall be completed four (4) years thereafter Phase One.

iii. The applicant shall submit complete construction plans for the entire project, and building permits for Phase One shall be issued within eight (8) years from the date of final approval by Washoe County. The same applies for Phase Two, within four (4) years thereafter Phase One. The applicant shall complete construction within the time specified by the building permits. Compliance with this condition shall be determined by the Department of Community Development.

c. The special use permit is valid only for the parcel identified in this report. The development shall be phased over a twelve (12) year period of time. If construction/development of the property is not complete after the twelve (12) consecutive years, this special use permit shall be reviewed by the appropriate reviewing body for possible extensions of time and/or amendment of conditions.

d. A note shall be placed on all construction drawings and grading plans stating:

NOTE

> Should any prehistoric or historic remains/artifacts be discovered during site development, work shall temporarily be halted at the specific site and the State Historic Preservation Office of the Department of Museums, Library and Arts shall be notified to record and photograph the site. The period of temporary delay shall be limited to a maximum of two (2) working days from the date of notification.

e. Prior to the issuance of building and/or grading permits, the applicant shall submit a landscaping/architectural design plan to the Department of Community Development for review and approval by the Design Review Committee. Said plan shall address, but not be limited to: signage, exterior lighting (if any), fencing, trash enclosures, landscaping materials (if plant material: type, size at time of planting, maturation size at full growth, period of time between planting and full growth), landscaping location, landscaping irrigation system, final grading plans, retaining wall(s), revegetation, retention/detention areas, and financial assurances that the landscaping will be planted and maintained.

f. All retaining walls shall not exceed a maximum of 6-feet and shall be terraced at a ratio of 6 feet high to 6 feet wide. (Verticle:Horizontal)

g. All perimeter site fencing for adjoining lots shall be a minimum of 6 feet, but not more than 7 feet in height, must be a solid-decorative style. All perimeter fencing that boarders all public rights-of-way, street or highway must be a minimum of 3 feet but not more than 4 feet in height. All site perimeter fencing/screening must meet the exterior boundary screening requirements of Article 314 Manufactured Home Parks, Section 110.314.45 of the Washoe County Development Code.

h. A certification letter or series of letters by a registered landscape architect or other persons permitted to prepare landscaping and irrigation plans pursuant to N.R.S. 623A shall be submitted to and approved by the Department of Community Development. The letter(s) shall certify that all applicable landscaping provisions of Articles **[314, 408, 410 and 412 as applicable]** of the Development Code have been met. Any landscaping plans and the letter shall be wet-stamped. The letter shall indicate any provisions of the code that the Director of Community Development has waived.

i. All landscaping shall be maintained in accordance with the provisions found in Section 110.412.75, Maintenance. A three-year maintenance plan shall be submitted by a licensed landscape architect registered in the State of Nevada to the Department of Community Development, prior to a Certificate of Occupancy. The plan shall be wet-stamped.

j. On site lighting poles shall be restricted to 12-feet in height when within 100-feet of adjacent residential use types. Additionally, all project lighting shall have cutoff shields, and be down facing in order to prevent spillover glare.

k. All mechanical equipment, tanks, ventilating fans or similar equipment, whether located on the roof or on the ground, shall be screened from view from adjoining properties and streets. Screens shall be integrated into the overall architectural style of the associated buildings and shall be measured from the highest point of the object being screened.

l. All project signage shall match the overall architectural style of the project by incorporating similar building materials and colors. All project signage must comply with *Division Five* of the Development Code and receive a building permit from the Building and Safety Division prior to installation.

m. The applicant shall comply with all applicable portions of Article 314 Manufactured Home Parks of the Washoe County Development Code.

r. The following **Operational Conditions** shall be required for the life of the project:

A. This special use permit shall remain in effect until or unless it is revoked or is inactive for one year.

B. Failure to comply with the conditions of approval shall render this approval null and void. Compliance with this condition shall be determined by the Department of Community Development.

C. The applicant and any successors shall direct any potential purchaser/operator of the site and/or the special use permit to meet with the Department of Community Development to review conditions of approval prior to the final sale of the site and/or the special use permit. Any subsequent purchaser/operator of the site and/or the special use permit shall notify the Department of Community Development of the name, address, telephone number, and contact person of the new purchaser/operator within 30 days of the final sale.

D. This special use permit shall remain in effect as long as the business is in operation and maintains a valid business license.

Washoe County Department of Public Works

2. The following conditions are requirements of the Engineering Division, which shall be responsible for determining compliance with these conditions.

Contact Name – Leo Vesely, 775.328.2041, lvesely@washocounty.us

a. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. Silts shall be controlled on-site and not allowed onto adjacent property.

b. The owner/developer shall obtain from the Nevada Division of Environmental Protection a Stormwater Discharge Permit for construction and submit a copy to the Engineering Division prior to issuance of a grading permit.

c. The owner/applicant shall complete and submit the Construction Permit Submittal Checklist, the Performance Standards Compliance Checklist and pay the Construction Stormwater Inspection Fee prior to obtaining a grading permit. The County Engineer shall determine compliance with this condition.

d. A grading bond of $1,500/acre of disturbed area shall be provided to the Engineering Division prior to any grading.

e. All roadway improvements necessary to serve the project including, but not limited to, curb, gutter, sidewalk, signing and striping, driveways, street lighting, shall be designed and constructed to County standards and specifications to the satisfaction of the County Engineer. The 4 foot DG path along the west side of Pearl Drive shall be extended to the intersection of Pearl Drive and Short Avenue.

f. The applicant shall indicate on the plans where exported materials will be taken and a grading permit shall be obtained for the import site.

g. Exported materials shall not be sold without the proper business license.

h. Prior to ground-disturbing activity, a proposed Construction Traffic Haul Route Plan shall be submitted to the Engineering Division for review and approval. Any existing or proposed roads that will be used as construction haul routes and are not designated truck routes must be evaluated by a geotechnical study to determine the existing structural section and its load capacity. If the pavement section is inadequate to support the proposed construction loadings, the roadway must be redesigned or reconstructed as needed to provide a 20-year design life in accordance with the AASHTO Interim Guide for Flexible Pavement.

i. All regulatory traffic signs shall meet County standards and the Manual on Uniform Traffic Control Devices.

j. A pedestrian walkway plan shall be approved by the County Engineer prior to the finalization of construction improvement drawings.

k. A hydrology/hydraulic report prepared by a registered engineer shall be submitted to the Engineering Division for review and approval. The report shall include the locations, points of entry and discharge, flow rates and flood limits of all 5- and 100-year storm flows impacting both the site and offsite areas and the

methods for handling those flows. The report shall include all storm drain pipe and ditch sizing calculations and a discussion of and mitigation measures for any impacts on existing offsite drainage facilities and properties.

l. Any increase in storm water runoff resulting from the development of the site and based upon the 5 and 100-year storms, shall be detained and/or mitigated on site to the satisfaction of the County Engineer.

m. A note shall be placed on the improvement plans stating that at no time shall natural drainage be impeded.

n. Washoe County will only maintain drainage easements which are at least 15 feet wide and piped to the satisfaction of the County Engineer.

o. Standard reinforced concrete headwalls or other approved alternatives shall be placed on the inlet and outlet of all drainage structures and rip rap shall be used to prevent erosion at the inlets and outlets of all pipe culverts to the satisfaction of the County Engineer.

p. Any grading that falls within the FEMA 100 year flood zone shall be in accordance with Washoe County Code 416. The County Engineer shall determine compliance with this condition.

q. The developer shall provide pretreatment for petrochemicals and silt for all storm drainage from the site to the satisfaction of the County Engineer.

r. If required, the applicant shall dedicate any additional right-of-way as may be required for improvements to East 4th Avenue. The County Engineer shall determine compliance with this condition.

s. As emergency access road shall be constructed from the eastern property access to East 4th Avenue and shall be in accordance with Washoe County Code 436.95.

t. The developer shall verify and submit proof of acceptable truck traffic movements for fire and solid waste trucks within the project including the emergency access from Pearl Drive. The County Engineer shall determine compliance with this condition.

Sun Valley General Improvement District (SVGID)

3. The following conditions are requirements of the Sun Valley General Improvement District, which shall be responsible for determining compliance with these conditions.

Contact Name – Mike Ariztia, 775.673.2253, mariztia@svgid.com

a. The applicant shall be responsible for attending a meeting of the Sun Valley General Improvement District Board of trustees for approval at a regular meeting.

b. The Developer shall be responsible for meeting all GID requirements for development to include a hydraulic analysis, sewer capacity study and dedication of sufficient water rights to service the proposed development.

Washoe County District Health Department

4. The following conditions are requirements of the District Health Department, which shall be responsible for determining compliance with these conditions. The District Board of Health has jurisdiction over all public health matters in the Health District. Any conditions set by the District Health Department must be appealed to the District Board of Health.

Contact Name – Douglas L. Coulter, P.E. 775.328.2429, dcoulter@washoecounty.us

a. Construction plans must be submitted to the Health District for review and approval. The project must conform to the District Board of Health Regulations Governing Mobile Home and Recreational Vehicle Parks.

Reno Fire Department

5. The following conditions are requirements of the Reno Fire Department, which shall be responsible for determining compliance with these conditions.

Contact Name – Joan Presley, Fire Marshall, 775.657.4626 presleyj@ci.reno.nv.us

a. The applicant shall provide water for fire suppression. Hydrants shall meet or exceed minimum flows as set forth in Washoe County Code 60, and hydrant location maps shall be submitted to the Reno Fire Department for approval.

b. Roadways designed as primary access must contain a "rapid entry system" for the opening of gates. Such gates shall be operated by radio operated controls (i.e., click2Enter or other approved equal equipment).

c. The design and layout of all emergency access gate systems shall be with the approval of the Reno Fire Department.

d. The applicant shall submit a plan for the maintenance of all open space, to be approved by the Reno Fire Department.

Reno-Tahoe International Airport

6. The following conditions are requirements of the Reno-Tahoe International Airport, which shall be responsible for determining compliance with these conditions.

Contact Name – Dean Schultz 775.328.6400

a. The applicant(s) and/or property owner(s) shall provide a list, verified by a qualified acoustical consultant, of construction methods to be utilized for noise attenuation to a maximum interior noise level of 45 dBA Ldn, prior to the issuance of a building permit.

*** End of Conditions ***

WASHOE COUNTY
NEVADA

Board of Adjustment Staff Report

Meeting Date: October 6, 2011

Subject:	Special Use Permit Case No: SB11-004
Applicant(s):	Landbank Development Co., LLC
	Agenda Item No. 11A
Project Summary:	To establish a gated manufactured home park with private streets, consisting of 75 units
Recommendation:	**Approval with Conditions**
Prepared by:	Sandra Monsalve, AICP, Senior Planner Washoe County Department of Community Development Phone: 775.328.3608 E-Mail: smonsalve@washoecounty.us

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Project Description: Special Use Permit Case No. SB11-004 for Landbank Development Co., LLC - To develop a gated Manufactured Home Park on private streets, consisting of 75 units on ±15.33 acres in Sun Valley.

- Location: 550 East 4th Avenue, Sun Valley
- Assessor's Parcel Number: 085-122-03
- Parcel Size: 15.33
- Regulatory Zone: Medium Density Suburban (MDS)
- Area Plan: Sun Valley
- Citizen Advisory Board: Sun Valley
- Commission District: 5 – Commissioner Weber
- Development Code: Authorized in Article: Article 302, Table 110.302.05.1 "Residential Use Types," and Article 314, "Manufactured Home Parks"
- TMSA: Within the Truckee Meadows Services Area and the Sun Valley General Improvement District (SVGID).
- Area of Interest: Within the Cities' of Reno and Sparks Area of Interests
- Section/Township/Range: Within Section 20, T20N, R20E, MDM Washoe County, NV

Staff Report Contents

Exhibits Contents

Project Application

The project application may be reviewed in its entirety on the Washoe County website at http://www.washoecounty.us/comdev/da/da_index.htm

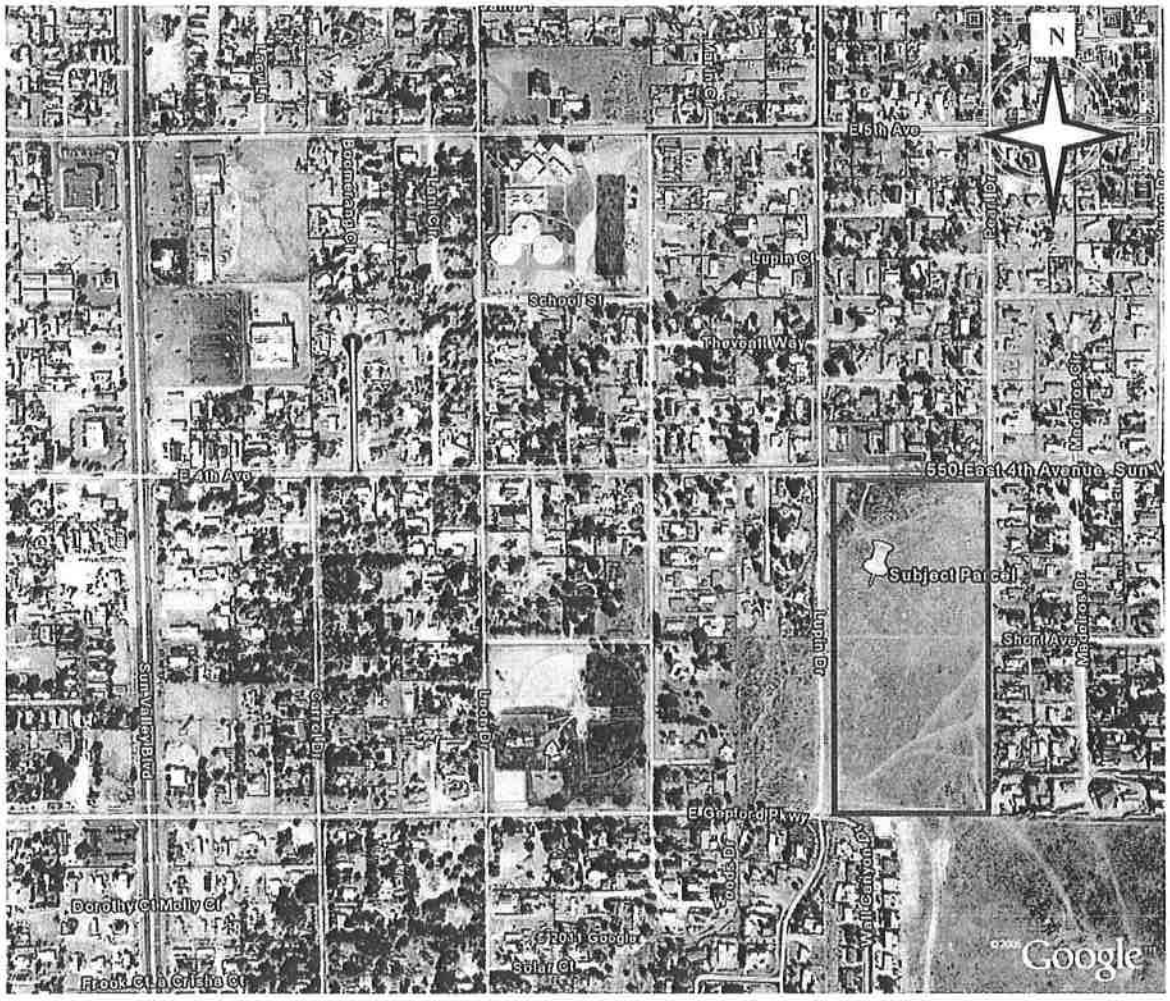
Special Use Permit

The purpose of a special use permit is to allow a method of review to identify any potential harmful impacts on adjacent properties or surrounding areas for uses that may be appropriate within a regulatory zone; and to provide for a procedure whereby such uses might be permitted by further restricting or conditioning them so as to mitigate or eliminate possible adverse impacts. If the Board of Adjustment grants an approval of the Special Use Permit, that approval is subject to Conditions of Approval. Conditions of Approval are requirements that need to be completed during different stages of the proposed project. Those stages are typically:

- Prior to permit issuance (i.e., a grading permit, a building permit, etc.).
- Prior to obtaining a final inspection and/or a certificate of occupancy on a structure.
- Prior to the issuance of a business license or other permits/licenses.
- Some conditions of approval are referred to as operational conditions. These conditions must be continually complied with for the life of the business or project.

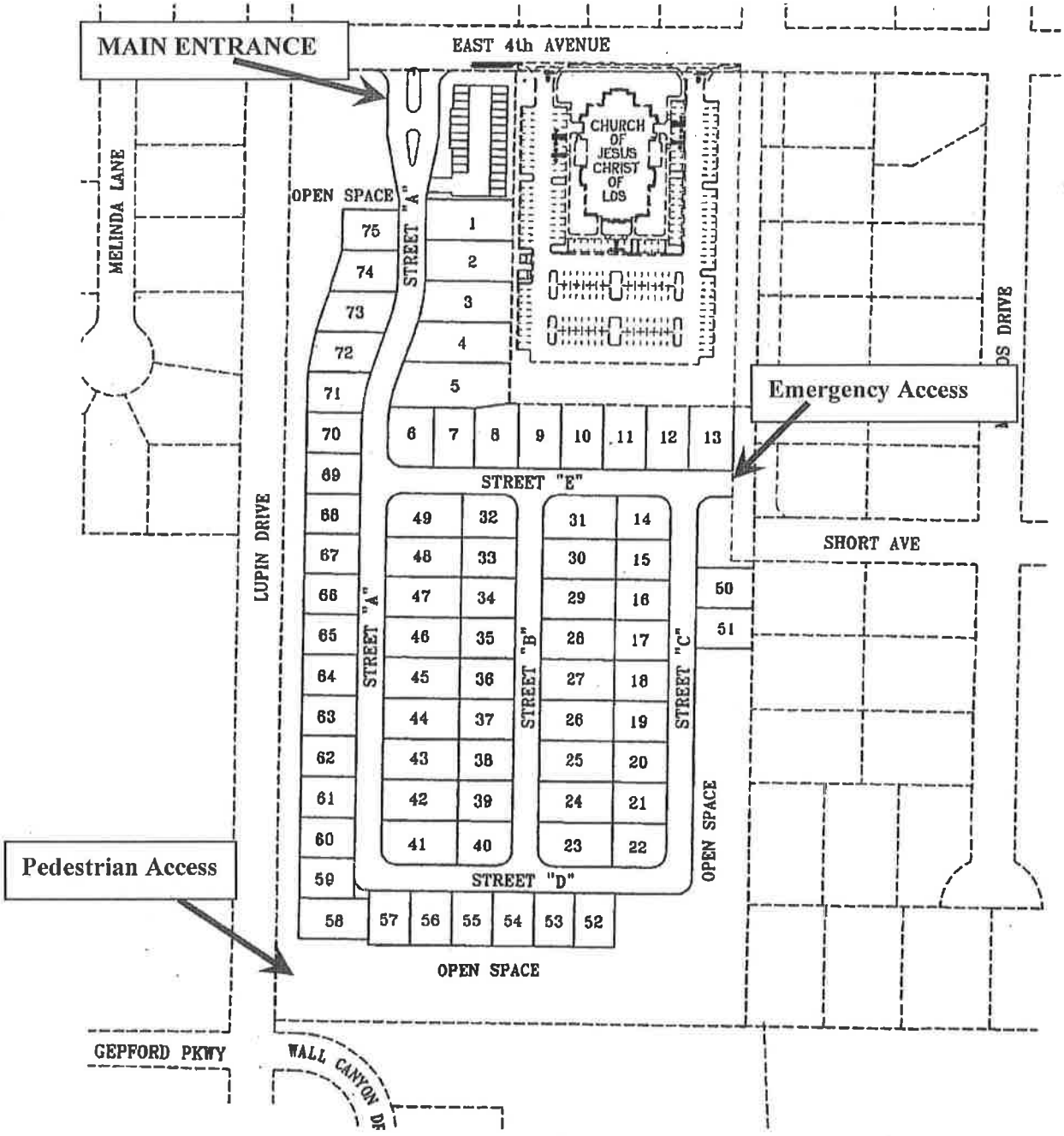
The conditions of approval for Special Use Permit Case No. SB11-004 are attached to this staff report and will be included with the Action Order.

Vicinity Map



Subject Parcel

Site Layout


MAIN ENTRANCE
EAST 4th AVENUE
CHURCH OF JESUS CHRIST OF LDS
MELINDA LANE
OPEN SPACE
STREET "A"
LUPIN DRIVE
Emergency Access
SHORT AVE
STREET "E"
STREET "A"
STREET "B"
STREET "C"
STREET "D"
OPEN SPACE
Pedestrian Access
GEPFORD PKWY
WALL CANYON

Project Evaluation

Board of Adjustment Meeting, August 4, 2011:

This is a continuance from the August 4, 2011 Board of Adjustment meeting, where the Board and the public requested the applicant do further research to address the comments/issues/concerns raised at the meeting for this development. Staff has received a phone call and email correspondence from the applicant indicating that they chose not to re-visit with the Sun Valley CAB in September, and would rather address the issues at the October 6, 2011 meeting. Specific items of concern heard at the August meeting were:

- Drainage – on-site and off-site
- Traffic/Pedestrian Access
- Road improvements (sidewalks)
- Visual impacts
- Storage area location

Project Summary:

Board of Adjustment Meeting, October 6, 2011:

This is a proposal to develop Valle Vista, a 75-unit gated, manufactured home park with private streets and common area. The minimum required manufactured unit space (per Article 314, "Manufactured Home Parks" of the Washoe County Development Code) will be 4,000 square feet, in addition to ±4.35 acres of common area. The development will be located on one (1) parcel totaling approximately 15.33 acres, located approximately ½ mile east of Sun Valley Boulevard, at the southeast corner of 4th and Lupin. Within the special use permit application, it states the manufactured home park is anticipated to be constructed over 4 phases, beginning within 6 years, after the site improvements are completed. However, per a telephone conversation, the applicant's representative has agreed to condense this into two phases, with the first phase being completed within 8 years (42 units/spaces), and the second phase (33 units/spaces) to be completed 4 years thereafter.

It is also anticipated that the manufactured home park will have a Homeowners Association (HOA) for the ongoing maintenance of the grounds including the required landscaping. In addition, the applicant intends to have Covenants, Conditions, and Restrictions (CC&Rs) recorded with the County Recorder's Office. The manufactured home park will be serviced by community water and sewer provided by Sun Valley General Improvement District (SVGID).

The site is bounded by one-third acre, residentially developed land to the west, north and east (zoned Medium Density Suburban), and undeveloped land to the south zoned Open Space. The subject parcel is located within the Suburban Character Management Area (SCMA) of the Sun Valley planning area, and is within the Medium Density Suburban (MDS) regulatory zone. This project is an allowed Residential Use Type with an approved special use permit, per the Washoe County Development Code Table 110.302.05.1 and Article 314, "Manufactured Home Parks."

Existing Conditions

The project site is currently undeveloped and is relatively flat with an average slope across the entire site of 7.5%. The proposed average slope, once the site is fully developed will be approximately 6.4%. The maximum elevation of the site is 4,790 feet and the lowest elevation is 4,681.5 feet. There is a Federal Emergency Management Agency (FEMA)-mapped Zone A flood hazard area at the northwest corner of the project site, consequently, the applicant will be required to submit a hydrology/hydraulic report to the Washoe County Engineering Division, as one of several conditions that must be complied with in order to address drainage, storm water runoff, retention/detention basin and other engineering concerns and/or issues. (Exhibit A)

Site Design:

The manufactured home park will be designed to accommodate up to 75 units/spaces, and include recreation areas, picnic areas, storage units, and open space. A 3 to 4 foot wide pedestrian path is planned. The storage area will be fenced accordingly in order to mitigate any potential visual impacts. The main entry gate is planned to be accessed from East 4th Avenue, with keypad entry and heavily landscaped. Ingress and egress will be provided from this main entry point. A private street system will be constructed consisting of curb, gutter and sidewalk on one side of the street. All access and internal street design have been addressed by the Engineering Division and their comments and/or conditions are attached. (Exhibit A)

Access:

The applicant has provided a preliminary traffic report, prepared by Solaegui Engineers. It is anticipated by the traffic engineers that the new manufactured home park will generate approximately 374 average daily trips, with 33 AM peak hour trips and 45 PM peak hour trips. These peak hour trips are below the 80 peak hour trip threshold that triggers the need for a full traffic study at this time.

Access to the site will be from East 4th Avenue, approximately 300 feet east of Lupin Drive, with ingress and egress to the main gate. Emergency access will be provided via Pearl Drive, at the eastern portion of the project site where proposed "Street E" accesses Pearl Drive. This emergency access will be gated and have an approved emergency services lock which can be opened by all public safety service crews. The Washoe County Engineering Division has addressed all access, traffic, easement and drainage issues within the Conditions of Approval. (Exhibit A)

Signage:

The applicant has proposed a 3 foot by 5 foot concrete monument sign at the main entrance at East 4th Avenue. The sign face will contain the street address, recessed into the concrete. No lighting is proposed at this time according to the application.

Article 314 Manufactured Home Parks:

Article 314 of the Washoe County Development Code sets forth standards related to the development of manufactured home parks. The standards cover the overall project site size, manufactured home spaces, setbacks, parking standards, circulation, landscaping, exterior boundary screening, recreational areas, common storage areas, lighting, signage, flood hazards, provision of services and overall park management. Section 110.314.45, "Exterior Boundary Screening," additionally sets forth screening standards. The applicant has addressed these standards within the application. Proposed is perimeter fencing and additional screening

in the form of landscaping and trees. All fencing adjacent to public rights-of-way must not exceed 4 feet in height and must be solid, decorative fencing material. All fencing adjoining properties (not the right-of-way) can be up to a maximum of 7 feet, but not less than 6 feet in height. The applicant must comply with Article 314, "Manufactured Home Parks," and all applicable conditions prior to the issuance of building permits for manufactured home placement. Lastly, all site improvements must be in compliance with the Engineering Division conditions of approval, in addition to the Sun Valley General Improvement District and other pertinent reviewing agencies. (Exhibit A)

Design Review Committee:

Staff has conditioned that the applicant have the following reviewed and approved by the Design Review Committee prior to the issuance of building permits:

Review shall address, but not be limited to: signage, exterior lighting (if any), fencing, trash enclosures, landscaping materials (if plant material, type, size at time of planting, maturation size at full growth, period of time between planting and full growth), landscaping location, landscaping irrigation system, final grading plans, retaining wall(s), revegetation, retention/detention areas, and financial assurances that the landscaping will be planted and maintained.

Relevant Sun Valleys Area Plan Policies

The following Area Plan policies are applicable to the proposed subdivision:

- SUN.2.9
- SUN.10.1
- SUN.12.1

Character Statement:

Within the Character Statement of the Sun Valley area plan, it states the community is anticipating that over the next 20 years it will be in position to provide additional employment opportunities, along with a range of residential opportunities, including affordable housing. The Suburban Character Management Area (SCMA) along with the Downtown Character Management Area (DCMA) is the area anticipated to provide the growth opportunities within Sun Valley. The residential densities within the SCMA are anticipated to contain one (1) unit per acre or greater. The proposed project is in compliance with this Area Plan Character Statement, as the zoning is Medium Density Suburban (MDS), typically allowing three (3) dwelling units per acre. However in this instance, proposed manufactured home parks within the MDS regulatory zone are allowed up to five (5) dwelling units per acre (Washoe County Development Code, Article 406, "Building Placement Standards."

The proposed project is also in compliance with Policies SUN.2.9 (emergency access provided for and will be signed accordingly), SUN.10.1 (community water service), and SUN.12.1 (community sewer service).

Sun Valley Citizen Advisory Board (SV-CAB)

The proposed project was presented by the applicant(s) at the regularly scheduled Citizen Advisory Board meeting on July 9, 2011. The Board members were not able to support the application request. The attached CAB minutes from the Sun Valley CAB reflect discussion on the following items:

Following are the comments/concerns heard at the CAB meeting

- Staff heard about concerns as they related to potential traffic, noise, and natural drainage adjacent to property

Note: Staff and the applicant will be available at the meeting to address questions/concerns or issues.

Reviewing Agencies

The following agencies/Individuals received a copy of the project application for review, comments and/or conditions:

- Nevada Department of Transportation (NDOT)
- Washoe County Building & Safety Division
- Washoe County District Health – Environmental Division
- Washoe County Public Works Department – Engineering Division
- Washoe County Public Works Department – Traffic Division
- Washoe County Fire Services Coordinator
- Reno Fire Department
- Sun Valley Citizen Advisory Board
- Regional Transportation Commission (RTC)
- Reno Community Development
- Sparks Planning Department
- Washoe County School District
- Washoe-Storey Conservation District
- State of Nevada Manufactured Housing Division
- Commissioner Bonnie Weber

The following is a brief **summary** received of each agency's comments and/or recommended conditions of approval and their contact information. The Conditions of Approval document is attached to this staff report and will be included with the Action Order.

- Washoe County Community Development addressed the site design, access, landscaping, grading, parking, and compliance with Article 314, "Manufactured Home Parks" of the Washoe County Development Code.

  Contact: Sandra Monsalve, AICP, Senior Planner 775.328.3608 smonsalve@washoecounty.us

- Washoe County Health District addressed project conformance to District Board of Health Regulations Governing Mobile Home and Recreational Vehicle Parks. Health Department conditions are attached and can only be appealed to the District Health Board.

  Contact: Douglas Coulter, P.E., 775.328.2434 dcoulter@washoecounty.us

- Washoe County Department of Public Works addressed access, drainage, road improvements, haul routes and grading. The following comments were made:

  - The Engineering Division would support an application to abandon Lupin Drive from East 4th Avenue to East Gepford Pkwy.
  - The site plan shows a 3 foot DG path within the development. It is recommended that the DG path be at least 4 feet wide.
  - Recommend consideration for pedestrian access at Short Avenue and Gepford Parkway.

  Contact: Leo Vesely, P.E., 775.328.2041 lvesely@washoecounty.us

- Sun Valley General Improvement District (SVGID) The SVGID indicated that the subject property is within the Sun Valley service territory and was annexed into the District on December 11, 2008. SVGID addressed water rights, sewer and water service and trash service. Additionally, the subject property has been identified as being within the current master plan to be developed.

  Contact: Mike Ariztia, 775.673.2253 mariztia@svgid.com

- Reno Fire Department commented on fire suppression, hydrants, water flow rates and emergency access.

  Contact: Joan Presley, 775.657.4626 presleyj@ci.reno.nv.us

- Reno-Tahoe International Airport addressed noise attenuation.

  Contact: Dean Schultz 775.328.6400

- Regional Transportation Commission (RTC) Commented on transit improvements, to include pedestrian and bicycle paths. These were not written as conditions, but

rather as comments. However, it is advisable that the applicant speak with RTC in order to comply with any applicable requirements they may have for the proposed project.

Contact: Patrice Echola, 775.335.1904 pechola@rtcwashoe.com

Recommendation

Those agencies which reviewed the application recommended conditions in support of approval of the project. Therefore, after a thorough analysis and review, Special Use Permit Case No. SB11-004 is being recommended for approval with conditions. Staff offers the following motion for the Board's consideration.

Motion

I move that after giving reasoned consideration to the information contained within the staff report and the information received during the public hearing, the Washoe County Board of Adjustment approve Special Use Permit Case No. SB11-004 for Valle Vista Manufactured Home Park, having made all five findings in accordance with Washoe County Development Code Section 110.810.30:

1. Consistency. That the proposed use is consistent with the action programs, policies, standards and maps of the Comprehensive Plan and the Sun Valley Area Plan;

2. Improvements. That adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven;

3. Site Suitability. That the site is physically suitable a Manufactured Home Park and for the intensity of such a development;

4. Issuance Not Detrimental. That issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area; and,

5. Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation.

Appeal Process

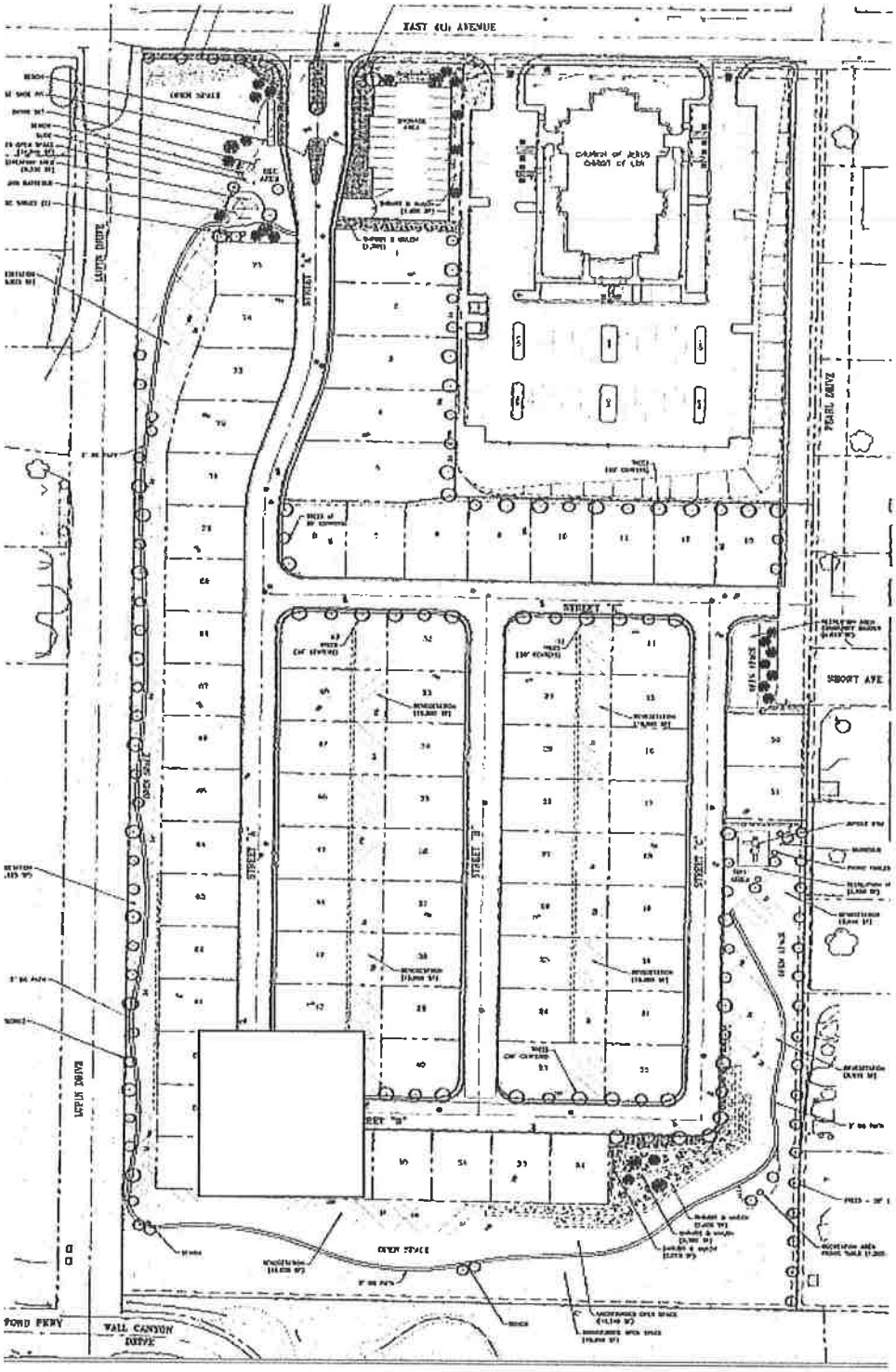
Board of Adjustment action will be effective 10 days after the public hearing date, unless the action is appealed to the County Commission, in which case the outcome of the appeal shall be determined by the Washoe County Board of Commissioners.

xc:.

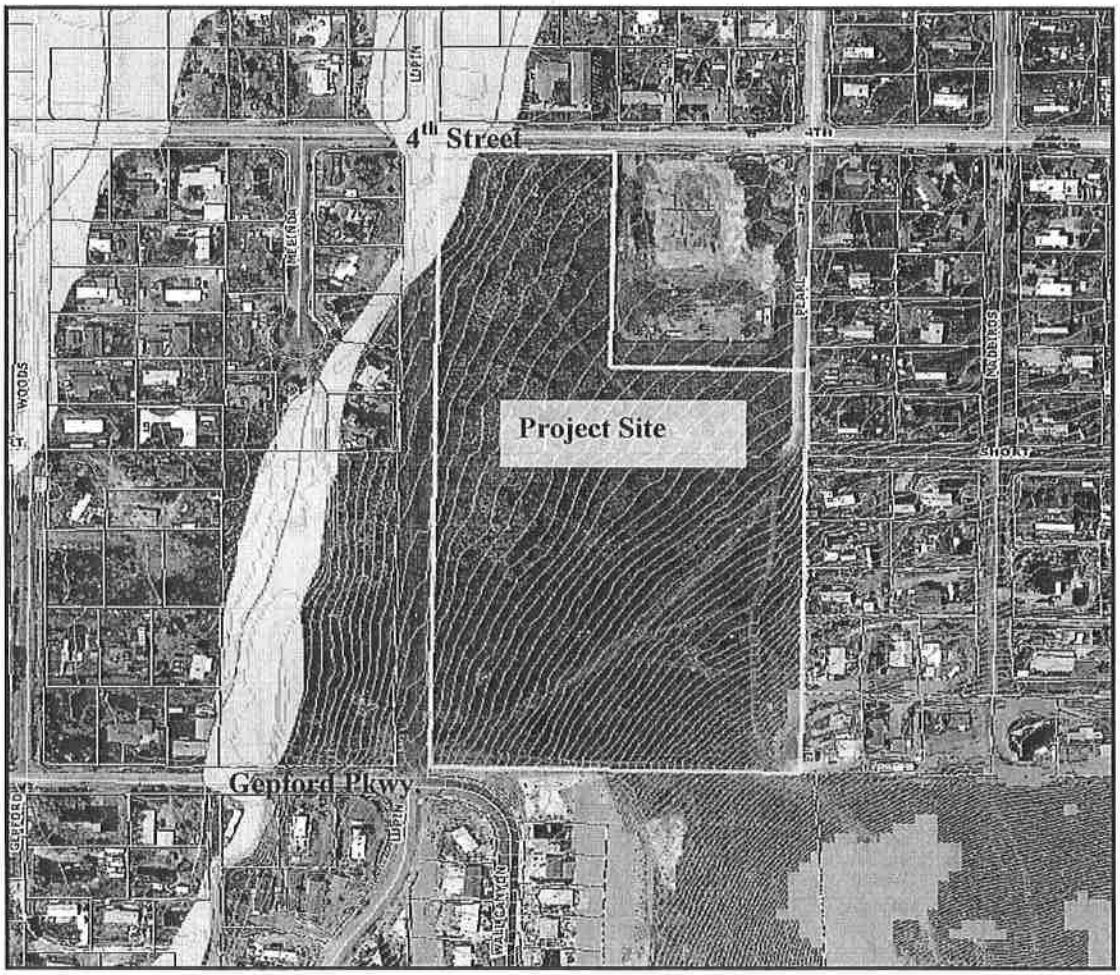
Property Owner:	Landbank Development Co., LLC, Attn: Darren Proulx, 325 Harbour Cove Drive, Suite 211, Sparks, NV 86436.
Applicant:	Probert Engineering, Attn: Gary Probert, 3862 Vistacrest Drive, Reno, Nv 89509.
Representatives:	Same as above

Zoning Map

Proposed Landscaping



Site Suitability



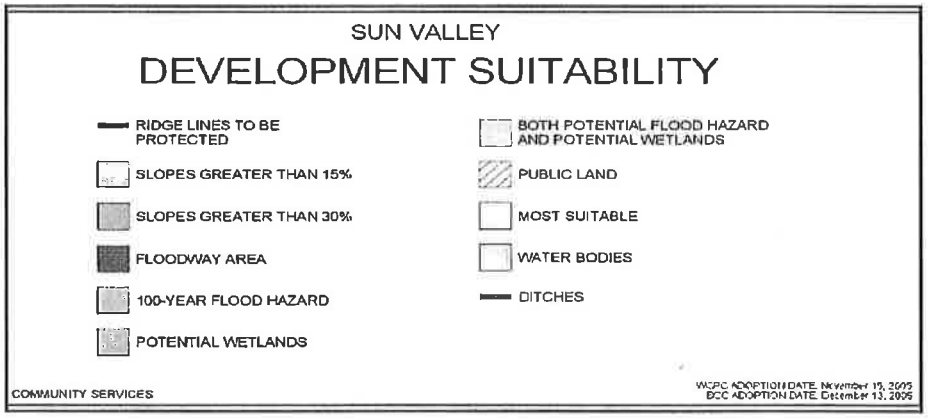


EXHIBIT A

WASHOE COUNTY
NEVADA

Conditions of Approval

Special Use Permit Case No. SB11-004

The project approved under Special Use Permit Case No: SB10-004 shall be carried out in accordance with the Conditions of Approval granted by the Board of Adjustment on October 6, 2011. Conditions of Approval are requirements placed on a permit or development by each reviewing agency. These Conditions of Approval may require submittal of documents, applications, fees, inspections, amendments to plans, and more. These conditions do not relieve the applicant of the obligation to obtain any other approvals and licenses from relevant authorities required under any other act.

Unless otherwise specified, all conditions related to the approval of this Special Use Permit shall be met or financial assurance must be provided to satisfy the conditions of approval prior to issuance of a grading or building permit. The agency responsible for determining compliance with a specific condition shall determine whether the condition must be fully completed or whether the applicant shall be offered the option of providing financial assurance. All agreements, easements, or other documentation required by these conditions shall have a copy filed with the County Engineer and the Department of Community Development.

Compliance with the conditions of approval related to this Special Use Permit is the responsibility of the applicant, his/her successor in interest, and all owners, assignees, and occupants of the property and their successors in interest. Failure to comply with any of the conditions imposed in the approval of the Special Use Permit may result in the institution of revocation procedures.

Operational Conditions are subject to review by the Department of Community Development prior to the renewal of a business license each year. Failure to adhere to the Operational Conditions may result in the Department of Community Development recommending that the business license not be renewed until conditions are complied with to the satisfaction of Washoe County.

Washoe County reserves the right to review and revise the conditions of approval related to this Special Use Permit should it be determined that a subsequent license or permit issued by Washoe County violates the intent of this approval.

For the purpose of conditions imposed by Washoe County, "may" is permissive and "shall" or "must" is mandatory.

Conditions of Approval are usually complied with at different stages of the proposed project. Those stages are typically:

- Prior to permit issuance (i.e., grading permits, building permits, etc.).
- Prior to obtaining a final inspection and/or a certificate of occupancy.
- Prior to the issuance of a business license or other permits/licenses.
- Some "Conditions of Approval" are referred to as "Operational Conditions". These conditions must be continually complied with for the life of the project or business.

The Washoe County Commission oversees many of the reviewing agencies/departments with the exception of the following agencies.

- **The DISTRICT BOARD OF HEALTH, through the Washoe County Health District, has jurisdiction over all public health matters in the Health District. Any conditions set by the District Health Department must be appealed to the District Board of Health.**

- **The RENO-TAHOE AIRPORT AUTHORITY is directed and governed by its own Board. Therefore, any conditions set by the Reno-Tahoe Airport Authority must be appealed to their Board of Trustees.**

- **The REGIONAL TRANSPORTATION COMMISSION (RTC) is directed and governed by its own board. Therefore, any conditions set by the Regional Transportation Commission must be appealed to that Board.**

FOLLOWING ARE CONDITIONS OF APPROVAL REQUIRED BY THE REVIEWING AGENCIES. EACH CONDITION MUST BE MET TO THE SATISFACTION OF THE ISSUING AGENCY.

Washoe County Community Development

1. The following conditions are requirements of the Department of Community Development, which shall be responsible for determining compliance with these conditions.

Contact Name – Sandra Monsalve, AICP, Senior Planner, 775.328.3608

a. The applicant shall demonstrate substantial conformance to the plans approved as part of this special use permit. The Department of Community Development shall determine compliance with this condition.

b. The project shall be build in two phases:

i. Phase One (42 units/spaces) shall be completed in its entirety (all site improvements, landscaping, building permits, and other project requirements completed) within eight (8) years of the date of final approval by Washoe County.

ii. Phase Two (33 units/spaces) shall be completed four (4) years thereafter Phase One.

iii. The applicant shall submit complete construction plans for the entire project, and building permits for Phase One shall be issued within eight (8) years from the date of final approval by Washoe County. The same applies for Phase Two, within four (4) years thereafter Phase One. The applicant shall complete construction within the time specified by the building permits. Compliance with this condition shall be determined by the Department of Community Development.

c. The special use permit is valid only for the parcel identified in this report. The development shall be phased over a twelve (12) year period of time. If construction/development of the property is not complete after the twelve (12) consecutive years, this special use permit shall be reviewed by the appropriate reviewing body for possible extensions of time and/or amendment of conditions.

d. A note shall be placed on all construction drawings and grading plans stating:

NOTE

> Should any prehistoric or historic remains/artifacts be discovered during site development, work shall temporarily be halted at the specific site and the State Historic Preservation Office of the Department of Museums, Library and Arts shall be notified to record and photograph the site. The period of temporary delay shall be limited to a maximum of two (2) working days from the date of notification.

e. Prior to the issuance of building and/or grading permits, the applicant shall submit a landscaping/architectural design plan to the Department of Community Development for review and approval by the Design Review Committee. Said plan shall address, but not be limited to: signage, exterior lighting (if any), fencing, trash enclosures, landscaping materials (if plant material: type, size at time of planting, maturation size at full growth, period of time between planting and full growth), landscaping location, landscaping irrigation system, final grading plans, retaining wall(s), revegetation, retention/detention areas, and financial assurances that the landscaping will be planted and maintained.

f. All retaining walls shall not exceed a maximum of 6-feet and shall be terraced at a ratio of 6 feet high to 6 feet wide. (Verticle:Horizontal)

g. All perimeter site fencing for adjoining lots shall be a minimum of 6 feet, but not more than 7 feet in height, must be a solid-decorative style. All perimeter fencing that boarders all public rights-of-way, street or highway must be a minimum of 3 feet but not more than 4 feet in height. All site perimeter fencing/screening must meet the exterior boundary screening requirements of Article 314 Manufactured Home Parks, Section 110.314.45 of the Washoe County Development Code.

h. A certification letter or series of letters by a registered landscape architect or other persons permitted to prepare landscaping and irrigation plans pursuant to N.R.S. 623A shall be submitted to and approved by the Department of Community Development. The letter(s) shall certify that all applicable landscaping provisions of Articles **[314, 408, 410 and 412 as applicable]** of the Development Code have been met. Any landscaping plans and the letter shall be wet-stamped. The letter shall indicate any provisions of the code that the Director of Community Development has waived.

i. All landscaping shall be maintained in accordance with the provisions found in Section 110.412.75, Maintenance. A three-year maintenance plan shall be submitted by a licensed landscape architect registered in the State of Nevada to the Department of Community Development, prior to a Certificate of Occupancy. The plan shall be wet-stamped.

j. On site lighting poles shall be restricted to 12-feet in height when within 100-feet of adjacent residential use types. Additionally, all project lighting shall have cutoff shields, and be down facing in order to prevent spillover glare.

k. All mechanical equipment, tanks, ventilating fans or similar equipment, whether located on the roof or on the ground, shall be screened from view from adjoining properties and streets. Screens shall be integrated into the overall architectural style of the associated buildings and shall be measured from the highest point of the object being screened.

l. All project signage shall match the overall architectural style of the project by incorporating similar building materials and colors. All project signage must comply with *Division Five* of the Development Code and receive a building permit from the Building and Safety Division prior to installation.

m. The applicant shall comply with all applicable portions of Article 314 Manufactured Home Parks of the Washoe County Development Code.

r. The following **Operational Conditions** shall be required for the life of the project:

A. This special use permit shall remain in effect until or unless it is revoked or is inactive for one year.

B. Failure to comply with the conditions of approval shall render this approval null and void. Compliance with this condition shall be determined by the Department of Community Development.

C. The applicant and any successors shall direct any potential purchaser/operator of the site and/or the special use permit to meet with the Department of Community Development to review conditions of approval prior to the final sale of the site and/or the special use permit. Any subsequent purchaser/operator of the site and/or the special use permit shall notify the Department of Community Development of the name, address, telephone number, and contact person of the new purchaser/operator within 30 days of the final sale.

D. This special use permit shall remain in effect as long as the business is in operation and maintains a valid business license.

Washoe County Department of Public Works

2. The following conditions are requirements of the Engineering Division, which shall be responsible for determining compliance with these conditions.

Contact Name – Leo Vesely, 775.328.2041, lvesely@washocounty.us

a. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. Silts shall be controlled on-site and not allowed onto adjacent property.

b. The owner/developer shall obtain from the Nevada Division of Environmental Protection a Stormwater Discharge Permit for construction and submit a copy to the Engineering Division prior to issuance of a grading permit.

c. The owner/applicant shall complete and submit the Construction Permit Submittal Checklist, the Performance Standards Compliance Checklist and pay the Construction Stormwater Inspection Fee prior to obtaining a grading permit. The County Engineer shall determine compliance with this condition.

d. A grading bond of $1,500/acre of disturbed area shall be provided to the Engineering Division prior to any grading.

e. All roadway improvements necessary to serve the project including, but not limited to, curb, gutter, sidewalk, signing and striping, driveways, street lighting, shall be designed and constructed to County standards and specifications to the satisfaction of the County Engineer. The 4 foot DG path along the west side of Pearl Drive shall be extended to the intersection of Pearl Drive and Short Avenue.

f. The applicant shall indicate on the plans where exported materials will be taken and a grading permit shall be obtained for the import site.

g. Exported materials shall not be sold without the proper business license.

h. Prior to ground-disturbing activity, a proposed Construction Traffic Haul Route Plan shall be submitted to the Engineering Division for review and approval. Any existing or proposed roads that will be used as construction haul routes and are not designated truck routes must be evaluated by a geotechnical study to determine the existing structural section and its load capacity. If the pavement section is inadequate to support the proposed construction loadings, the roadway must be redesigned or reconstructed as needed to provide a 20-year design life in accordance with the AASHTO Interim Guide for Flexible Pavement.

i. All regulatory traffic signs shall meet County standards and the Manual on Uniform Traffic Control Devices.

j. A pedestrian walkway plan shall be approved by the County Engineer prior to the finalization of construction improvement drawings.

k. A hydrology/hydraulic report prepared by a registered engineer shall be submitted to the Engineering Division for review and approval. The report shall include the locations, points of entry and discharge, flow rates and flood limits of all 5- and 100-year storm flows impacting both the site and offsite areas and the

methods for handling those flows. The report shall include all storm drain pipe and ditch sizing calculations and a discussion of and mitigation measures for any impacts on existing offsite drainage facilities and properties.

l. Any increase in storm water runoff resulting from the development of the site and based upon the 5 and 100-year storms, shall be detained and/or mitigated on site to the satisfaction of the County Engineer.

m. A note shall be placed on the improvement plans stating that at no time shall natural drainage be impeded.

n. Washoe County will only maintain drainage easements which are at least 15 feet wide and piped to the satisfaction of the County Engineer.

o. Standard reinforced concrete headwalls or other approved alternatives shall be placed on the inlet and outlet of all drainage structures and rip rap shall be used to prevent erosion at the inlets and outlets of all pipe culverts to the satisfaction of the County Engineer.

p. Any grading that falls within the FEMA 100 year flood zone shall be in accordance with Washoe County Code 416. The County Engineer shall determine compliance with this condition.

q. The developer shall provide pretreatment for petrochemicals and silt for all storm drainage from the site to the satisfaction of the County Engineer.

r. If required, the applicant shall dedicate any additional right-of-way as may be required for improvements to East 4th Avenue. The County Engineer shall determine compliance with this condition.

s. As emergency access road shall be constructed from the eastern property access to East 4th Avenue and shall be in accordance with Washoe County Code 436.95.

t. The developer shall verify and submit proof of acceptable truck traffic movements for fire and solid waste trucks within the project including the emergency access from Pearl Drive. The County Engineer shall determine compliance with this condition.

Sun Valley General Improvement District (SVGID)

3. The following conditions are requirements of the Sun Valley General Improvement District, which shall be responsible for determining compliance with these conditions.

Contact Name – Mike Ariztia, 775.673.2253, mariztia@svgid.com

a. The applicant shall be responsible for attending a meeting of the Sun Valley General Improvement District Board of trustees for approval at a regular meeting.

b. The Developer shall be responsible for meeting all GID requirements for development to include a hydraulic analysis, sewer capacity study and dedication of sufficient water rights to service the proposed development.

Washoe County District Health Department

4. The following conditions are requirements of the District Health Department, which shall be responsible for determining compliance with these conditions. The District Board of Health has jurisdiction over all public health matters in the Health District. Any conditions set by the District Health Department must be appealed to the District Board of Health.

Contact Name – Douglas L. Coulter, P.E. 775.328.2429, dcoulter@washoecounty.us

a. Construction plans must be submitted to the Health District for review and approval. The project must conform to the District Board of Health Regulations Governing Mobile Home and Recreational Vehicle Parks.

Reno Fire Department

5. The following conditions are requirements of the Reno Fire Department, which shall be responsible for determining compliance with these conditions.

Contact Name – Joan Presley, Fire Marshall, 775.657.4626 presleyj@ci.reno.nv.us

a. The applicant shall provide water for fire suppression. Hydrants shall meet or exceed minimum flows as set forth in Washoe County Code 60, and hydrant location maps shall be submitted to the Reno Fire Department for approval.

b. Roadways designed as primary access must contain a "rapid entry system" for the opening of gates. Such gates shall be operated by radio operated controls (i.e., click2Enter or other approved equal equipment).

c. The design and layout of all emergency access gate systems shall be with the approval of the Reno Fire Department.

d. The applicant shall submit a plan for the maintenance of all open space, to be approved by the Reno Fire Department.

Reno-Tahoe International Airport

6. The following conditions are requirements of the Reno-Tahoe International Airport, which shall be responsible for determining compliance with these conditions.

Contact Name – Dean Schultz 775.328.6400

a. The applicant(s) and/or property owner(s) shall provide a list, verified by a qualified acoustical consultant, of construction methods to be utilized for noise attenuation to a maximum interior noise level of 45 dBA Ldn, prior to the issuance of a building permit.

*** End of Conditions ***

EXHIBIT B

PROJECT PLAN

NOT TO SCALE

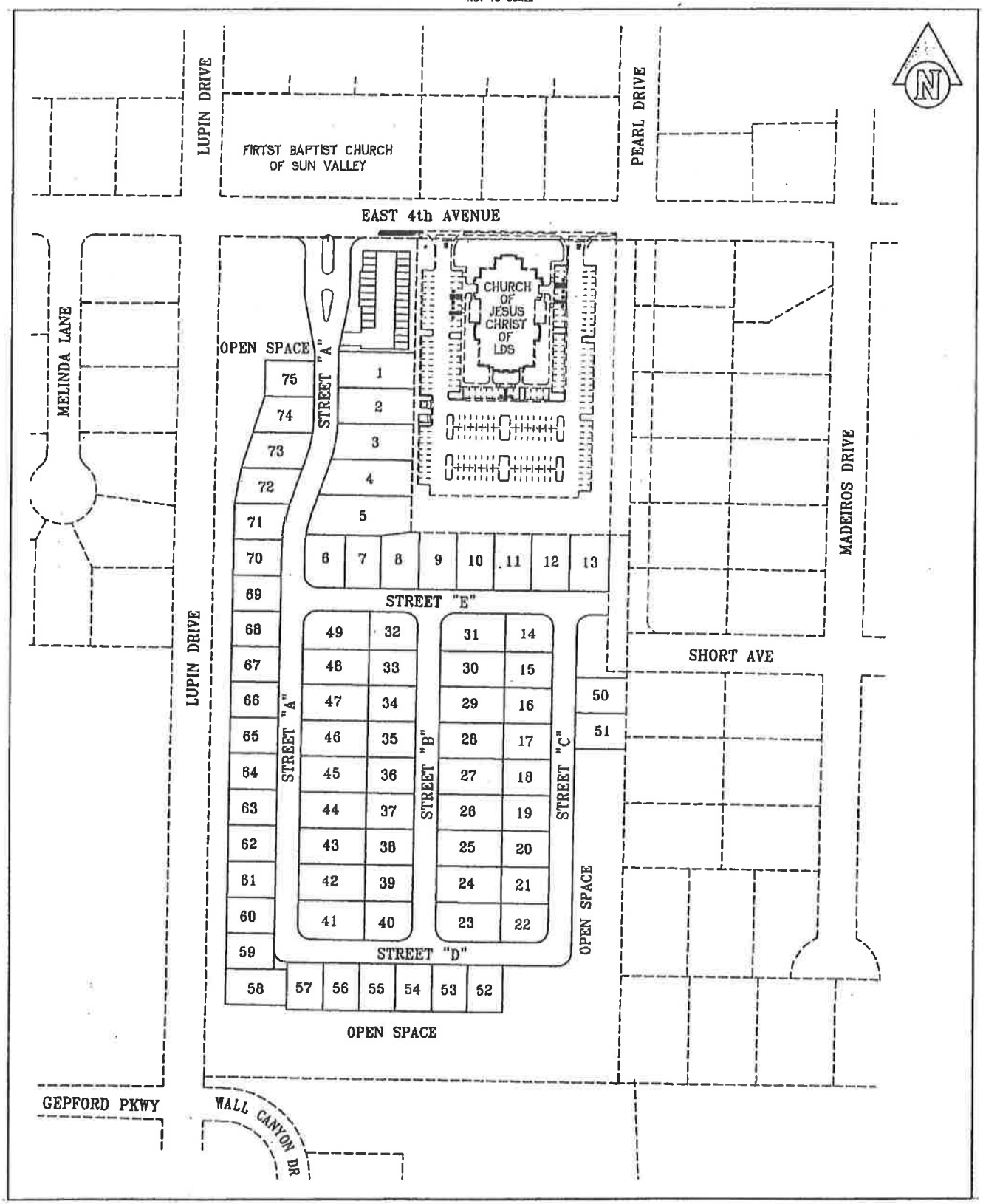
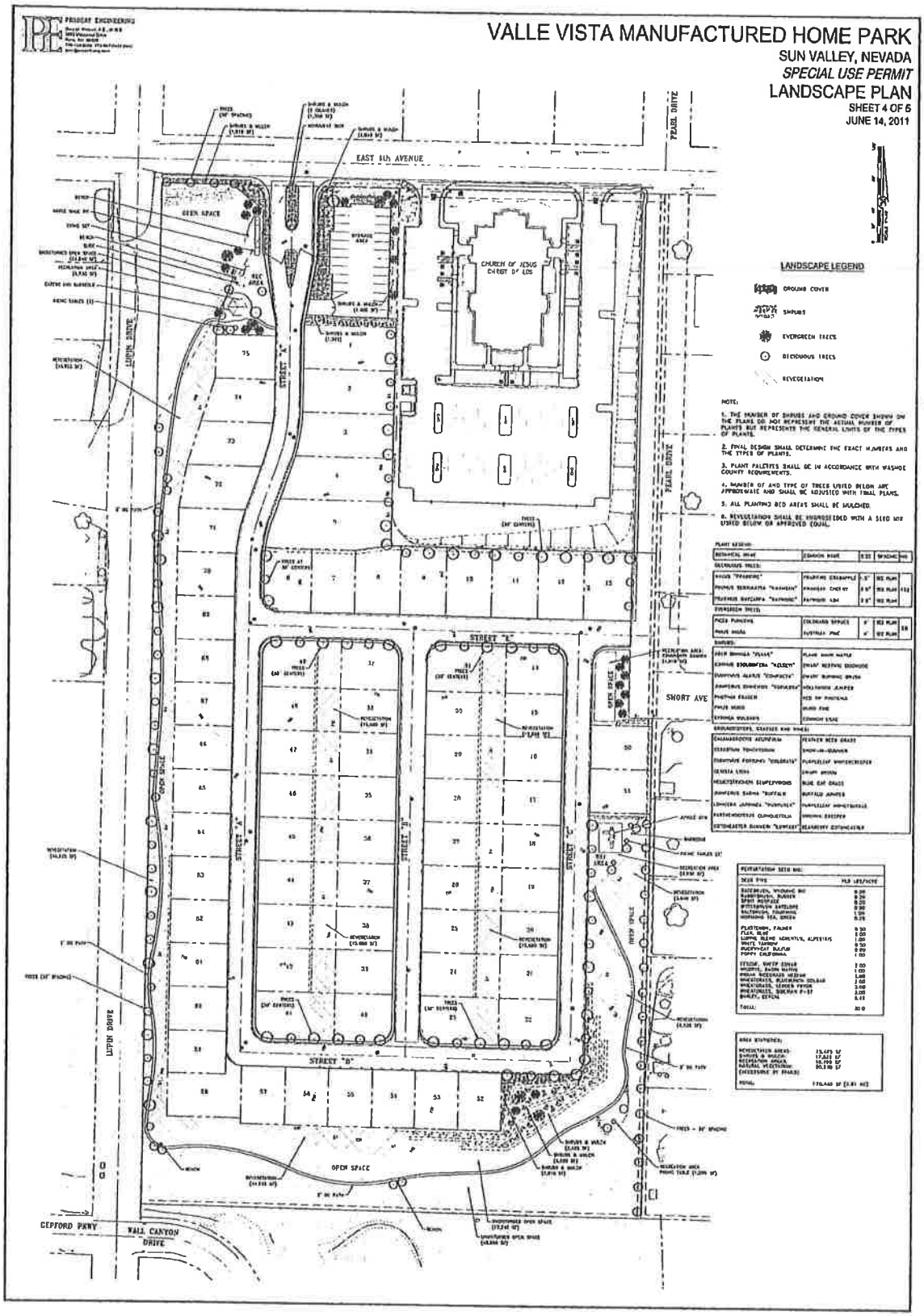


EXHIBIT C


VALLE VISTA MANUFACTURED HOME PARK
SUN VALLEY, NEVADA
SPECIAL USE PERMIT
LANDSCAPE PLAN
SHEET 4 OF 5
JUNE 14, 2011
EAST 5th AVENUE
PEARL DRIVE
LUPIN DRIVE
STREET "A"
STREET "B"
STREET "C"
SHORT AVE
OPEN SPACE
CHURCH OF JESUS CHRIST OF LDS
REC AREA
CEPFORD PKWY
WALL CANYON DRIVE
LANDSCAPE LEGEND
GROUND COVER
SHRUBS
EVERGREEN TREES
DECIDUOUS TREES
REVEGETATION
NOTE:
1. THE NUMBER OF SHRUBS AND GROUND COVER SHOWN ON THE PLANS DO NOT REPRESENT THE ACTUAL NUMBER OF PLANTS BUT REPRESENTS THE GENERAL LIMITS OF THE TYPES OF PLANTS.
2. FINAL DESIGN SHALL DETERMINE THE EXACT NUMBERS AND THE TYPES OF PLANTS.
3. PLANT PALETTES SHALL BE IN ACCORDANCE WITH WASHOE COUNTY REQUIREMENTS.
4. NUMBER OF AND TYPE OF TREES USED BELOW ARE APPROXIMATE AND SHALL BE ADJUSTED WITH FINAL PLANS.
5. ALL PLANTING BED AREAS SHALL BE MULCHED.
6. REVEGETATION SHALL BE HYDROSEEDED WITH A SEED MIX USED BELOW OR APPROVED EQUAL.
PLANT KEYED:
DECIDUOUS TREES:
EVERGREEN TREES:
SHRUBS:
GRASSES, GRASSES AND FERNS:
REVEGETATION SEED MIX:
AREA STATISTICS:

APPENDIX D

CHATTEL MORTGAGE - vs - FHA/VA MORTGAGE

CHATTEL: "A Loan for a Manufactured Home that is Personal Property rather than Real Property. Non-Government Backed and therefore not offered by most Lending Institutions"

Lack of Availability:
- Warren Buffet:
  - 21st Mortgage
  - Vanderbilt Mortgage
- Few Other Options
- Private Lenders

Rates:
- Not Competitive with FHA/VA
- Substantial Down Payment Required
- Shorter Loan Terms = Higher Payments

COST COMPARISON:

Down Payment:
- 10% Minimum
- 20%-30% Often Required

Payment Example:
- Financed Amount = $125,000 @ 8.5%
- Shorter Term Required ▶ 20 years
- Monthly = $1,084.78 P&I

CHATTEL = Higher Down Payment
= Higher Monthly Payment
= Higher Interest Rate

FHA/VA: "The Federal Housing Authority (FHA) and the U.S. Department of Veterans Affairs (VA) offer Government Backed Loans on Real Property that have features such as Low Down Payment/ Flexible Credit & Income Guidelines"

Lots of Availability:
- Banks (national/Local)
- Credit Unions
- Mortgage Companies
- Lending Tree/Rocket Mortgage
- CostcoHomeFinance.com

Rates:
- Easy to Compare
- Lowest Possible
- Easy to Refinance

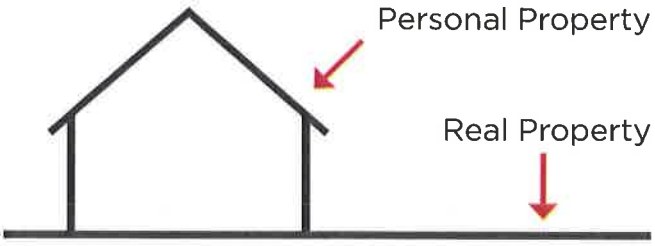
COST COMPARISON:

Down Payment:
- FHA = 3%
- VA = 0%

Payment Example:
- Financed Amount = $125,000 @ 4%
- Traditional Term ▶ 30 years
- Monthly = $596.77 P&I

FHA/VA = Lower Down Payment
= Lower Monthly Payment
= Lower Interest Rate

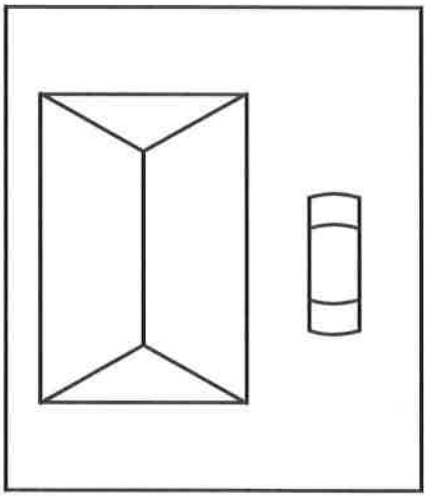
CHATTEL MORTGAGE - vs - FHA/VA MORTGAGE



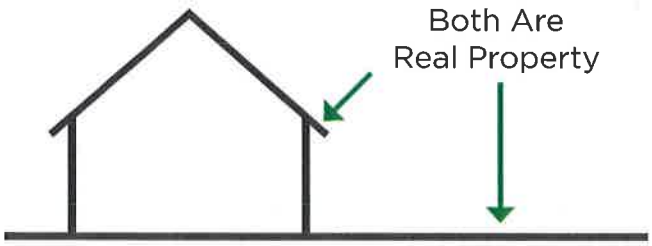
Property Taxes = Two Bills

Personal Property Tax on Home
Real Property Tax on Land

NO SUBSTANTIAL DIFFERENCE



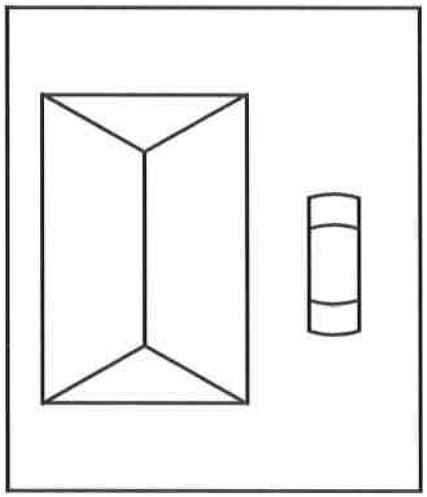
LOOKS THE SAME



Property Taxes = One Bills

Home & Land
are Taxed as One Asset

NO SUBSTANTIAL DIFFERENCE



LOOKS THE SAME

"All the Difference in the World"

Requirements to be Real Property:

- Separate APN
  (Assessor's Parcel Number)
- File 1-Page County Form
- Meet Inspection/Install Requirements

APPENDIX E

Assessor's Map/ Site Plan

APPENDIX F

DOC # 4216134
03/18/2013 04:21:43 PM
Requested By
WASHOE COUNTY TREASURER
Washoe County Recorder
Lawrence R. Burtness - Recorder
Fee: $19.00 RPTT: $0.00
Page 1 of 3

APN: 085-122-03

Recording Requested By:
WASHOE COUNTY TREASURER

WHEN RECORDED, MAIL TO:
LANDBANK DEVELOPMENT CO LLC
325 HARBOUR COVE DR STE 211
SPARKS NV 89434

MAIL TAX STATEMENTS TO:
SAME AS ABOVE

WASHOE COUNTY
TREASURER'S DEED OF RECONVEYANCE

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, LANDBANK DEVELOPMENT CO LLC
325 HARBOUR COVE DR STE 211
SPARKS NV 89434

The duly qualified owner(s) of whom the property herein described was assessed, according to law, has paid to the undersigned, Tammi Davis, Treasurer and Ex-Officio Tax Receiver of Washoe County, Nevada, the sum of TWENTY TWO THOUSAND TWO HUNDRED EIGHTY SEVEN and 64/100 ($22,287.64) DOLLARS, lawful money of the United States of America, the receipt whereof is hereby acknowledged, and

WHEREAS, said sum is the total of all delinquent PROPERTY TAXES, legally chargeable against the property herein described, situated and being in the County of Washoe, State of Nevada, and particularly described as follows: see exhibit "A" attached hereto and made a part hereof

NOW THEREFORE, in consideration of the premises and of the said payment, this DEED OF RECONVEYANCE of said property is executed and delivered in conformity with Nevada Revised Statutes, Section 361.570 and 361.585.

IN WITNESS WHEREOF, I have hereunto set my hand this Monday, March 18, 2013.

TAMMI DAVIS
Treasurer of and for the
County of Washoe, State of Nevada

By

LINDA JACOBS
Deputy Treasurer

EXHIBIT "A"

LEGAL DESCRIPTION

APN # 085-122-03

550 E 4TH AVE Township 20 Lot 1 Range 20 SubdivisionName PM 4961

ACKNOWLEDGMENT
STATE OF NEVADA
} ss.
COUNTY OF WASHOE

On 03/18, 2013, before me, a Notary Public, personally appeared LINDA JACOBS, Deputy Treasurer, personally known to me to be the person whose name is subscribed to the within instrument and who acknowledged to me that he/she executed the same in his/her authorized capacity on behalf of the Washoe County Treasurer.

WITNESS my hand and official seal.

C. RIORDAN
Notary Public - State of Nevada
Appointment Recorded in Washoe County
No: 02-75917-2 - Expires November 12, 2014

C. Riordan

NOTARY PUBLIC My commission expires:

APN: 085-122-03
Page 2 of Deed Of Reconveyance

EXHIBIT "A"

LEGAL DESCRIPTION

APN # 085-122-03

550 E 4TH AVE Township 20 Lot 1 Range 20 SubdivisionName PM 4961

APPENDIX G

Washoe County Treasurer
P.O. Box 30039, Reno, NV 89520-3039
ph: (775) 328-2510 fax: (775) 328-2500
Email: tax@washoecounty.us

Washoe County Treasurer
Tammi Davis

Bill Detail

Back to Account Detail | Change of Address | Print this Page

Washoe County Parcel Information

Parcel ID	Status	Last Update
08512203	Active	2/12/2018 2:06:28 AM

Current Owner:
LANDBANK DEVELOPMENT CO LLC
1227 BARING BLVD
SPARKS, NV 89434

SITUS:
550 E 4TH AVE
WCTY NV

Taxing District

Geo CD:

Legal Description

Township 20 Section Lot 1 Block Range 20 SubdivisionName SUN VALLEY SUBDIVISION 6

Installments

Period	Due Date	Tax Year	Tax	Penalty/Fee	Interest	Total Due
INST 1	8/21/2017	2017	$0.00	$0.00	$0.00	$0.00
INST 2	10/2/2017	2017	$0.00	$0.00	$0.00	$0.00
INST 3	1/1/2018	2017	$0.00	$0.00	$0.00	$0.00
INST 4	3/5/2018	2017	$786.76	$0.00	$0.00	$786.76
		Total Due:	**$786.76**	**$0.00**	**$0.00**	**$786.76**

Tax Detail

	Gross Tax	Credit	Net Tax
State of Nevada	$155.84	$0.00	$155.84
Sun Valley GID	$176.74	$0.00	$176.74
Truckee Meadows Fire Dist	$495.02	$0.00	$495.02
Washoe County	$1,275.77	$0.00	$1,275.77
Washoe County Sc	$1,043.67	$0.00	$1,043.67
TRUCKEE MDWS/SUN VALLEY WATER BASIN	$0.03	$0.00	$0.03
Total Tax	**$3,147.07**	**$0.00**	**$3,147.07**

Payment History

Tax Year	Bill Number	Receipt Number	Amount Paid	Last Paid
2017	2017172122	B17.111342	$786.76	9/29/2017
2017	2017172122	B17.189072	$786.76	1/4/2018
2017	2017172122	B17.70705	$786.79	8/24/2017

Pay By Check

Please make checks payable to:
WASHOE COUNTY TREASURER

Mailing Address:
P.O. Box 30039
Reno, NV 89520-3039

Overnight Address:
1001 E. Ninth St., Ste D140
Reno, NV 89512-2845

Change of Address

All requests for a mailing address change must be submitted in writing, including a signature (unless using the online form).

To submit your address change online click here

Address change requests may also be faxed to:
(775) 328-2500

Address change requests may also be mailed to:
Washoe County Treasurer
P O Box 30039
Reno, NV 89520-3039

APPENDIX H

SLOPE ANALYSIS MAP
OF
550 E. 4TH AVENUE
LYING WIN THE NW 1/4 OF SEC. 20, T20N, R20E, M.D.M.
APN: 016-751-21

WASHOE COUNTY NEVADA

SHEET	JOB NO.
1 OF 1	

DRAWN BY	CHECKED BY	APPROVED BY
DCV	DCV	

DATE	
12/30/21	

ENGINEERS - LAND SURVEYORS
PLANNERS - LANDSCAPE ARCHITECTS
9643 DOUBLE R BLVD., SUITE B • RENO, NEVADA 89521
775-853-1600 MAIN • 775-853-1601 FAX • CFA@CFANV.COM

REVISIONS	BY	DATE

PRELIMINARY, NOT FOR CONSTRUCTION

NOTES

1. THE RESULTS SHOWN HEREON ARE BASED UPON BOUNDARY AND TOPOGRAPHIC DATA PROVIDED BY OTHERS AND HAS NOT BEEN FIELD VERIFIED.

Slopes Table

Number	Min. Slope	Maximum Slope	Acres (Sq. Ft.)	Acres (Acres)	Color
1	0%	15%	43,560	1.00	
2	15%	30%	43,560	1.00	
3	30%	50%	10,454	0.24	
4	50%	99%	2,613	0.07	
5	99%	999%	4,113	0.10	

GRAPHIC SCALE
1 inch = 60 ft.

APPENDIX I

SOLAEGUI
ENGINEERS

February 1, 2018

Clara Lawson, P.E.
Washoe County Engineering
P.O. Box 11130
Reno, Nevada 89520

RE: **Valle Vista Manufactured Home Park**

Dear Clara:

Per the request of our client we are submitting this updated trip generation information for the above mentioned project. The project site is located south of East 4th Avenue and east of Lupin Drive. The project will include the construction of 75 manufactured homes. The project will also include a storage area units that will be utilized by only the project residents. The storage area will not generate off-site trips. A project site plan is attached.

Trip generation rates for the project were obtained from the Ninth Edition of *ITE Trip Generation* (2012) for two possible land use designations. These land use designations are ITE Land Use 210: Single Family Detached Housing and ITE Land Use 240: Mobile Home Park. The trip generation worksheets are attached. Table 1 shows a summary of the trip generation volumes for both land uses.

TABLE 1
TRIP GENERATION

LAND USE	ADT	AM PEAK HOUR IN	AM PEAK HOUR OUT	AM PEAK HOUR TOTAL	PM PEAK HOUR IN	PM PEAK HOUR OUT	PM PEAK HOUR TOTAL
Single Family 75 Dwelling Units	714	14	42	56	47	28	75
Mobile Home Park 75 Dwelling Units	374	7	26	33	28	16	44

As shown in Table 1 the single family land use generates 714 average daily trips, 56 AM peak hour trips and 75 PM peak hour trips. The mobile home park land use generates 374 average daily trips, 33 AM peak hour trips and 44 PM peak hour trips. The peak hour totals for both the single family and mobile home park land uses are below the 80 peak hour trip threshold that triggers the need for a full traffic study.

Solaegui Engineers Ltd. • 715 H Street • Sparks, Nevada 89431 • 775/358-1004 • FAX 775/358-1098
Civil & Traffic Engineers
e-mail: psolaegui@aol.com

We trust that this information will meet your requirements. Please call if you have any questions or comments.

Very truly yours,
SOLAEGUI ENGINEERS, LTD

Paul W. Solaegui, P.E.

2-1-18
EXP 6-30-18

Enclosures

LETTERS\Washoe County\Valle Vista Manufactured Homes2

PROBERT ENGINEERING
Gary M. Probert, P.E., W.R.S.
3862 Vistacrest Drive
Reno, NV 89509
775-742-2066, 775-997-0432 (fax)
gary@probert-eng.com

VALLE VISTA MANUFACTURED HOME PARK

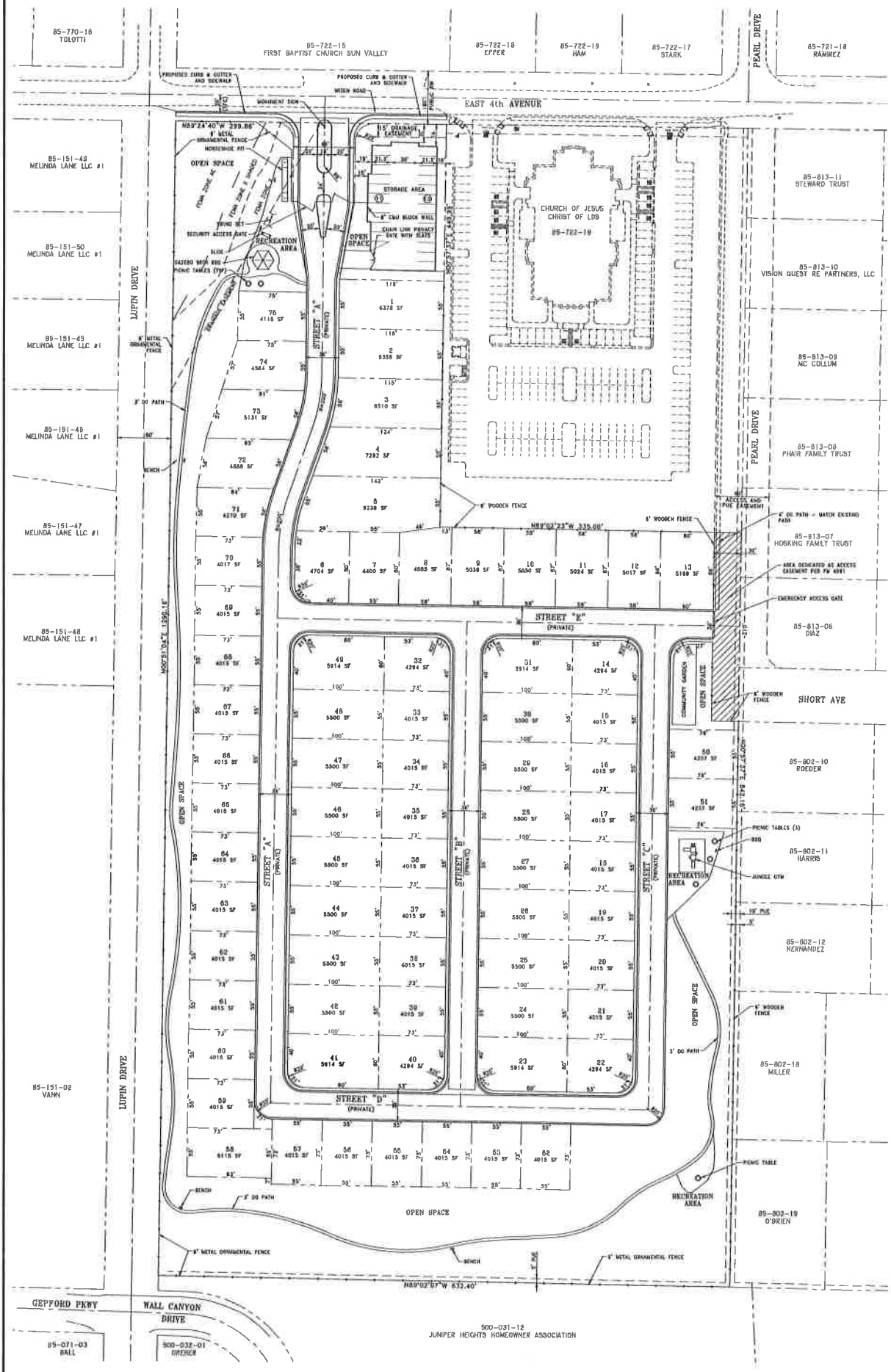
SUN VALLEY, NEVADA

SPECIAL USE PERMIT

SITE PLAN

SHEET 2 OF 5

JUNE 14, 2011



Average Rate Trip Calculations
For 75 Dwelling Units of Single Family Detached Housing(210) - [R]

Project: Open Date:
Phase: Analysis Date:

Description:

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	9.52	3.70	1.00	714
7-9 AM Peak Hour Enter	0.19	0.00	1.00	14
7-9 AM Peak Hour Exit	0.56	0.00	1.00	42
7-9 AM Peak Hour Total	0.75	0.90	1.00	56
4-6 PM Peak Hour Enter	0.63	0.00	1.00	47
4-6 PM Peak Hour Exit	0.37	0.00	1.00	28
4-6 PM Peak Hour Total	1.00	1.05	1.00	75
Saturday 2-Way Volume	9.91	3.72	1.00	743
Saturday Peak Hour Enter	0.50	0.00	1.00	38
Saturday Peak Hour Exit	0.43	0.00	1.00	32
Saturday Peak Hour Total	0.93	0.99	1.00	70

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation Manual, 9th Edition, 2012

Average Rate Trip Calculations
For 75 Occupied Dwelling Units of Mobile Home Park(240) - [R]

Project: Open Date:
Phase: Analysis Date:

Description:

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	4.99	2.59	1.00	374
7-9 AM Peak Hour Enter	0.09	0.00	1.00	7
7-9 AM Peak Hour Exit	0.35	0.00	1.00	26
7-9 AM Peak Hour Total	0.44	0.68	1.00	33
4-6 PM Peak Hour Enter	0.37	0.00	1.00	28
4-6 PM Peak Hour Exit	0.22	0.00	1.00	16
4-6 PM Peak Hour Total	0.59	0.77	1.00	44
Saturday 2-Way Volume	5.00	2.75	1.00	375
Saturday Peak Hour Enter	0.29	0.00	1.00	22
Saturday Peak Hour Exit	0.25	0.00	1.00	19
Saturday Peak Hour Total	0.54	0.74	1.00	41

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation Manual, 9th Edition, 2012

APPENDIX J

Housing crunch: White picket fence dreams in Reno's nightmare housing market

RENO FEELS SQUEEZE FROM RISING HOME PRICES, RENTS AS GROWTH AND INFLUX OF COMPANIES SHRINK HOUSING SUPPLY

Jason Hidalgo (/staff/10367/jason-hidalgo), jhidalgo@rgj.com

House of pain

WHETHER IT BE NEW HOUSES, EXISTING HOMES OR APARTMENT UNITS, A LACK OF INVENTORY IN RENO IS MAKING IT INCREASINGLY TOUGH FOR PEOPLE TO FIND A PLACE TO CALL HOME.

SHARE THIS STORY

Three years ago, one Reno couple decided it was time to grab their personal slice of the American Dream.

As first-time homebuyers, Bob Whitefield admits that he and wife Weston Spann had a romanticized view of the process when they decided to take the plunge into Reno's real estate market.

"We always wanted to live in a house in Old Southwest Reno when my wife moved back to town after graduating from law school," Whitefield said. "It was that whole white picket fence sort of ideal."

After throwing their hats into the real estate market, the couple motivated themselves further by marathoning episodes of "Property Brothers." As they watched the Scott twins turn fixer-uppers into dream homes, Whitefield and Spann pictured themselves settling in a corner of Reno's iconic neighborhood. Both imagined a yard shaded by decades-old trees. They thought about renovation projects to transform the house into one they could truly call their own.

"We thought we could look at any house and have our pick of the litter," Whitefield said.

And look, the couple did. Again and again. And then some more.

Bob Whitefield and wife Weston Spann celebrate the purchase of their home in Reno's old southwest neighborhood.
(Photo: Bob Whitefield)

Whitefield and Spann found themselves getting emotionally attached to house after house, only to lose it to another buyer. Their initial excitement gradually turned into quiet despair. Brick by brick, their American Dream was crumbling against the cold, harsh reality of Reno's housing market.

"There were houses that would go on the market in the morning and we thought we would be the first to look and, lo and behold, it was just on the market for show and had already gone to an investor," Whitefield said. "Our agent showed us so many houses — we looked at over 50."

It took about half a year for the couple to finally buy their house, which, as luck would have it, had a white picket fence. Although it was a happy occasion, there was one feeling that trumped all others once the papers were signed and the purchase was official.

"Relief," Whitefield said. "We were just glad it was done."

After the purchase, Whitefield and Spann did not even want to think about buying a house again. But with their home gaining significant equity in recent years, their 90-pound golden retriever Ruby digging holes in their small yard, and thoughts of starting a family filling their minds, the couple started entertaining the prospects of moving to a bigger house. Fast forward to the present and both are ready to jump into Reno's real estate waters once more.

If they thought buying their house three years ago was tough, however, today's market is proving to be even more of a challenge.

Their biggest obstacle is one many Reno homebuyers face today, affecting everything from rising home prices to skyrocketing rents.

"There's less inventory," Whitefield said. "It's definitely more of a seller's market."

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Biggest little housing shortage

'IT'S PAINFUL OUT THERE'

The Reno area is in the midst of a housing crunch.

Whether it be new homes, existing houses or even apartment units, finding a place to live in the Biggest Little City can be a tough gamble with unfavorable odds.

"It's painful out there," says Nancy Fennell, president of Reno-based Dickson Realty. "This is something I worry about every day."

Available listings, for example, are down 13.3 percent year-over-year, Fennell said. New listings entering the market, meanwhile, are down 17 percent from March of last year, according to the Reno/Sparks Association of Realtors. The competition is so stiff in the existing home market that Fennell recently saw one buyer pay $75,000 above a house's list price.

Chalk it up to simple economics.

At its most basic level, Reno's tight housing situation boils down to the age-old tug of war between supply and demand. So far, demand is winning, and it's winning big. As the first quarter of 2017 came to a close, the Reno-Sparks market for existing single-family homes found itself behind the proverbial eight-ball as it entered its traditional busy season.

"The active inventory in the Reno market is about half of what it should be," said John Graham, president of the Reno/Sparks Association of Realtors. "Buyers have a lot less choice."

Supply of existing homes in Reno-Sparks is down to 1.7 months, according to Graham. The National Association of Realtors considers a balanced market to have a six-month supply based on the rate of sales activity.

Supply gets even worse when looking at the lower end of the market, where demand is strongest. The market for homes priced between $600,000 to $900,000, for example, is at 5.2 months, Fennell said. Supply drops to less than two months in the $300,000 to $600,000 range, where inventory is down to just 56 days. For existing homes priced $300,000 and below, supply gets even tighter at just 24 days — just a little over three weeks.

The feeding frenzy at the lower end of existing homes is especially bad news for first-time homebuyers, who make up a key chunk of the entry-level market.

"That market is on fire," Graham said. "That's the one that's just killing it."

Part of the reason can be traced back to the housing crash, which led to a glut of bargain-price distressed homes. A disproportionate number of those homes ended up in the hands of investors instead of new homeowners due to various factors. Higher unemployment and more underwater mortgages, for example, meant there were fewer prospective buyers of homes due to lower incomes, job concerns and lack of equity.

Even as the economy started to recover in 2013, a previous investigation by the Reno Gazette-Journal (http://pages.rgj.com/specialreports/soldshort/) found that questionable short sale practices allowed select investors to snap up properties way below market value. This was done through prearranged deals that prevented regular home buyers from bidding on the property in the open market.

"Our affordable inventory got snatched up by investors a couple of years ago," Graham said. "They're seeing great returns on those properties now."

Not keeping pace

'IT'S NOWHERE NEAR ENOUGH TO KEEP UP WITH DEMAND'

On a clear spring day in late March, construction workers use yellow paint to color the drab gray exterior of a new house at Lennar's Sage Meadow and Dry Creek development in Damonte Ranch.

The Great Recession and the housing bubble's collapse brought new home construction to a near standstill in Northern Nevada. Today, new lots that were left to languish during the downturn are humming with activity once more.

Although Graham deals primarily in existing homes, he considers new houses an important part of solving Reno's housing shortage. The increased construction activity is good news, Graham said. There's just one problem.

"The home builders are starting to build more but it's nowhere near enough to keep up with demand," Graham said.

After seeing fellow homebuilders lose their business during the downturn, many developers spent the last few years being gun-shy on new developments. Last year, however, was a turning point.

More than 2,000 permits were pulled for new single-family homes in 2017, according to the Builders Association of Northern Nevada. About 1,200 permits were also pulled for multifamily or apartment projects.

The activity is a huge improvement from the recession years, said Don Tatro, BANN executive director. In 2010, only 471 single-family and 134 multifamily permits were pulled for new developments, Tatro said.

Tatro, however, echoed Graham's concerns.

"There's obviously significantly more activity than the recession," Tatro said. "But it's still well short of the boom years."

More than 5,300 single-family and 1,172 multifamily permits were pulled in the greater Reno-Sparks area in 2005. Although the market 10 years ago was overheated, last year's numbers still pale to the kind of activity that's traditionally seen in the area, according to Tatro.

In 1985, for example, the area saw 4,000 permits pulled for new single-family homes. BANN did not track multifamily permits back then.

Tatro points to several challenges when explaining why new home building is unable to keep up with demand. One is manpower.

Back in June 2006, construction was one of the leading employers in Nevada, hitting a peak of about 148,300 workers. By May 2012, the sector shed 99,100 jobs, falling by nearly 67 percent to just 49,200 workers.

Since hitting its lowest point about four years ago, construction has started to bounce back. Activity especially started to pick up in December 2014, with the sector posting the state's highest percentage growth in jobs each month since then. By March, construction employment in the state reached 80,800. The number, however, still falls short of the total number of construction jobs lost during the recession.

Getting all those workers back continues to be difficult. One reason is that many transitioned to other fields during the recession. There's also a lot of competition for workers from areas that are experiencing a construction boom, including San Francisco, Los Angeles, Seattle, Chicago and New York City. Los Angeles, for example, is seeing its busiest construction since the 1920s, according to real estate research company CoStar.

"So you've got a labor shortage," Tatro said. "There's also a myriad of things that are working against the supply."

Construction speed bump

'ALL THE EASY LOTS HAVE BEEN DEVELOPED'

Labor is just one piece of the new housing puzzle, Tatro said.

Even if Northern Nevada manages to regain all the construction workers it lost after the recession, building new homes still won't be easy.

"All the easy lots have been developed," Tatro said. "You also have a process that's growing in complexity and price when it comes to developing new houses."

Building costs are already skyrocketing as the increased demand for homes puts pressure on several of its components. In addition to increasing land costs, builders are seeing "huge spikes in lumber costs and materials," Tatro said.

Permits and fees, meanwhile, are impacting not just costs but project timing as well. The problem is especially pronounced in Washoe County, according to builders and developers. In Carson City, permitting and fees cost about $12,000 for a new single-family home, Tatro said. In Washoe County, however, the cost can range between $30,000 to $40,000.

Add several regulatory hurdles and you're looking at significant delays just to get something built, according to Tatro.

"If you have a project of any real significance, you're looking at a minimum of 24 months before you can even start, so there's a significant lag to meet demand," Tatro said. "You have increasing regulatory cost, increasing regulatory expansion of codes and increasing regulatory expansion of jurisdictions, which is making it very complex and difficult to deliver new projects."

The increased costs and project complexities combined with the unpredictability of the permitting process also make financing a new project a tougher proposition, Tatro added.

Chip Bowlby, a managing partner for developer Reno Land Inc., agreed that the process could be more streamlined. Bowlby also has experience developing properties in California and is involved in several projects in the area, including Rancharrah, Park Lane and the Summit Apartments (http://www.rgj.com/story/money/business/2017/03/03/summit-club-mixed-apartment-housing-breaking-ground/98699378/) near The Summit Reno mall. Bowlby says the city and state have "bent over backward" to help him with his various developments. At the same time, he admits that the process could be better.

"Is it fast enough? I don't think so," Bowlby said. "But it's still a lot quicker than California."

Bowlby cited the recession for some of the issues between developers and the cities and county. More specifically, the lack of activity during the downturn has adversely affected communication between the various parties, including the utility, water authority and planning agencies, Bowlby said.

"We went almost 10 years not needing to talk to anybody because nothing was going on," Bowlby said. "Now my line is always busy and everybody else is very, very busy right now.

"We just all need to sit down together, have a conversation and figure out how to get this ball rolling so we can provide people with housing."

To address the concerns raised by Tatro and Bowlby, Reno Mayor Hillary Schieve says that she formed a housing and development task force that works directly with developers. BANN's Tatro was recently named the group's chairman and the city has been working hard to play catch up and get on top of the situation, Schieve said. The mayor is also considering visiting other cities with the task force to see what works in those areas and learn from them.

Part of the challenge involves the need to work with various entities through the development process, which can take time, Schieve said. One of the responsibilities of the task force, which meets every Monday morning, is to find ways to streamline the fee and permitting process.

"There's a disconnect involving the different entities and where to go next — the health department is a different entity, Truckee Meadows Water Authority is a different entity," Schieve said. "What we found and think is a great solution is to bring in a liaison from the county to work in conjunction with the city of Reno so now you have a one stop shop to handle all of the duties."

But can you afford it?

'WE LUCKED OUT'

After seeing his house appreciate by $120,000 in the last couple of years, Bob Whitefield joined the ranks of what was considered a rare breed during the recession: the move-up buyer.

"We lucked out," Whitefield said.

As more homeowners gain equity in their property, the pool of prospective buyers in Reno-Sparks starts to widen. For those dreaming about getting their first house, however, buying a new abode is easier said than done.

In addition to the challenge of finding a house in a market with limited options, buyers also have to deal with another side effect of low supply and high demand — rising prices.

Just four years ago in January 2012, the median price for an existing single-family home in Reno-Sparks was $135,000. By April of this year, the median price has climbed nearly 140 percent to $323,695. It's the highest figure that the area has seen since the recession. Median price peaked at $365,000 in January 2006 at the height of the real estate boom.

With wages failing to keep pace with rising home values, affordability is a big concern in the Reno area. Based on current valuations, the median income in Reno can no longer afford the median home.

In order to afford a $319,000 house, for example, a household must have a salary of $70,000 per year — and that's with a 10 percent down payment, according to the Reno/Sparks Association of Realtors. According to the latest numbers from the U.S. Census Bureau, the median household income in Reno in 2015 was $50,451. The number is slightly below the median household income in 2008.

Apartments typically provide an affordable alternative. With Reno posting the third-fastest (http://www.rgj.com/story/money/business/2016/02/15/real-estate-reno-posts-3rd-fastest-increase-apartment-rent-nationwide/80388812/) and sixth-fastest (http://www.rgj.com/videos/news/2017/05/04/watch-3-news-stories-get-you-through-your-day/101279378/) increase in rents nationwide in the last two years, however, apartments aren't providing much respite for residents who are feeling the squeeze from the housing crunch.

After staying within the $800 range from 2006 to 2014, average rents in Reno-Sparks hit $1,066 by the end of 2016, according to real estate consulting group Johnson Perkins Griffin. Although the average apartment vacancy rate at the end of last year was 2.93 percent, areas such as Northeast Reno, West Reno and the neighborhood around Reno-Tahoe International airport saw vacancy rates fall below 2 percent. Vacancies for rental properties managed by RE/MAX Premiere Properties in Reno are running at 1.2 percent.

Add Nevada's lack of rent control to the mix and some tenants are seeing constant increases in rent, sometimes on a monthly basis. It's an issue that is on the city of Reno's radar, Schieve said.

"Apartments raising rents is something that we're keeping a close eye on," Schieve said. "One of the things this council is working hard on is to make sure that people can stay in their homes without their rents being raised (unreasonably)."

As part of efforts to increase available housing, the city of Reno is looking at selling land it owns so they can be used for developing projects such as workforce or affordable housing. In April, for example, the Reno Housing Authority sold $1 million worth of its land (http://www.rgj.com/story/money/business/2017/04/26/only-rgj-casino-co-investing-over-50-m-into-three-blocks-downtown-fourth-street/306764001/) to Jacobs Entertainment as part of a project that the casino operator is working on that involves several downtown blocks. A side effect from the project is the displacement of tenants who had to leave the low-cost units they were renting. Schieve says the city is working with the housing authority to find housing for displaced renters. The city will also recognize landlords who do a good job as a way to incentivize them to keep rents fair and stable.

One encouraging trend amid Reno's housing crunch is a moderation of price increases for housing in places such as Reno's new southeast and new southwest neighborhoods, according to Fennell. The common thread in both areas? New housing construction. Given the challenges involved with building new projects, however, it could take a while before such trends become more widespread. Tatro is hopeful that the new housing task force will help speed things up.

"There's a significant lag to meet demand," Tatro said. "Anything along the way that can improve the process and bring predictability to development would help improve getting more projects through."

An economic drag

'WHEN YOU'RE BRINGING JOBS INTO TOWN AND EVEN DUAL-INCOME HOUSEHOLDS HAVE NO WAY OF BUYING A HOUSE, THEN YOU BECOME SAN FRANCISCO'

The lack of housing is seen as a potential drag to Reno's economic development prospects, which have celebrated the arrival of big names such as Apple (http://www.rgj.com/story/money/reno-rebirth/2015/05/29/how-reno-landed-apple-one-of-the-biggest-prizes-in-the-data-center-industry/28181319/), Tesla (http://www.rgj.com/story/news/2014/09/04/nevada-strikes-billion-tax-break-deal-tesla/15096777/), Panasonic, Switch (http://www.rgj.com/story/money/business/2017/02/15/switch-largest-data-center-building-world-opens-near-reno/97925188/) and Google (http://www.rgj.com/story/money/business/2017/04/17/google-buys-land-near-tesla-gigafactory-east-reno-data-center-technobubble/100566250/). The University of Nevada, Reno recently made arrangements to house Tesla and Panasonic employees at its dorms in the summer. Other companies also expressed concerns about adequate and affordable housing for their workers.

"I've talked to Tesla, I've talked to Switch, I've talked to everybody and the No. 1 concern they have is housing," Bowlby said.

With new jobs running the gamut from warehouse positions to advanced manufacturing, the area needs to have a comprehensive selection of housing options, said Mike Kazmierski, president and CEO of the Economic Development Authority of Western Nevada.

Some companies have responded to the area's more competitive job market by raising wages, Kazmierski said. Wages, however, still won't be able to keep pace if housing continues to skyrocket at its current rate, Kazmierski warned. The average pay for advanced manufacturing, for example, typically ranges between $40,000 to $60,000, he said.

"When you're bringing jobs into town and even dual-income households have no way of buying a house, then you become San Francisco," Kazmierski said. "We've got a long way to go before we get to that point but we are creeping up beyond the affordability factor."

The housing crunch could lead to something considered unfathomable in an economy that continues to add big names: population loss. At least, that's what state demographer Jeff Hardcastle is forecasting for 2018 — a 0.9 percent drop to 444,478 for Washoe County — citing the housing situation as one key factor.

"That's because housing prices are so much higher relative to the nation and our wages are lower than relative wage rate," Hardcastle said. "The migration of people is based on opportunity … so as housing prices go up, that may serve as a drag to attracting people to the region."

On the positive side, a slight loss in population could lead to a decrease in housing prices, which could make the area more attractive to retaining people, Hardcastle said.

Kazmierski and the builder's association's Tatro, however, consider the failure to address the housing issue as tantamount to a lost opportunity.

"We don't want to be the city that had a chance," Tatro said. "We want to be the city that made the most of its opportunity."

Meanwhile, prospective homebuyers such as Whitefield and Spann continue to take their chances in a tight real estate market. For the couple, the search for a new home is all about the opportunity to experience a lifestyle that they continue to dream about.

Whether it be running around a bigger yard with their golden retriever Ruby or having more space to raise a family, fulfilling those dreams makes it worth going through the grief of falling in love with property after property once more, only to face rejection repeatedly.

"We probably eat at places like La Vecchia and Hiroba more than we should, but that's part of the appeal of living in Old Southwest Reno," Whitefield said. "You get these mature landscapes and the trees are just so beautiful.

"Our hope is to be able to raise a family in this same neighborhood, but in a bigger house with a bigger yard."

Preferably, with a white picket fence.

VALLE VISTA COMMUNITY
TENTATIVE MAP
&
COMMON OPEN SPACE DEVELOPMENT

(SPECIAL PACKETS)

PREPARED FOR
LANDBANK DEVELOPMENT COMPANY, LLC

PREPARED BY:
CFA, INC.
1150 CORPORATE BOULEVARD
RENO, NV 89502
(775) 856-1150

FEBRUARY 15, 2018

PROJECT: 17-095.02

Special Package - Table of Contents

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February 7, 2018

Job No. 6991.01-A

Mr. Darren K. Proulx
Landbank Development Company, LLC
1227 Baring Boulevard
Sparks, Nevada 89434

Subject: **Geotechnical Update Letter**
Valle Vista Manufactured Home Park
East 4th Ave. and Lupin Drive
Sun Valley Area of Washoe County, NV

Reference: Pezonella Associates, Inc., 2008, *Preliminary Geotechnical Investigation, Assessor's Parcel Number 085-122-01, East 4th Avenue, Sun Valley Area, Washoe County, Nevada,* Job No.: 6020.01-A, 23 pages.

Dear Mr. Proulx:

Presented herein is our update of the referenced preliminary geotechnical report (the Report). Our current scope of services is to review the Report, observe the current site conditions, and evaluate if the conclusions and recommendations contained in the Report remain valid.

Our senior geologist conducted a site reconnaissance on January 21, 2018. From this visit, we conclude that site conditions have not changed significantly from the time of the Report. Pezonella Associates, Inc. is currently conducting a design-level geotechnical investigation of the project site. It is our opinion that the conclusions and recommendations contained in the Report remain appropriate for design and construction of the project until the design-level report is issued.

We trust that this provides the information needed at this time; however, if you have any questions, please contact us.

Respectfully,
PEZONELLA ASSOCIATES, INC.

PROFESSIONAL ENGINEER-STATE OF NEVADA
RAYMOND M. PEZONELLA
Exp: 12-31-19
CIVIL
No. 4186

02/07/2018

Joseph E. McKinney,
Senior Geophysicist/Geologist

Raymond M. Pezonella, President

RMP/jem
Attachment: Original Report

PRELIMINARY GEOTECHNICAL INVESTIGATION

ASSESSOR'S PARCEL NUMBER 085-122-01

EAST 4TH AVENUE

SUN VALLEY AREA

WASHOE COUNTY, NEVADA

Prepared for:

Land Resource Investment, Inc.
325 Harbour Cove Drive, #211
Sparks, Nevada 89434

Attention: Michael Fiore

June 24, 2008

Job No. 6020.01-A

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June 24, 2008
Job No. 6020.01-A

Land Resource Investment, Inc.
325 Harbour Cove Drive, #211
Sparks, Nevada 89434

Attention: Michael Fiore

Preliminary Geotechnical Investigation
Assessor's Parcel Number 085-122-01
East 4th Avenue
Sun Valley Area
Washoe County, Nevada

Pezonella Associates is pleased to present results of the preliminary geotechnical investigation our firm performed for the above-referenced project. Based on results of our investigation, experience in the area and understanding of the proposed project, we conclude that from a preliminary geotechnical engineering standpoint, the primary concerns to be considered during design and construction are the presence of **expansive soil**, **steepness of slopes**, potential presence of an **earthquake fault**, **corrosion potential** of the native soils, and potential for **flooding**.

We appreciate having been selected to perform this study and trust the results fulfill your requirements at this time. If you or your design consultants have questions, please do not hesitate to contact us.

Respectfully,

PEZONELLA ASSOCIATES, INC.

Chris D. Betts
Engineering Geologist

Raymond M. Pezonella
Civil Engineer - 4186

6-24-08

I INTRODUCTION

Pezonella Associates is please to present results of the preliminary geotechnical investigation our firm performed for evaluation of Assessor's Parcel Number 085-122-01 located in Washoe County, Nevada. The 18.785-acre parcel is located on the south side of East 4th Avenue, between Lupin Drive and Pearl Drive in the Sun Valley area. We have not received conceptual plans; however, we understand project development will include construction of isolated building pads for manufactured homes and a church to be serviced by community water, sewer and storm drain systems. The structures will be single story and will be supported by shallow conventional spread foundations. Associated asphaltic concrete surfaced accessways and parking areas will complete project development.

We have not received structural information; however, we anticipate that foundation loads will be normal (relatively light) for the type of construction proposed, that foundations will bottom at least 24 inches below lowest exterior ground surface (frost depth) and that structural design will follow criteria outlined in the 2006 International Building Code.

We have not received civil design information; however, we anticipate that earthwork necessary to create a level building pad and proper site drainage at each site will result in cuts and fills up to 5 feet. Depth of utility trench excavation should be less than 5 feet. We anticipate that any proposed slopes will be constructed at maximum inclinations of two horizontal to one vertical (2:1) or flatter, and less than 5 feet. Earth retaining structures are not anticipated, and we assume any underground utilities existing within proposed development areas will be abandoned or relocated.

As stated in our proposal dated June 11, 2008, the purpose of our study was to assess the general subsurface soil conditions across the property and to provide opinions and discussions concerning the suitability of the site from a geotechnical engineering standpoint Once design parameters, such as building locations, finish floor elevation, structural loads and grading information have been established, a final geotechnical report with detailed information of the subsurface soil conditions and recommendations for design and construction must be provided.

This report is preliminary and geotechnical in nature and not intended to identify other site constraints such as environmental hazards, wetlands determinations or the potential presence of buried utilities. Discussions and conclusions included in this report are specific to development within the limits of the property and are not intended for off-site development.

II FIELD EXPLORATION AND LABORATORY TESTS

We attained a general overview of underlying soil conditions across the site by drilling 7 test borings with a truck mounted Central Mine Equipment drill rig (CME 55) using hollow-stem auger to depths of 9 to 21 feet below existing ground surface. The test borings, positioned in the field using pace and compass and the referenced parcel map, are depicted (approximate locations) on Plate 1. No greater accuracy is implied.

Our field geologist recorded the location of each test boring using a global positioning receiver (WGS 84 datum) and logged the visual descriptions of the materials encountered. Representative samples were collected from the test borings in a split-spoon sampler using a 140-pound hammer with a 30-inch drop. The number of blows per foot required to advance the sampler were recorded using methods of the Standard Penetration Test (SPT). A 3-inch (outside diameter) split-spoon sampler was also used during advancement of test borings (upper 5 feet) in an attempt to obtain relatively undisturbed samples for laboratory tests. The sampling method used with the oversize sampler was similar to the SPT; however, blow counts are generally higher due to the larger diameter, and therefore should not be directly correlated to the SPT. Logs of the test borings are presented on Plates 2 through 6. The materials encountered were classified in accordance with the Unified Soil Classification System, which is explained on Plate 7.

The samples were returned to our laboratory and reviewed by a staff engineer to confirm field classifications, select representative samples for laboratory testing, and to determine engineering design parameters. Results of particle size analysis, Atterberg Limits and Expansion Index tests are presented on the logs and on Plates 8 through 10.

III SITE AND SOIL CONDITIONS

The project site is undeveloped, vacant and bordered by East 4th Avenue to the north, unimproved Pearl Drive and single family residences to the east, undeveloped land and single family residences to the west, and undeveloped land and East Gepford Parkway to the south. The site grades gently to moderately (SE corner) downward from the southeast to the northwest, essentially matches elevations of adjacent development and is covered with medium dense sagebrush, weeds, gravel and cobbles. A natural; drainage is along the northwestern boundary and a rip rap lined channel is cut along East 4th Street. Overhead utilities, several jeep trails and minor debris/rubbish exists across the site. A utility box is at the southwest corner and a rip rap slope (down to the south) was cut along the southwestern property line. Test pits appear to have been excavated across the site.

Based on the United States Geological Survey 7.5-Minute topographic map of the Reno Quadrangle, the site is in the SW quarter of the NW quarter of Section 20, Township 20 North, Range 20 East and at an elevation of approximately 4680 feet relative to mean sea level near the northwest corner and about 4780 feet at the southeast boundary.

According to mapping by the U. S. Department of Agriculture, Soil Conservation Service (*Soil Survey of Washoe County, Nevada, South Part*, Sheet No. 22, dated 1980), the site is underlain by the following units:

Indian Creek sandy loam, 4 to 85 percent slopes (# 172): This is the predominant soil unit at the site and comprised the middle and northern portions of the parcel. This shallow, well drained soil is on dissected alluvial fans. It formed in alluvium derived from mixed rock sources. Elevation is 4,500 to 5,500 feet. Typically, 10 to 20 percent of the surface is covered with gravel. The surface layer is a pale brown sandy loam about 8 inches thick. The subsoil is a light brown gravelly clay about 10 inches thick. The upper 7 inches of the substratum is a white indurated hardpan. The lower part to a depth of 60 inches is a reddish yellow, stratified very gravelly loamy coarse sand to gravelly sandy clay loam. Depth to hardpan ranges from 14 to 20 inches. Permeability is very slow. Available water capacity is very low. Effective rooting depth is 14 to 20 inches. Runoff is medium, and the hazard of water erosion is slight. The hazard of soil blowing is slight.

Indian Creek sandy loam, 8 to 15 percent slopes (# 173): This unit is located at the southwestern portion of the parcel. This shallow, well drained soil is on dissected alluvial fans. It formed in alluvium derived from mixed rock sources. Elevation is 4,500 to 5,500 feet. Typically, 10 to 20 percent of the surface is covered with gravel. The surface layer is a pale brown sandy loam about 8 inches thick. The subsoil is a light brown gravelly clay about 10 inches thick. The upper 7 inches of the substratum is a white indurated hardpan. The lower part to a depth of 60 inches is a reddish yellow, stratified very gravelly loamy coarse sand to gravelly sandy clay loam. Depth to hardpan ranges from 14 to 20 inches. Permeability is very slow. Available water capacity is very low. Effective rooting depth is 14 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate. The hazard of soil blowing is slight.

Manogue cobbly clay, 2 to 8 percent slopes (# 190): This unit is located along the middle and northeastern portions of the parcel. This deep and very deep, well drained soil is on uplands. It formed in localized alluvium and colluvium derived dominantly from volcanic rocks. Typically, 10 to 25 percent of the surface is covered with cobbles and pebbles. The surface layer is a dark brown, cobbly clay about 2 inches thick. The subsoil is a brown clay about 61 inches thick. Weathered bedrock is at a depth of 63 inches. Depth to weathered bedrock ranges from 40 to 70 inches. Permeability is very slow. Available water capacity is high. Effective rooting depth is 40 inches or more. Runoff is medium, and the hazard of water erosion is slight. The hazard of soil blowing is slight.

Manogue cobbly clay, 15 to 30 percent slopes (# 192): This deep and very deep, well drained soil is on uplands. It formed in localized alluvium and colluvium derived dominantly from volcanic rocks. Elevation is 4,500 to 6,000 feet. Typically, 10 to 25 percent of the surface is covered with cobbles and pebbles. The surface layer is a dark brown cobbly clay about 4 inches thick. The subsoil is a brown clay about 59 inches thick and weathered bedrock is at a depth of 63 inches. Depth to weathered bedrock ranges from 40 to 70 inches. Permeability is very slow. Available water capacity is high. Effective rooting depth is 40 inches or more. Runoff is rapid, and the hazard of water erosion is moderate. The hazard of soil blowing is slight.

Limitations associated with the use of this soil and bedrock for urban development, as described by the soil survey, are high shrink-swell potential associated with the high clay content, presence of hardpan, very slowly permeable soil, low load-bearing strength and steepness of slope.

Geologic mapping prepared by H. F. Bonham Jr. and E. C. Bingler (*Reno Folio Geologic* Map, Nevada Bureau of Mines and Geology, dated 1973) indicates that the materials underlying the site consist of Tertiary age Alta Formation (Ta). This formation consists of dark brown pyroxene andesite flows, flow breccia, and laharic breccia. These materials are commonly altered to tan rock composed of quartz, sericite, and clay minerals or propylitized to gray green rock containing chlorite, calcite, albite, epidote, and clay minerals.

With exception to bedrock, our preliminary investigation confirms, in general, the soil and geologic mapping, with the native soils consisting of soft (surface) to very stiff clay with sand and varying amounts of gravel (CH), very dense clayey gravel with sand (GC), and very dense clayey sand with gravel (SC) to the depths explored. Our investigation additionally reveals that portions of the native soils are slightly cemented (i.e. hardpan).

At the time of our initial subsurface exploration (June, 2008), no free water was recorded in any of the test borings to the depths explored.

Our investigation and experience in the area indicates that the native soils exist in a relatively compact and/or firm density state, exhibit very low to high potential for expansion, low to low-moderate Resistance value for roadways and slabs-on-grade and are potentially corrosive to Type II portland cement concrete and uncoated steel or metal.

IV GEOLOGIC AND SEISMIC CONSIDERATIONS

To evaluate geological hazards at the site, our investigation included a site reconnaissance and review of available geological literature and maps.

A. Geology

The site is located in the northwestern foothills of the Truckee Meadows, a complex structural basin that is transitional between the Basin and Range physiographic province to the east and the Sierra Nevada to the west. The geologic structure of the area is characterized by high angle extensional normal faults trending in a north-northeast direction. The Truckee Meadows is a down dropped graben with neighboring horsts to the east and west.

B. Faulting and Seismicity

According to mapping by E. C. Bingler (*Earthquake Hazards Map, Reno Folio*, Nevada Bureau of Mines and Geology, dated 1974), a post-tertiary age (less than 2 million years old) fault is illustrated (approximate location) as crossing the central portion of the site, in a northeast to southwest direction (see Plate 1). *Quaternary Fault Map of Nevada, Reno Sheet* (Bell, Nevada Bureau of Mines and Geology, 1984) indicates no Quaternary-age faults cross the site. Quaternary-age faults are those less than 2 million years old.

C. Liquefaction

Liquefaction, a loss of soil shear strength, is a phenomenon associated with loose saturated granular deposits subjected to earthquake shaking. Liquefaction can result in unacceptable movement of foundations supported by such soils. As the referenced earthquake hazards map does not indicate that the site is susceptible to liquefaction, and we believe that cohesive soil and bedrock are present, we do not believe the site is susceptible to liquefaction.

D. Slope Stability

Based on the referenced earthquake hazards map, the subject property is located in an area which may include local, small areas of alluvial and colluvial deposits, which may be subject to minor rock falls and landslide activity in areas of high relief. Based on our anticipation that final slope inclination will be at two horizontal to one vertical (2:1) or flatter and protected from erosion, we do not believe rock falls or landslides will impact the site.

E. Radon

Radon, a colorless, odorless, radioactive gas derived from the natural decay of uranium, is found in nearly all rocks and soils. The Environmental Protection Agency (EPA) suggests that remedial action be taken to reduce radon in any structure with average indoor radon of 4.0 picocuries per liter (pCi/L) or more. Based on *Radon In Nevada* (Rigby *et al.*, Nevada Bureau of Mines and Geology, Bulletin 108, 1994), the site is in an area, where average indoor radon concentrations could exceed 4.0 pCi/L.

F. Flooding

Flood hazard studies completed by the Federal Emergency Management Agency (FEMA), and dated September 30, 1994 are published on unprinted Community Panel Number 32031C2984 E. Based on this panel, the majority of the parcel is located in Flood Hazard Zone X (unshaded); however, the northeast corner is in Flood Hazard Zone A. Zone X (unshaded) are areas determined to be outside the 500-year floodplain while Zone A are special flood hazard areas inundated by 100-year flooding with no base flood elevation determined.

V DISCUSSIONS AND CONCLUSIONS

Based on the results of our investigation, experience in the area and understanding of the proposed project, we conclude that from a preliminary geotechnical engineering standpoint, the primary concerns to be considered during design and construction are the presence of **expansive soil**, **steepness of slopes**, potential presence of an **earthquake fault**, **corrosion potential** of the native soils, and potential for **flooding**.

Our investigation reveals that a majority of the native soils exhibit a potential for expansion. Expansive soils are subject to substantial volume changes (shrink and swell) with changes in moisture content. Changes in moisture content can occur as a result of seasonal variations in precipitation, landscape irrigation, broken or leaking water pipes and sewer lines, and/or poor site drainage. These volume changes can cause differential movements (settlement or heave) of foundations, interior slabs-on-grade, exterior flatwork (i.e. walkways, stoops and patios) and pavement sections.

One method to reduce the potential for movement is to remove (overexcavate) the expansive material to a sufficient depth and replace it with approved compacted fill, thereby reducing the thickness of the expansive layer, providing surcharge, and maintaining moisture at a suitable and near constant level. In conjunction with overexcavation and filling, moisture conditioning of the exposed materials to a slightly over optimum moisture content will be needed during construction. Based on the results of our investigation, we estimate that native clay soils (CH) will require 24 to 36 inches of separation below bottom of footings and interior slab-on-grade subbase (see Plate 11) and 12 to 18 inches below exterior flatwork and pavement subbase.

Studies and experience have shown that movement of components can be expected, even if the recommended removal depth is followed, whenever underlying expansive material is allowed to remain. Therefore, the intent of our recommendations is to control this movement without exceeding economic feasibility; however, the Owner or Developer should weigh the benefits of deeper removal.

Alternatively, to mitigate the potential for movement associated with expansive soil, structures can be supported with a pier and grade beam system which penetrates the expansive soil and attains support by end-bearing on the lower firm, native soils or by surface adhesion (skin friction) with the pier edges and clayey material. Structural support may also be attained through the use of a post-tensioned slab-on-ground foundation, which mitigates movement due to the rigid nature of the system. Potential movement of exterior flatwork and pavement sections can be mitigated by chemical treatment such as lime which stabilizes the clay soils in-place, or through the use of a treated fabric material which provides a moisture barrier.

As clayey soils will also inhibit achieving uniform moisture content and impede compaction efforts, consideration should be given to time constraints associated with scarification, moisture conditioning, drying (backfill) and compacting clayey soils. During periods of inclement weather, water may also become perched above the clayey soil, resulting in a saturated condition for prolonged periods and creating additional limitations on equipment mobility. Consideration should be given to the necessity for maintaining moisture content to prevent wind erosion and for controlling dust during earthwork operations.

In addition to their expansive characteristics, expansive materials also exhibit a lower Resistance Value and Modulus of Subgrade Reaction (k) than granular material. To reduce the thickness of aggregate base and to minimize future maintenance, within slab-on-grade, exterior flatwork and pavement areas, portions of these soils should be removed and replaced with approved compacted fill subbase.

As previously noted, moderate relief exists across the project site. Consideration should be given to the fact that increased earthwork will be necessary to attain level building pads, for accessways and for proper site drainage. Sloping terrain can also lead to differential settlement concerns as transition areas (where footings bottom on a combination of cut native materials and compacted fill material) can be created. Consideration should also be given to cost constraints associated with the reduction of property available for development. The creation of slopes will reduce the amount of property available for development and require that construction off-sets be established.

As previously discussed, a fault trace is illustrated (approximately location) as crossing the central portion of the site. The exact location and age of this potential fault should be further evaluated; however, from a preliminary standpoint, based on the inferred age of the feature, we believe that it may be considered inactive for design purposes, and that construction off-sets are not warranted. Our office can be of assistance if further information is requested.

As previously mentioned, test pits have been excavated across the site. As these pits were most likely backfilled without compaction, the backfill should be removed and replaced in a controlled manner.

Our experience in the area indicates that the native soils may be corrosive to Type II portland cement concrete and uncoated steel or metal. Based on the report, we believe that adequate mitigation can be attained through the use of properly prepared and placed, Type II portland cement concrete, by maintaining a minimum (3-inch) concrete cover where reinforcing steel or other metal is in close proximity to native soils and, at the direction of the Manufacturer, by using special coating on reinforcing steel and metal. In addition to their corrosion potential, consideration should also be given to chemical constituents which may inhibit establishment of landscaping, such as lawns, plants and other vegetation growth, not indigenous to the area. Agronomic characteristics of the native soils should be considered.

The northwest corner of the site is in an area of potential flooding. Consideration should be given to both local and federal regulations which may impose construction constraints (such as requiring minimum finish floor elevations or ordinances banning basements within areas designated as lying in flood zones). Due to the constant revisions associated with flood zoning, the site delineation with respect to flood zoning should be verified with the most current mapping at the time of building permit application.

The soil survey suggests that the presence of hardpan, slowly permeable soil, and low load-bearing strength may be an additional constraint associated with the underlying soils for urban development. Based on the results of our investigation, we believe that excavations limited to the upper 20 feet may be accomplished using conventional earthmoving equipment and that blasting will not be necessary. Based on our understanding that project development will be serviced by community water, sewer and storm drain systems, we do not believe that slow permeability rates will impact site development; however, consideration should be given to performing infiltration tests if retention/detention basins are proposed. Based on our anticipation that foundations, exterior flatwork and pavement sections will be supported on approved, compact granular material, and that proper site drainage will be provided, we do not believe low load-bearing strength will adversely impact site development.

Studies regarding the presence of radon gas suggest the project site is in an area, or close proximity to an area, where average indoor radon concentrations could exceed action levels established by the Environmental Protection Agency. Determinations regarding the potential presence of radon gas should be considered prior to site development.

There are no other apparent geologic hazards that would place unusual constraints on the project; however, strong ground shaking associated with earthquakes should be expected to occur during the life of the project.

VI REFERENCES

Bell, John W. *Quaternary Fault Map of Nevada*. 1:250,000. Reno: Nevada Bureau of Mines & Geology, Map 79, University of Nevada, Reno, 1984.

Bonham, Harold F. Jr. and E.C. Bingler. *Reno Folio Geologic Map*. 1:24,000. Reno: Nevada Bureau of Mines & Geology, University of Nevada, Reno, 1973.

Cordy, Gail E. *Reno NE Quadrangle Earthquake Hazards Map*. 1:24,000. Reno: Nevada Bureau of Mines & Geology, University of Nevada, Reno, 1985.

International Code Council *2006 International Building Code,* Whittier: International Code Council, Inc., 2006.

Rigby, James G., Jonathan G. Price, Lindsay G. Christensen, Daphne D. La Pointe, Alan R. Ramelli, Mario O. Desilets, Ronald H. Hess, and Stanley R. Marshall. *Radon in Nevada.* Reno: Nevada Bureau of Mines & Geology, Bulletin 108, University of Nevada, Reno, 1994.

United States Department of Agriculture, Soil Conservation Service. *Soil Survey of Washoe County, Nevada, South Part.* Washington: U.S. Government Printing Office, 1983.

United States Department of the Interior Geological Survey. *Reno Quadrangle*. 7.5-minute series map (topographic). 1:24,000. Denver: USGS, 1994.

VII GLOSSARY OF TEST PROCEDURES

ASTM Test Designation: C 136: *Standard Test Methods for Sieve Analysis of Fine and Coarse Aggregates.*

ASTM Test Designation: D 420: *Standard Guide to Site Characterization for Engineering Design and Construction Purposes.*

ASTM Test Designation: D 1140: *Standard Test Methods for Amount of Material in Soils Finer Than the No. 200 (75-um) Sieve.*

ASTM Test Designation: D 1586: *Standard Test Method for Penetration Test and Split-Barrel Sampling of soils.*

ASTM Test Designation: D 2487: *Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).*

ASTM Test Designation: D 2488: *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure).*

ASTM Test Designation: D 3550: *Standard Practice for Thick Wall, Ring-Lined, Split Barrel, Drive Sampling of Soils.*

ASTM Test Designation: D 4318: *Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.*

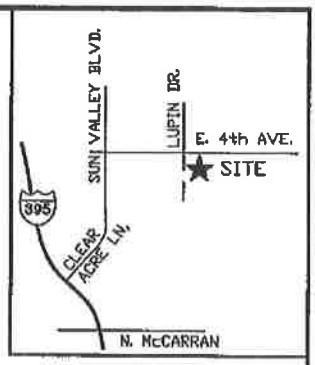
ASTM Test Designation: D 4829: *Expansion Index of Soils.*

VIII DISTRIBUTION

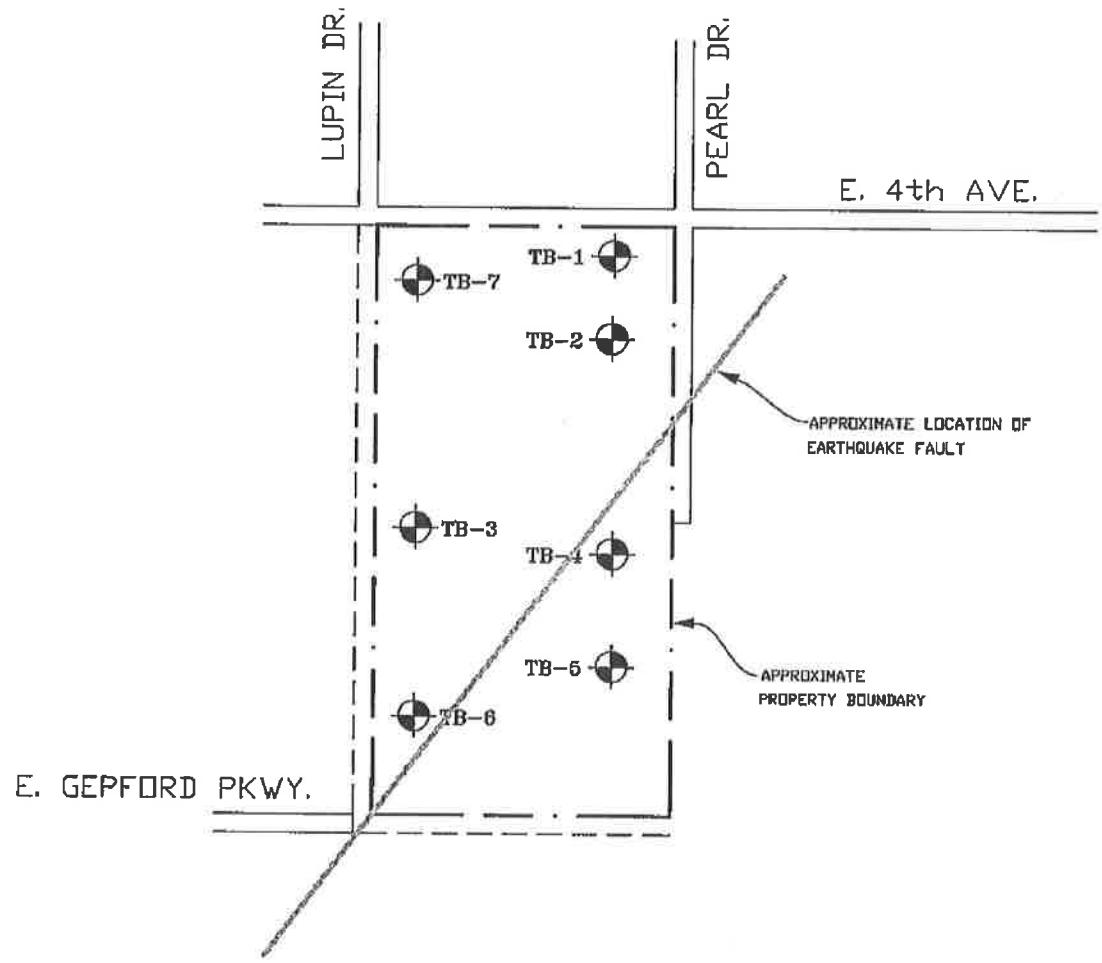
An unbound wet stamped original, one unbound copy and one electronic file to:

Land Resource Investment, Inc.
325 Harbour Cove Drive, #211
Sparks, Nevada 89434
Attention: Michael Fiore
Telephone: (775) 358-4425

IX LIST OF ILLUSTRATIONS



VICINITY MAP



Remarks: Not To Scale

= Test Boring Location (Approximate)

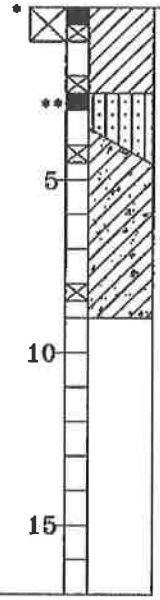
Job No. 6020.01-A	SITE AND EXPLORATION PLAN	appr./06-24-08
Pezonella Associates, Inc Consulting Engineers 520 Edison Way Reno, Nevada 89502 PHONE (775) 856-5566 FAX (775) 856-6043	APN 085-122-01 EAST 4th AVENUE, SUN VALLEY WASHOE COUNTTY, NEVADA	Plate No. 1

LOG OF BORING 1

Equipment CME 55 Hollow Stem Auger

Elevation N/A Date 06-18-08

Laboratory Tests and (Other Information)	Driving Resistance Blows/Ft.	Moisture Content (%)	Dry Density (pcf)
* Particle Size Distribution Report with Atterberg Limits (See Plate 8) Expansion Index (See Plate 10) ** Atterberg Limits: Non-plastic material (will not roll) Percent passing the No. 200 sieve = 12.7	5/6" 7/6" 20/6" 27/4" 27/3" 10/0"		



DARK BROWN CLAY WITH SAND AND GRAVEL (CH)
stiff, dry
color change to brown with decreasing gravel content and becoming very stiff below 6 inches
sampler refusal at 3.0 feet
BROWN SILTY SAND (SM) very dense, dry
sampler refusal at 4.25 feet
ORANGE-BROWN CLAYEY GRAVEL WITH SAND (GC)
very dense, dry

bag auger cuttings at 8.0 feet

sampler refusal at 9.0 feet

No Free Water Encountered

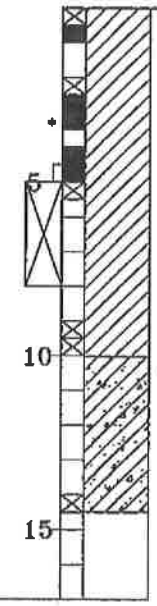
GPS: 39°35.327'N
119°46.149'W

LOG OF BORING 2

Equipment CME 55 Hollow Stem Auger

Elevation N/A Date 06-18-08

	Driving Resistance Blows/Ft.	Moisture Content (%)	Dry Density (pcf)
* Plasticity Chart (See Plate 9)	10/6" 16 38 17 34/0" 50/3" 50/3"		



DARK BROWN CLAY WITH SAND AND GRAVEL (CH)
soft, dry
color change to brown with decreasing sand content and becoming very stiff below 6 inches
slightly cemented below 2.5 feet

becoming moist below 4.5 feet

ORANGE-BROWN CLAYEY GRAVEL (GC)
very dense, dry
sampler refusal at 10.0 feet

sampler refusal at 14.5 feet
No Free Water Encountered

GPS: 39°35.283'N
119°46.150'W

Job No. 6020.01-A	BORING LOG	WR/appr./06-24-08
Pezonella Associates, Inc Consulting Engineers 520 Edison Way Reno, Nevada 89502 PHONE (775) 856-5566 FAX (775) 856-6042	APN 085-122-01 EAST 4th AVENUE, SUN VALLEY WASHOE COUNTTY, NEVADA	Plate No. 2

LOG OF BORING 3

Equipment CME 55 Hollow Stem Auger

Elevation N/A Date 06-19-08

Laboratory Tests and (Other Information)	Driving Resistance Blows/Ft.	Moisture Content (%)	Dry Density (pcf)	Depth (ft) Sample
	6/6"			
	5/6"			
	5/6"			
	23/6"			
	27/5"			
	27/5"			5
	23/6"			10
	30/6"			
	54/6"			15
	79			20
				25

BROWN CLAY WITH SAND AND GRAVEL (CH)
soft, dry
color change to brown with decreasing gravel content and becoming very stiff below 12 inches

sampler refusal at 3.5 feet

slightly cemented at 5.0 feet
sampler refusal at 5.5 feet

ORANGE-BROWN CLAYEY GRAVEL WITH SAND (GC)
very dense, dry

BROWN CLAYEY SAND WITH GRAVEL (SC)
very dense, dry

color change to orange-brown below 18.0 feet

No Free Water Encountered

GPS: 39°35.235'N
119°46.242'W

Job No. 6020.01-A	BORING LOG	CAB appr./06-24-08
Pezonella Associates, Inc Consulting Engineers 620 Edison Way Reno, Nevada 89502 PHONE (775) 856-5566 FAX (775) 856-6042	APN 085-122-01 EAST 4th AVENUE, SUN VALLEY WASHOE COUNTTY, NEVADA	Plate No. 3

LOG OF BORING 4

Equipment CME 55 Hollow Stem Auger

Elevation N/A Date 06-19-08

Laboratory Tests and (Other Information)	Driving Resistance Blows/Ft.	Moisture Content (%)	Dry Density (pcf)	Sample
	5/6" 4/6" 6/6"			
	18/6" 27/6"			
	15/6" 27/6"			5
	70			10
	50/5"			15

DARK BROWN CLAY WITH SAND AND GRAVEL (CH)
soft, dry
color change to brown with decreasing gravel content and becoming very stiff below 12 inches
slightly cemented below 2.0 feet

ORANGE-BROWN CLAYEY GRAVEL WITH SAND (GC)
very dense, dry

sampler refusal at 15.0 feet
No Free Water Encountered

GPS: 39°35.232'N
119°46.148'W

Job No. 6020.01-A	BORING LOG	CNS/appr./06-24-08
Pezonella Associates, Inc Consulting Engineers 520 Edison Way Reno, Nevada 89502 PHONE (775) 856-5566 FAX (775) 856-6048	APN 085-122-01 EAST 4th AVENUE, SUN VALLEY WASHOE COUNTTY, NEVADA	Plate No. 4

LOG OF BORING 5

Equipment CME 55 Hollow Stem Auger

Elevation N/A Date 06-19-08

Laboratory Tests and (Other Information)	Driving Resistance Blows/Ft.	Moisture Content (%)	Dry Density (pcf)	Depth (ft) Sample	
	5/6" 6/6" 9/6"				DARK BROWN CLAY WITH SAND AND GRAVEL (CH) soft, dry color change to brown with decreasing gravel content and becoming very stiff below 6 inches
	52/9"				ORANGE-BROWN CLAYEY SAND WITH GRAVEL (SC) very dense, dry sampler refusal at 3.5 feet
	27/4"			5	sampler refusal at 4.5 feet bag auger cuttings at 5.5 feet
	27/5"			10	ORANGE-BROWN CLAYEY GRAVEL WITH SAND (GC) very dense, dry
	27/3"			15	sampler refusal at 14.5 feet
	92/11"			20	sampler refusal at 21.0 feet No Free Water Encountered
				25	

GPS: 39°35.181'N
119°46.151'W

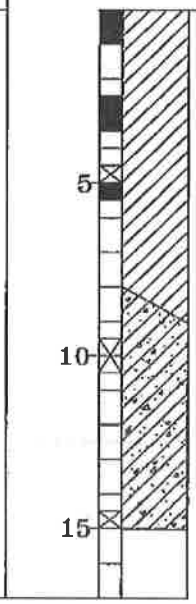
Job No. 6020.01-A	BORING LOG	CNB appr./06-24-08
Pezonella Associates, Inc Consulting Engineers 520 Edison Way Reno, Nevada 89502 PHONE (775) 856-3566 FAX (775) 856-8042	APN 085-122-01 EAST 4th AVENUE, SUN VALLEY WASHOE COUNTTY, NEVADA	Plate No. 5

LOG OF BORING 6

Equipment CME 55 Hollow Stem Auger

Elevation N/A Date 06-19-08

Laboratory Tests and (Other Information)	Driving Resistance Blows/Ft.	Moisture Content (%)	Dry Density (pcf)	Sample
	5/6"			
	12			
	16/6"			
	27/5"			
	29/6"			
	57			
	50/4"			



DARK BROWN CLAY WITH SAND AND GRAVEL (CH)
soft, dry
color change to brown with decreasing gravel content and becoming very stiff below 8 inches
slightly cemented below 3.0 feet
sampler refusal at 3.5 feet

ORANGE-BROWN CLAYEY GRAVEL WITH SAND (GC)
very dense, dry

GPS: 39°35.177'N
119°46.236'W

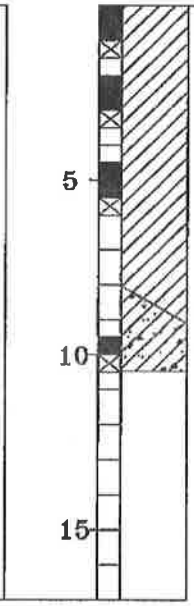
sampler refusal at 15.0 feet
No Free Water Encountered

LOG OF BORING 7

Equipment CME 55 Hollow Stem Auger

Elevation N/A Date 06-19-08

Driving Resistance Blows/Ft.	Moisture Content (%)	Dry Density (pcf)	Sample
8/6"			
3/6"			
5/6"			
17			
15			
50/4"			



DARK BROWN CLAY WITH SAND AND GRAVEL (CH)
soft, dry
becoming moist below 6 inches
becoming very stiff below 12 inches

BROWN CLAYEY GRAVEL WITH SAND (GC)
very dense, dry
sampler refusal at 10.5 feet

No Free Water Encountered

Job No. 6020.01-A	BORING LOG	CAS/appr./06-24-08
Pezonella Associates, Inc Consulting Engineers 520 Edison Way Reno, Nevada 89502 PHONE (775) 856-5566 FAX (775) 856-6042	APN 085-122-01 EAST 4th AVENUE, SUN VALLEY WASHOE COUNTTY, NEVADA	Plate No. 6

MAJOR DIVISIONS				TYPICAL NAMES
COARSE GRAINED SOILS (MORE THAN HALF IS LARGER THAN #200 SIEVE)	GRAVELS (MORE THAN HALF COURSE FRACTION IS LARGER THAN No. 4 SIEVE SIZE)	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES
			GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES
		GRAVELS WITH OVER 12% FINES	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SANDS (MORE THAN HALF COURSE FRACTION IS SMALLER THAN No. 4 SIEVE SIZE)	CLEAN SANDS WITH LITTLE OR NO FINES	SW	WELL GRADED SANDS, GRAVELLY SANDS
			SP	POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH OVER 12% FINES	SM	SILTY SANDS
			SC	CLAYEY SANDS
FINE GRAINED SOILS (MORE THAN HALF IS SMALLER THAN #200 SIEVE)	SILTS AND CLAY (LIQUID LIMIT LESS THAN 50)		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS SILTY CLAYS, LEAN CLAYS
			OL	INORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (LIQUID LIMIT GREATER THAN 50)		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			Pt	PEAT AND OTHER HIGHLY ORGANIC SOILS

UNIFIED SOIL CLASSIFICATION SYSTEM

SAMPLE DESIGN

"Undisturbed" Sample

Bulk or Classification Sample

STRENGTH TESTS

VANE SHEAR TEST
F = Field
L = Laboratory

UNCONFINED COMPRESSION TEST

1000

DIRECT SHEAR TEST
CD = Consolidated Drain

Stress Normal to Shear Plane (psf)

1000

TRIAXIAL COMPRESSION TEST
UU = Unconsolidated - Undrained
CU = Consolidated - Undrained
CD = Consolidated - Drained

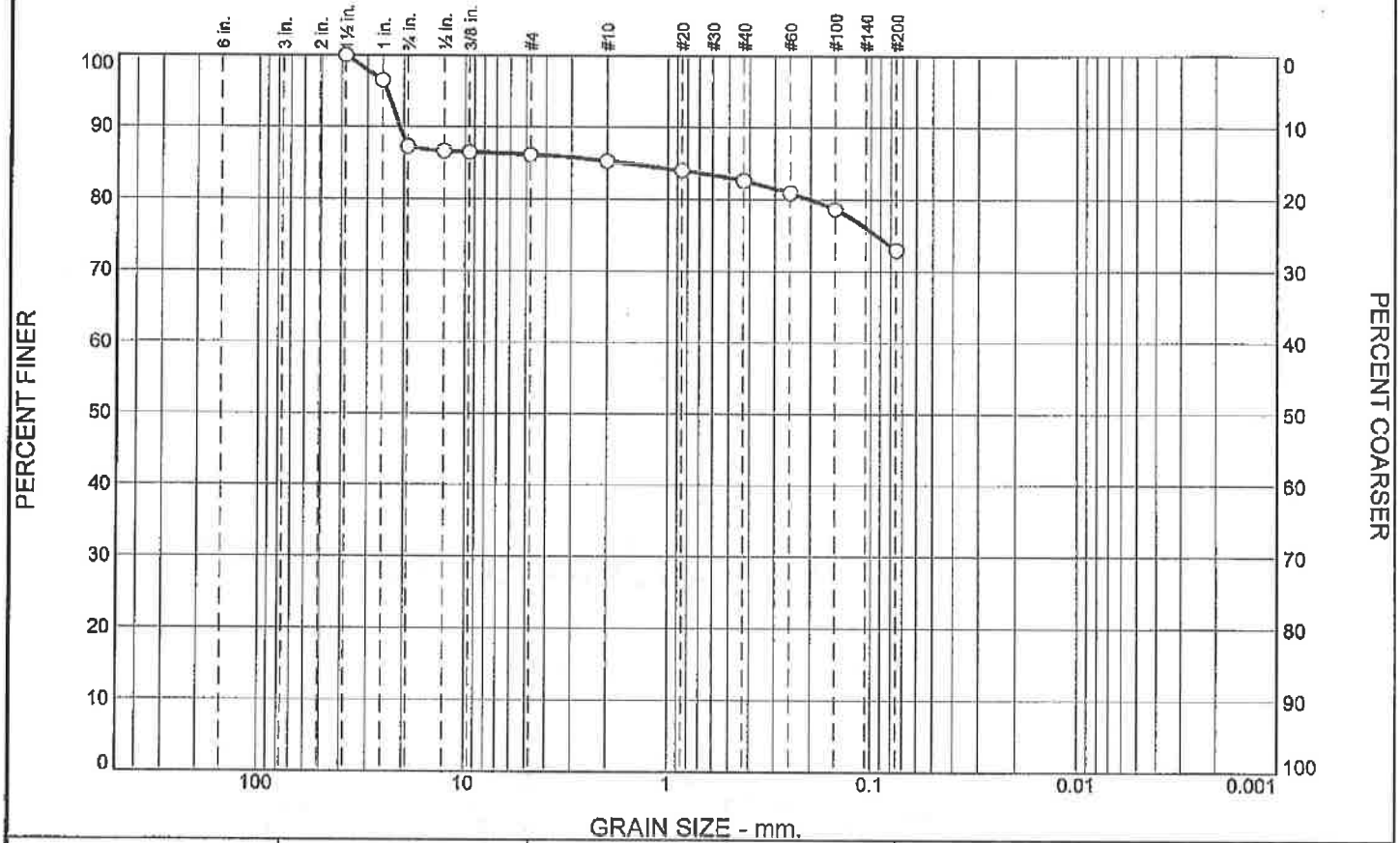
1/2 Deviator Stress

Confining Stress

KEY TO TEST DATA

Job No. 6020.01-A	USCS AND KEY TO TEST DATA	UNS appr./06-24-08
Pezonella Associates, Inc Consulting Engineers 520 Edison Way Reno, Nevada 89502 PHONE (775) 856-5566 FAX (775) 856-5042	APN 085-122-01 EAST 4th AVENUE, SUN VALLEY WASHOE COUNTTY, NEVADA	Plate No. 7

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	12.7	1.2	0.8	2.7	9.7	72.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5	100.0		
1	96.4		
.75	87.3		
.5	86.6		
.375	86.5		
#4	86.1		
#10	85.3		
#20	84.0		
#40	82.6		
#60	80.9		
#100	78.6		
#200	72.9		

* (no specification provided)

Soil Description

Dark brown to brown clay with sand and gravel (CH)

Atterberg Limits

PL= 20 LL= 52 PI= 32

Coefficients

D_{85}= 1.6458 D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(23)

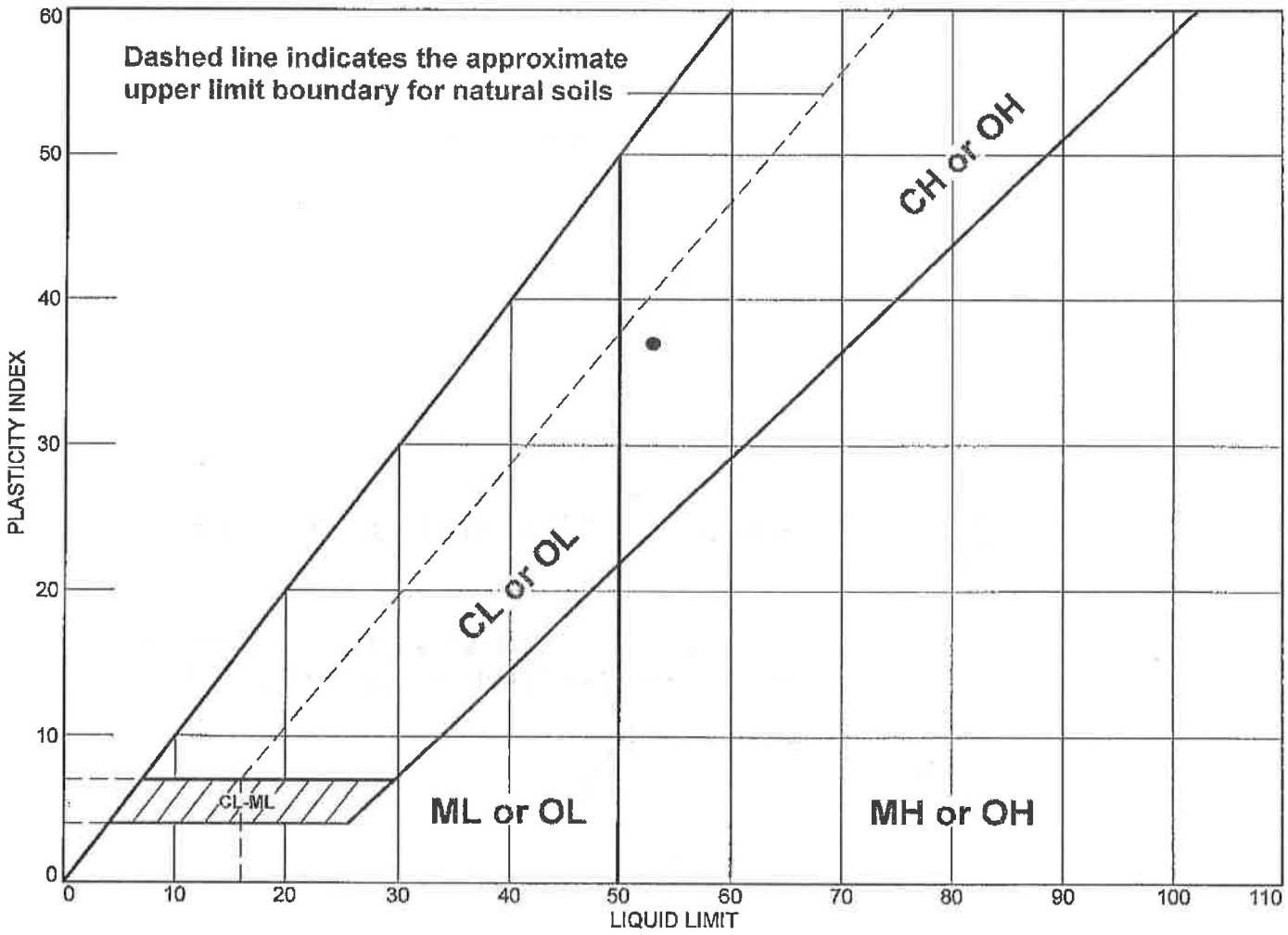
Remarks

Sample No.: 252 **Source of Sample:** TB-1 **Date:** 06-18-08
Location: **Elev./Depth:** 0.0 to 1.0 feet

PEZONELLA ASSOCIATES, INC.
Reno, Nevada

Client:
Project: APN 085-122-01
Washoe County, Nevada
Project No: 6020.01-A **Plate** 8

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Dark brown clay with sand and gravel (CH)	53	16	37		83.6	(CH)

Project No. 6020.01-A **Client:**

Project: APN 085-122-01

Washoe County, Nevada

● **Source of Sample:** TB-2 **Depth:** 3.0 to 3.5 feet

Remarks:

PEZONELLA ASSOCIATES, INC.

Reno, Nevada

CDB

Plate 9

Sample Location: TB-1

Depth: 0.0 to 1.0 feet

Soil Classification: Dark brown to brown clay with sand and gravel (CH)

Test Specification: ASTM D4829

S.G. 2.7

Degree of Saturation (S_{meas}) 58.17

EI_{meas} 149.2

EI_{50}* 160

I.B.C. Criteria (¶1802.3.2)

Soils meeting all 4 of the following provisions shall be considered expansive, except that tests to show compliance with items 1, 2 and 3 shall not be required if the test provided in item 4 is conducted.

1. ☐ PI > 15 (ASTM D4318)
2. ☐ > 10% smaller than 75 microns (ASTM D422)
3. ☐ > 10% smaller than 5 microns (ASTM D422)
4. ☒ EI > 20 (ASTM D4829)

CLASSIFICATION OF POTENTIALLY EXPANSIVE SOIL (ASTM D4829; ¶5.3)

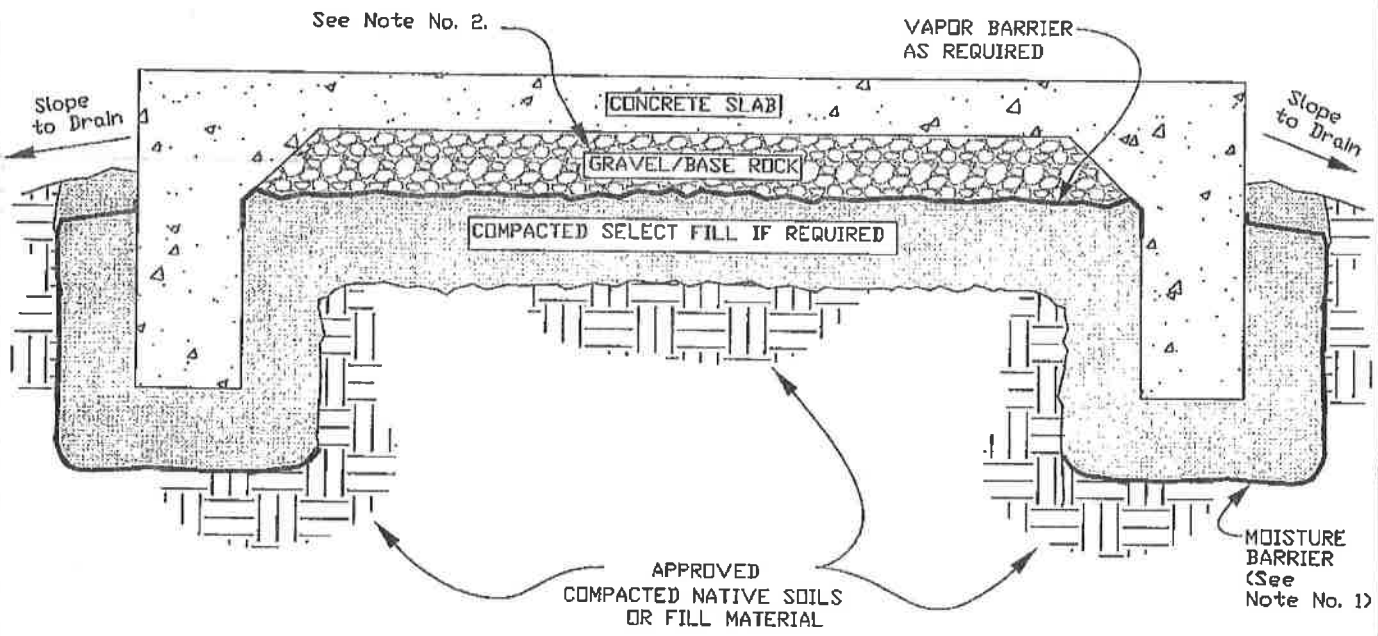
EXPANSION INDEX	POTENTIAL EXPANSION
0–20	VERY LOW
21–50	LOW
51–90	MEDIUM
91–130	HIGH
>130	VERY HIGH

EXPANSION INDEX 160

POTENTIAL EXPANSION VERY HIGH

* Expansion Index (EI_{50}) calculated by using EI_{meas} within 40 and 60% saturation in accordance with ASTM D4829, ¶10.1.2

Job No. 6020.01-A	EXPANSION INDEX REPORT	CAB/appr./06-24-08
Pezonella Associates, Inc Consulting Engineers 520 Edison Way Reno, Nevada 89502 PHONE (775) 856-5566 FAX (775) 856-6042	APN 085-122-01 EAST 4th AVENUE, SUN VALLEY WASHOE COUNTTY, NEVADA	Plate No. 10



NOTES:

1.) Moisture barrier as required.

2.) Thickness of gravel/base rock shall be 4 inches or as determined by a structural engineer.

Not to Scale

Job No. 6020.01-A	SLAB-ON-GRADE AND BACKFILL DETAIL	DWB/appr./06-24-08
Pezonella Associates, Inc Consulting Engineers 620 Edison Way Reno, Nevada 89502 PHONE (775) 856-5566 FAX (775) 856-6042	APN 085-122-01 EAST 4th AVENUE, SUN VALLEY WASHOE COUNTTY, NEVADA	Plate No. 11

PRELIMINARY HYDROLOGY REPORT

VALLE VISTA COMMUNITY
TENTATIVE MAP
550 E. 4TH AVENUE
SUN VALLEY, NV 89433

PRELIMINARY HYDROLOGY REPORT

VALLE VISTA COMMUNITY
TENTATIVE MAP
550 E. 4TH AVENUE
SUN VALLEY, NV 89433

PREPARED BY:
CFA, INC.
1150 CORPORATE BOULEVARD
RENO, NV 89502
(775) 856-1150

FEBRUARY 2018

INTRODUCTION

This report presents the storm water drainage and management plan to support the tentative map for the Valle Vista Community. Valle Vista is a proposed 75-lot subdivision located on approximately 15.3 acres of undeveloped range land in the South 1/2 of the Northwest 1/4 of Section 4, Township 20 North, Range 20 East, M.D.M. in the Sun Valley area of Washoe County, Nevada. The site has a Master Plan land use designation of Suburban Residential and is zoned WCTY - Medium Density Suburban (MDS).

The purpose of this study is to compare the existing generated 5-year and 100-year flows to the proposed site development to mitigate any increase in flows for the 5-year and 100-year storms per Washoe County requirements.

EXISTING SITE DESCRIPTION

The Valle Vista Community is adjacent to several existing single-family home parcels. This project consists of one parcel (APN: 085-122-03) bounded by East 4th Avenue, Lupin Drive, and Pearl Drive, with the APN 085-122-03. The parcel is bordered on the north by East 4th Avenue. The northeast half is bordered by one parcel with an existing church property, and the southeast half is bordered by Pearl Drive (currently an undeveloped dirt road) and seven parcels with individual homes. To the south is one undeveloped parcel. To the west is Lupin Drive (currently an undeveloped dirt road bordering this parcel). One the other side of Lupin drive, the southwest half consists of one undeveloped parcel, and the northwest half contains six parcels with individual homes. All the surrounding parcels are a part of Washoe County.

The existing site is undeveloped with established native weeds sporadic throughout the area. The natural grade slopes from the southeast corner to the northwest corner with a total change in elevation of approximately 24 feet. The average slope across the site is 1.25 - 1.50 percent. The Sun Valley Wash runs north to south and passes through the northwest corner of the project site. The Vicinity Map (figure 1) depicts the area of the proposed project, and a site plan is located on Sheet C1.0 of the Civil drawings.

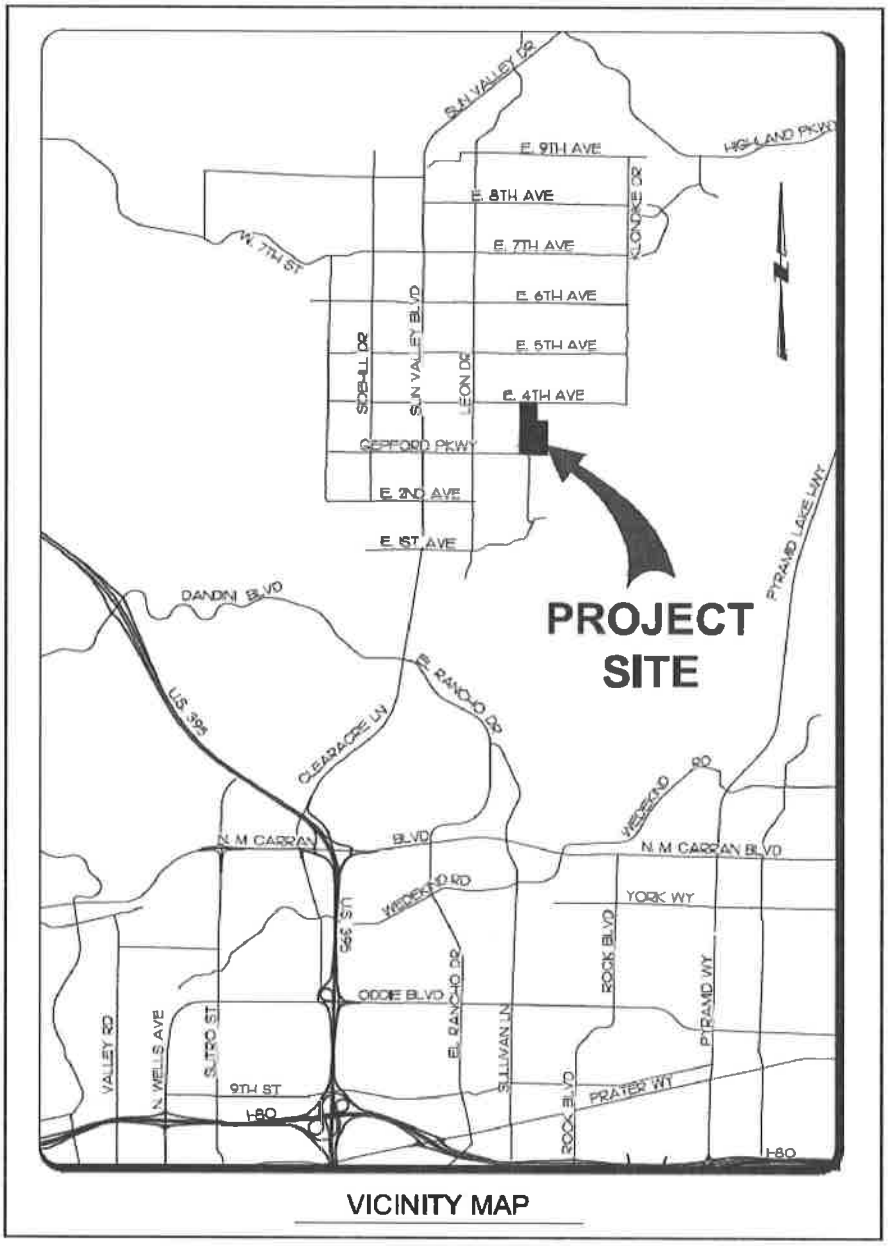


Figure 1: Vicinity Map

PROJECT DESCRIPTION

The Valle Vista Community is a proposed 75-lot subdivision, with an average lot being approximately one tenth of an acre. The project is planned to be constructed in three phases. Upon completion, site access will be from East 4th Avenue. In addition, there will be a gated emergency access from Pearl Drive. The existing on-site drainage will travel to concrete curb and gutters to capture sheet flows and transfer them to

a proposed on-site storm drain system consisting of catch basins, laterals, manholes, and mains. Flows from the storm drain system will be carried into a single detention basin located on the north end of the site to detain and control storm water flows. The basin will be constructed with an drainage pipe and outlet weir structure. The pipe will outlet into the existing natural drainage channel paralleling Lupin Drive on the northwest. This existing channel then exits the site and flows to the south.

FLOOD ZONE

According to FIRM Index Map #32031C3034G, dated March 16th, 2009, the site is located within four (4) flood zone areas:

- Zone X, Unshaded; flood zone areas determined to be outside the 0.2% annual chance floodplain
- Zone X, Shaded; flood zone areas determined to be within the 0.2% annual chance floodplain
- Zone AE, Shaded; special flood hazard areas subject to inundation by the 1% annual chance flood, with base flood elevations determined
- Zone AE, Floodway; the channel of a stream that must be kept free of encroachment such that the 1% annual chance flood can be carried away successfully

A copy of the FIRM Index Map is located in Appendix A.

EXISTING DRAINAGE

Off-site Drainage:
The project is mostly bound by developed parcels. All of these have their own self-sufficient drainage networks and no off-site storm water is anticipated to reach the proposed property from these areas. The few undeveloped parcels generally drain away from the project site with only a portion of the parcel on the southeast corner draining on site. The drainage from this off-site parcel makes its way to the existing drainage channel on the west side of the project site, which will carry the flow to the south and away from the site.

On-site Drainage:
Existing on-site drainage patterns generally flow from southeast to northwest. The flows are collected in the existing drainage channel that is flows south, away from the site. Under the existing conditions, the site generates 3.25 cfs and 19.35 cfs of runoff for the 5-year and 100-year storms, respectively (Ref. Rational Method Calculations, Drainage Channel Calculations, Appendix B).

PROPOSED DRAINAGE

Off-site Drainage:
The proposed off-site drainage network will remain unchanged from the existing off-site drainage network.

On-site Drainage:
The project will develop new streets that will have their own drainage network with curb and gutter. Runoff from the proposed lots will flow away from the residences to the streets where it will be collected in catch basins and conveyed by the storm drainage network. The storm drainage network will be comprised of pipes, catch basins and curb and gutter. Flows from the storm drain system will be carried into one detention basin, located on the north end of the site, to detain and control storm water flows (Ref. Proposed Drainage Plan, Appendix C). The proposed land use type is Single Family Residential, with 1/8-acre and 1/4-acre lots. This is expected to generate 7.99 cfs and 25.94 cfs of peak runoff for the 5-year and 100-year storms, respectively.

RATIONAL METHOD

The Rational Method is used to estimate the peak runoff resulting from a rain storm of given intensity and frequency falling on a specific watershed. The peak flow is expressed as:

$$Q = C\,i\,A$$

where
- Q = Peak rate of runoff, cubic feet per second
- C = Runoff coefficient
- i = Average rainfall intensity, inches per hour
- A = Watershed area, acres

Washoe County allows the use of the Rational Method for urban and small watersheds 500 acres or less. Runoff computations are made using criteria provided by the City of Reno Public Works Design Manual. Runoff coefficients were determined from Tables 201 and 202 in the Design Manual. Rainfall intensities are determined from the rainfall intensity-duration-frequency (IDF) curves for the Washoe County area. The initial time of concentration, $T_{c(1)}$, is calculated by the formula:

$$T_{c(1)} = 10 \text{ or } \frac{L}{60 \times V} \text{ (whichever is greater)}$$

where $T_{c(1)}$ = Initial time of concentration, minutes
L = Length from uppermost point of watershed to design point, feet
V = Channel or overland velocity, feet per second

The initial time of concentration models build-up and sheet flow conditions in the uppermost part of the watershed. Except for very small impervious watersheds, the minimum build-up time of 10 minutes is assumed. Therefore, for the first design point, the time of concentration is determined by adding travel time to the build-up time as follows:

$$T_{c(1)} = 10 + \frac{L}{60 \times V}$$

The time of concentration at successive points downstream is calculated by adding total travel time to the initial build-up time:

$$T_{c(n)} = 10 + \sum \frac{L}{60 \times V}$$

where $T_{c(n)}$ = Time of concentration at design point, minutes
$\sum \frac{L}{60 \times V}$ = Total travel time to design point, minutes
L = Length of flow path between design points, feet
V = Velocity, feet per second

Velocities used are 2 - 3 fps for surface flow and 3 - 5 fps for channel and conduit flow.

Rational Method calculations are performed using a spreadsheet containing the appropriate IDF curves and routing parameters. The peak flow for each drainage area is determined based on the runoff coefficient, initial time of concentration, and area (Ref. Rational Method Calculations, Appendix B).

HYDROLOGY

An off-site hydrology study for this area was not completed, but off-site flows will remain the same in pre- and post-development conditions.

Peak flows for on-site watersheds were estimated for the 5-year and 100-year design storms using the Rational Method (Ref. Rational Method Calculations, Appendix B, Tables 1 and 2). Storm drain infrastructure piping was designed using the 5-year design storm event. Peak runoff from the overall average site C value will increase from a 0.20 to a 0.48 for the 5-year storm and a 0.50 to a 0.64 for the 100-year storm. The 5-year design storm will increase from 3.25 cfs to 7.99 cfs and from 19.35 cfs to 25.94 cfs for the 100-year design storm. Once the runoff enters the proposed on-site storm drain system, it is conveyed through the system into a detention basin located on the north end of the site, to detain and control storm water flows. The basin will be constructed with an outlet pipe and outlet weir structure. The structure will outlet into the existing channel that exits the site and flows south away from the site.

The increase in peak runoff generated by the proposed development of this project for the 100-year 10-day storm event is 6.59 cfs. The increase in peak runoff will be mitigated per the design requirements of the Truckee Meadows Regional Drainage Manual. The proposed 9,000 cubic foot detention basin has been designed to detain the 10-day, 100-year storm event (volumetric analysis). The volume required to mitigate the 10-day, 100-year event is approximately 6,682 cubic feet (Ref. 17095.02 Hydrographs-100 YR Detention, Appendix B). This results in the 100-year flow of 19.35 cfs to remain the same as existing conditions in the proposed drainage channel.

A preliminary storm drain network was designed for this site and is shown on Sheet C4.0 – Utility Plan. Pipe sizing and hydraulic calculations for the proposed storm drain network are in Appendix C. Proposed catch basins and storm drain piping for the site will have adequate inlet capacity to collect the peak runoff flows for the 5-year peak storm runoff event. All storm drain pipes, catch basins and storm drain infrastructure are to be dedicated as private and will be maintained by the owners.

CONCLUSION

As demonstrated in this report, the proposed drainage concept will convey the 5-year and 100-year storm flows, meeting the Washoe County Design Requirements. The detention pond and outlet structure has been designed to mitigate the increase in the peak runoff flows for the 100-year 10-day storm event, which meets the current Washoe County requirements. Therefore, Valle Vista Community can be developed as planned with respect to storm water drainage without negative impact to adjacent or downstream properties or public storm drain infrastructure.

REFERENCE

City of Reno, Washoe County, City of Sparks, *Truckee Meadows Regional Drainage Manual*, April, 2009

City of Reno, *Public Works Design Manual.* (January, 2009).

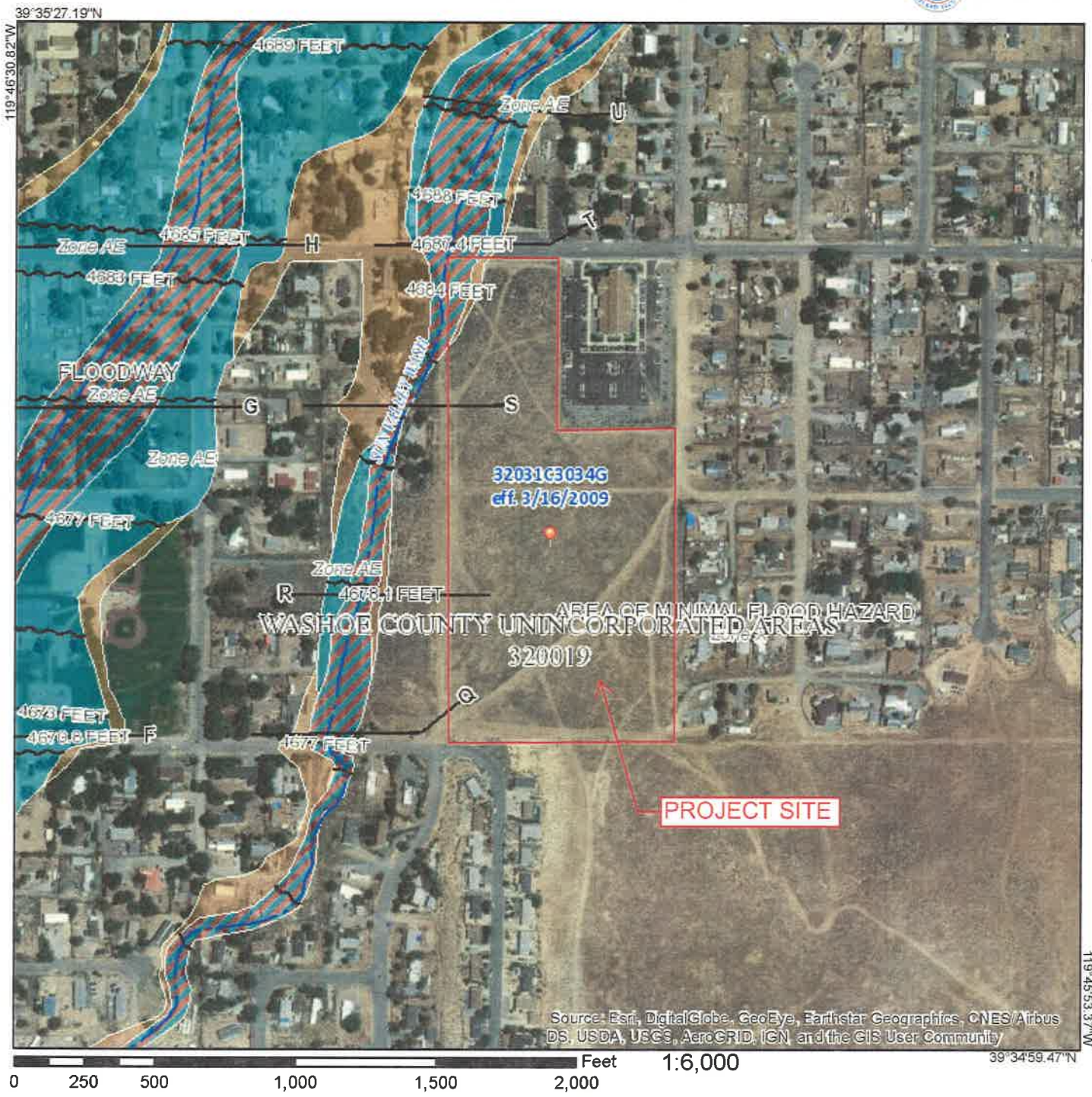
NOAA National Weather Service, *NOAA Atlas 14, Volume 1, Version 5, RENO WSFO AIRPORT, Station ID 26-6779* (NOAA Atlas 14 Point Precipitation Frequency Estimates: NV, 2004, Revised 2011)

NOAA National Weather Service, *NOAA Atlas 14, Volume 1, Version 5, Reno, Nevada, US, Latitude: 39.5000°, Longitude: -119.7833°, Elevation 4413 ft.*, (NOAA Atlas 14 Point Precipitation Frequency Estimates: NV, 2004, Revised 2011)

APPENDIX A
FIRM MAP

National Flood Hazard Layer FIRMette

FEMA



Legend

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

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

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

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

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

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

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

N

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/14/2018 at 9:27:47 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

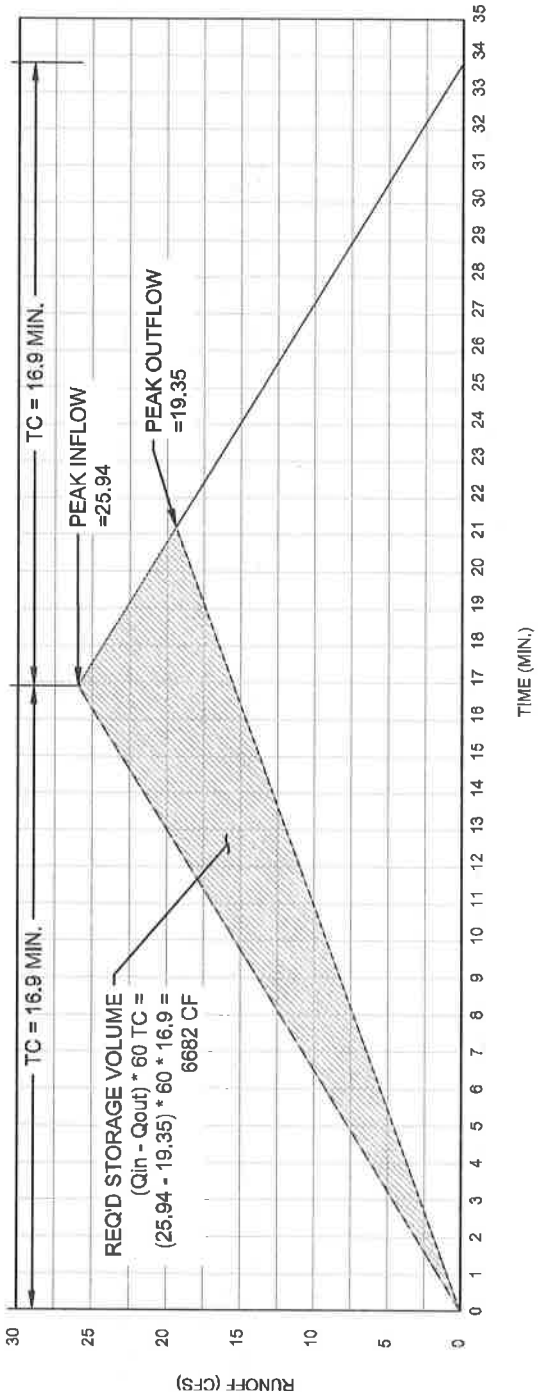
APPENDIX B
RATIONAL METHOD CALCULATIONS

RATIONAL METHOD HYDROLOGY
Washoe County IDF CURVES
Valle Vista Community
EXISTING

DESIGN POINT	DRAINAGE SUB-BASIN	AREA (acres)	C 5-YR	C 100-YR	WATERSHED LENGTH (ft)	VELOCITY (ft/sec)	Tc (min)	INTENSITY (in/hr) 5-YR	INTENSITY (in/hr) 100-YR	PEAK RUNOFF (cfs) 5-YR	PEAK RUNOFF (cfs) 100-YR
EXISTING BASINS											
(DESCRIPTIONS IE. SDCB #1, OFFSITE, ROOFD	E1	5.40	0.20	0.50	796	2	16.6	1.06	2.51	**1.14**	**6.78**
	E2	9.64	0.20	0.50	826	2	16.9	1.06	2.51	**2.04**	**12.12**
	E3	0.11	0.20	0.50	50	2	10.4	1.30	3.11	**0.03**	**0.18**
	E4	0.17	0.20	0.50	75	2	10.6	1.28	3.06	**0.04**	**0.27**
OVERALL TOTAL		**15.33**	**0.20**	**0.50**						**3.25**	**19.35**

RATIONAL METHOD HYDROLOGY
Washoe County IDF CURVES
Valle Vista Community
PROPOSED

DESIGN POINT	DRAINAGE SUB-BASIN	AREA (acres)	C 5-YR	C 100-YR	WATERSHED LENGTH (ft)	VELOCITY (ft/sec)	Tc (min)	INTENSITY (in/hr) 5-YR	INTENSITY (in/hr) 100-YR	PEAK RUNOFF (cfs) 5-YR	PEAK RUNOFF (cfs) 100-YR
PROPOSED BASINS	P1	0.11	0.20	0.50	100	2	10.8	1.28	3.06	**0.03**	**0.17**
	P2	0.17	0.20	0.50	129	2	11.1	1.26	3.00	**0.04**	**0.26**
	P3	1.03	0.34	0.58	275	2	12.3	1.21	2.89	**0.43**	**1.74**
	P4	0.22	0.76	0.84	190	2	11.6	1.23	2.95	**0.21**	**0.55**
	P5	0.99	0.52	0.64	283	2	12.4	1.21	2.89	**0.62**	**1.85**
	P6	0.31	0.20	0.50	190	2	11.6	1.23	2.95	**0.08**	**0.46**
	P7	0.97	0.40	0.55	480	2	14.0	1.12	2.68	**0.43**	**1.43**
	P8	0.35	0.88	0.93	424	2	13.5	1.15	2.73	**0.35**	**0.89**
	P9	0.66	0.30	0.48	428	2	13.6	1.15	2.73	**0.23**	**0.87**
	P10	0.54	0.75	0.83	470	2	13.9	1.15	2.73	**0.46**	**1.22**
	P11	1.78	0.20	0.50	365	2	13.0	1.17	2.79	**0.41**	**2.47**
	P12	0.90	0.50	0.62	500	2	14.2	1.12	2.68	**0.50**	**1.50**
	P13	0.36	0.05	0.30	509	2	14.2	1.12	2.68	**0.02**	**0.29**
	P14	0.82	0.54	0.65	482	2	14.0	1.12	2.68	**0.50**	**1.43**
	P15	0.37	0.88	0.93	508	2	14.2	1.12	2.68	**0.37**	**0.93**
	P16	0.90	0.50	0.62	500	2	14.2	1.12	2.68	**0.50**	**1.50**
	P17	1.22	0.38	0.54	517	2	14.3	1.12	2.68	**0.52**	**1.76**
	P18	0.52	0.88	0.93	620	2	15.2	1.08	2.57	**0.50**	**1.25**
	P19	1.23	0.52	0.64	560	2	14.7	1.10	2.62	**0.71**	**2.07**
	P20	0.54	0.05	0.30	400	2	13.3	1.17	2.79	**0.03**	**0.45**
	P21	1.04	0.61	0.71	352	2	12.9	1.19	2.84	**0.75**	**2.11**
	P22	0.29	0.88	0.93	370	2	13.1	1.17	2.79	**0.30**	**0.75**
OVERALL TOTAL		**15.33**	**0.48**	**0.64**						**7.99**	**25.94**



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1150 CORPORATE BLVD.
RENO, NV 89502
(775) 856-1150

100 YR DETENTION VOLUME
REQUIRED DETENTION

VALLE VISTA COMMUNITY

SHEET 1 OF 1

APPENDIX C
PRE & POST DEVELOPMENT
STORM WATER DRAINAGE PLAN

HYDROLOGY LEGEND

E# SUB-AREA

DESIGN POINT

GRAPHIC SCALE

120 0 60 120 240

1 inch = 120 ft.

PEARL DRIVE

(THIS AREA NOT INCLUDED)

EAST 4TH STREET

E1

AREA = 5.40 ACRES
C_5 = 0.20
C_{100} = 0.50
I_5 = 1.06
I_{100} = 2.51
Q_5= 1.14 CFS
Q_{100}= 6.79 CFS

E2

AREA = 9.64 ACRES
C_5 = 0.20
C_{100} = 0.50
I_5 = 1.06
I_{100} = 2.51
Q_5= 2.04 CFS
Q_{100}= 12.12 CFS

FLOOD DRAINAGE CHANNEL

E3

AREA = 0.11 ACRES
C_5 = 0.20
C_{100} = 0.50
I_5 = 1.30
I_{100} = 3.11
Q_5= 0.03 CFS
Q_{100}= 0.18 CFS

E4

AREA = 0.18 ACRES
C_5 = 0.20
C_{100} = 0.50
I_5 = 1.28
I_{100} = 3.06
Q_5= 0.04 CFS
Q_{100}= 0.27 CFS

LUPIN DRIVE

WALL CANYON DRIVE

CALL BEFORE YOU DIG USA North UNDERGROUND SERVICE ALERT 800-227-2600

cfa
1150 CORPORATE BLVD.
RENO, NV 89502
(775) 856-1150
FAX: (775) 856-1160

VALLE VISTA COMMUNITY

EXISTING HYDRO

RENO NEVADA

JOB NO.	17095.02
DESIGNED BY	JL
CHECKED BY	MW
DATE	02-15-2018

SHEET 1 OF 2

X:\PROJECTS\17095.02\DWG\ENGR\SHEETS\EXHIBITS\HYDRO DRAWINGS.DWG <JLAU> 2/14/2018 6:37 PM

HYDROLOGY LEGEND

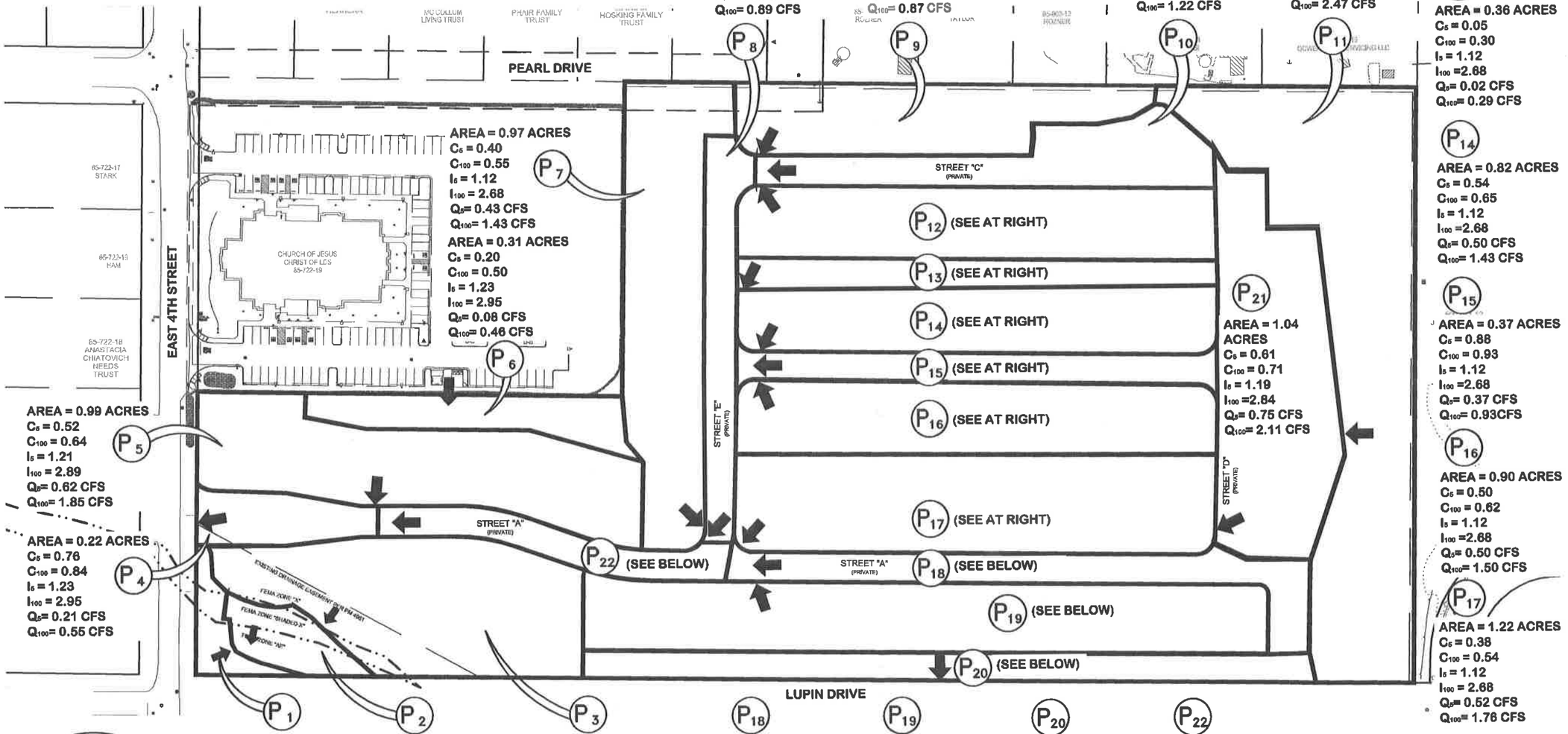
P# — SUB-AREA

→ DESIGN POINT

GRAPHIC SCALE

120 0 60 120 240

1 inch = 120 ft.



P8 AREA = 0.35 ACRES; C_5 = 0.88; C_{100} = 0.93; I_5 = 1.15; I_{100} = 2.73; Q_5= 0.35 CFS; Q_{100}= 0.89 CFS

P9 AREA = 0.66 ACRES; C_5 = 0.30; C_{100} = 0.48; I_5 = 1.15; I_{100} = 2.73; Q_5= 0.23 CFS; Q_{100}= 0.87 CFS

P10 AREA = 0.54 ACRES; C_5 = 0.75; C_{100} = 0.83; I_5 = 1.15; I_{100} = 2.73; Q_5= 0.46 CFS; Q_{100}= 1.22 CFS

P11 AREA = 1.78 ACRES; C_5 = 0.20; C_{100} = 0.50; I_5 = 1.17; I_{100} =2.79; Q_5= 0.41 CFS; Q_{100}= 2.47 CFS

P12 AREA = 0.90 ACRES; C_5 = 0.50; C_{100} = 0.62; I_5 = 1.12; I_{100} =2.68; Q_5= 0.50 CFS; Q_{100}= 1.50 CFS

P13 AREA = 0.36 ACRES; C_5 = 0.05; C_{100} = 0.30; I_5 = 1.12; I_{100} =2.68; Q_5= 0.02 CFS; Q_{100}= 0.29 CFS

P14 AREA = 0.82 ACRES; C_5 = 0.54; C_{100} = 0.65; I_5 = 1.12; I_{100} =2.68; Q_5= 0.50 CFS; Q_{100}= 1.43 CFS

P15 AREA = 0.37 ACRES; C_5 = 0.88; C_{100} = 0.93; I_5 = 1.12; I_{100} =2.68; Q_5= 0.37 CFS; Q_{100}= 0.93CFS

P16 AREA = 0.90 ACRES; C_5 = 0.50; C_{100} = 0.62; I_5 = 1.12; I_{100} =2.68; Q_5= 0.50 CFS; Q_{100}= 1.50 CFS

P17 AREA = 1.22 ACRES; C_5 = 0.38; C_{100} = 0.54; I_5 = 1.12; I_{100} = 2.68; Q_5= 0.52 CFS; Q_{100}= 1.76 CFS

P21 AREA = 1.04 ACRES; C_5 = 0.61; C_{100} = 0.71; I_5 = 1.19; I_{100} =2.84; Q_5= 0.75 CFS; Q_{100}= 2.11 CFS

P7 AREA = 0.97 ACRES; C_5 = 0.40; C_{100} = 0.55; I_5 = 1.12; I_{100} = 2.68; Q_5= 0.43 CFS; Q_{100}= 1.43 CFS

P6 AREA = 0.31 ACRES; C_5 = 0.20; C_{100} = 0.50; I_5 = 1.23; I_{100} = 2.95; Q_5= 0.08 CFS; Q_{100}= 0.46 CFS

P5 AREA = 0.99 ACRES; C_5 = 0.52; C_{100} = 0.64; I_5 = 1.21; I_{100} = 2.89; Q_5= 0.62 CFS; Q_{100}= 1.85 CFS

P4 AREA = 0.22 ACRES; C_5 = 0.76; C_{100} = 0.84; I_5 = 1.23; I_{100} = 2.95; Q_5= 0.21 CFS; Q_{100}= 0.55 CFS

P1 AREA = 0.11 ACRES; C_5 = 0.20; C_{100} = 0.50; I_5 = 1.28; I_{100} = 3.06; Q_5= 0.03 CFS; Q_{100}= 0.17 CFS

P2 AREA = 0.17 ACRES; C_5 = 0.20; C_{100} = 0.50; I_5 = 1.26; I_{100} = 3.00; Q_5= 0.04 CFS; Q_{100}= 0.26 CFS

P3 AREA = 1.03 ACRES; C_5 = 0.34; C_{100} = 0.58; I_5 = 1.21; I_{100} = 2.89; Q_5= 0.43 CFS; Q_{100}= 1.74 CFS

P18 AREA = 0.52 ACRES; C_5 = 0.88; C_{100} = 0.93; I_5 = 1.08; I_{100} =2.57; Q_5= 0.50 CFS; Q_{100}= 1.25 CFS

P19 AREA = 1.23 ACRES; C_5 = 0.52; C_{100} = 0.64; I_5 = 1.10; I_{100} =2.62; Q_5= 0.71 CFS; Q_{100}= 2.07 CFS

P20 AREA = 0.54 ACRES; C_5 = 0.05; C_{100} = 0.30; I_5 = 1.17; I_{100} =2.79; Q_5= 0.03 CFS; Q_{100}= 0.45 CFS

P22 AREA = 0.29 ACRES; C_5 = 0.88; C_{100} = 0.93; I_5 = 1.17; I_{100} =2.79; Q_5= 0.30 CFS; Q_{100}= 0.75 CFS

CALL BEFORE YOU DIG — USA North — UNDERGROUND SERVICE ALERT — 800-227-2600

cfa
1150 CORPORATE BLVD.
RENO, NV 89502
(775) 856-1150
FAX: (775) 856-1160

PROPOSED HYDRO

VALLE VISTA COMMUNITY

RENO NEVADA

JOB NO.	17095.02
DESIGNED BY	JL
CHECKED BY	MW
DATE	02-15-2018

SHEET 2 OF 2

X:\PROJECTS\17095.02\DWG\ENGR\SHEETS\EXHIBITS\HYDRO DRAWINGS.DWG <JLAU> 2/14/2018 6:37 PM

VALLE VISTA COMMUNITY

TENATIVE MAP

550 E. 4TH AVENUE
SUN VALLEY, NV 89433
APN: 085-122-03

OWNER/DEVELOPER:

LANDBANK DEVELOPMENT CO., LLC
325 HARBOR COVE DRIVE, STE 211
SPARKS, NV 86434
(775) 358-4425 VOICE
(775) 358-4464 FAX

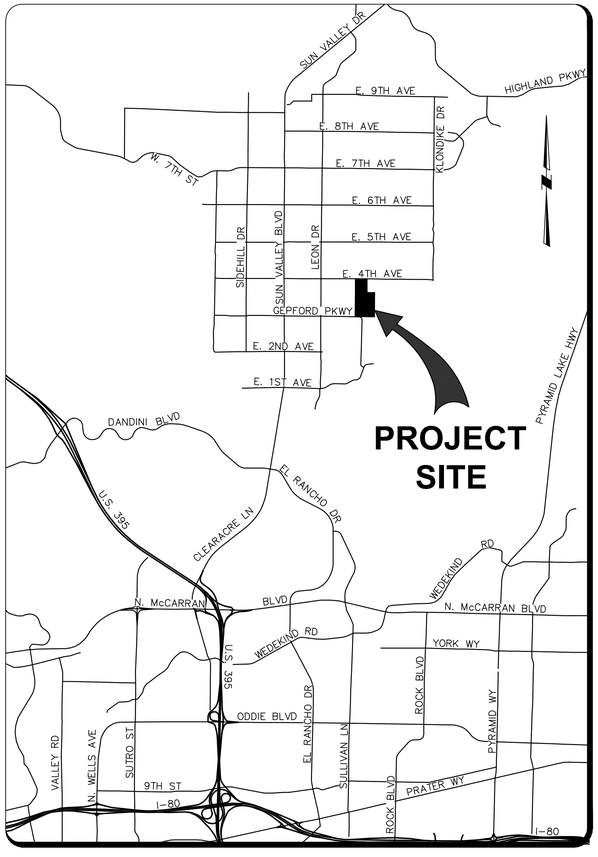
CIVIL ENGINEER:

cfa
ENGINEERS ▪ LAND SURVEYORS
PLANNERS
1150 CORPORATE BOULEVARD ▪ RENO, NEVADA 89502
775-856-1150 MAIN ▪ 775-856-1160 FAX ▪ CFARENO.COM

ENGINEERS STATEMENT:

TO THE BEST OF MY KNOWLEDGE, THE PLANS PREPARED ARE IN COMPLIANCE WITH APPLICABLE PROVISIONS OF THE WASHOE COUNTY DEVELOPMENT CODE.

JONATHON LAU, P.E.
CFA INC.



VICINITY MAP

SCALE: NTS

SHEET INDEX:

BASIS OF BEARINGS AND COORDINATES:

NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983/1994, HIGH ACCURACY REFERENCE NETWORK (NAD 83/94-HARN), AS DETERMINED USING REAL TIME KINEMATIC (RTK) GPS OBSERVATIONS WITH CORRECTIONS TRANSMITTED BY WASHOE COUNTY CONTINUOUSLY OPERATING REFERENCE STATION (CORS) "SSB2." THE BEARING BETWEEN CORS "SSPARKS" AND CORS "SSB2" IS TAKEN AS NORTH 05°11'51" WEST. ALL DIMENSIONS SHOWN ARE GROUND DISTANCES. COMBINED GRID-TO-GROUND FACTOR = 1.000197939.

BASIS OF ELEVATIONS:

NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE (NAD 83/94)

TENATIVE MAP
02-15-2018

ABBREVIATIONS

AB	ANCHOR BOLT
ABAN	ABANDONED
ABC	AGGREGATE BASE COURSE
AC	ASPHALT CONCRETE
ADD	ADDITIONAL
ADJ	ADJACENT
APPROX	APPROXIMATE
APPR	APPROVED
ARV	AIR RELEASE VALVE
BC	BEGIN CURVE
BCR	BEGIN CURB RETURN
BFC	BACK FACE OF CURB
BLDG	BUILDING
BM	BENCH MARK
BOT	BOTTOM
BSW	BACK OF SIDEWALK
BVC	BEGIN VERTICAL CURVE
CB	CATCH BASIN
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CJ	CONSTRUCTION JOINT
℄ or CL	CENTERLINE
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
COORD	COORDINATE
CTR	CENTER
CU	CUBIC
CU FT	CUBIC FEET
CU IN	CUBIC INCH
CU YD	CUBIC YARD
CULV	CULVERT
DBL	DOUBLE
DTL	DETAIL
DI	DROP INLET
DIA	DIAMETER
DWG	DRAWING
E	EASTING
EX or EXIST	EXISTING
EA	EACH
EC	END CURVE
ECR	END CURB RETURN
ECC	ECCENTRIC
EL	ELEVATION
ELEC	ELECTRIC
ENGR	ENGINEER
EVC	END OF VERTICAL CURVE
EW	EACH WAY
EXP JT	EXPANSION JOINT
FES	FLARED END SECTION
FFC	FRONT FACE OF CURB
FG	FINISH GRADE
FH	FIRE HYDRANT
FIG	FIGURE
℄ OR FL	FLOWLINE
FPS	FEET PER SECOND
FT	FOOT or FEET
F	DEGREE FAHRENHEIT
G	GAS
GAL	GALLON
GALV	GALVANIZED
GB	GRADE BREAK
GPD	GALLONS PER DAY
HORIZ	HORIZONTAL
HP	HORSEPOWER
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH
INV	INVERT
IRR	IRRIGATION
KW	KILOWATT
L	LENGTH
LAT	LATERAL
LB	POUNDS
LB/CU FT	POUNDS PER CUBIC FOOT
LONG	LONGITUDINAL
LT	LEFT
MAX	MAXIMUM
MDD	MAXIMUM DRY DENSITY
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MPH	MILES PER HOUR
N	NORTHING
NDP	NO DIRECT PAYMENT
NTS	NOT TO SCALE
OC	ON CENTER
OG	ORIGINAL GROUND
OZ	OUNCE
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PI	POINT OF INTERSECTION
℄ or PL	PROPERTY LINE
PRC	POINT OF REVERSE CURVE
PREFAB	PREFABRICATED
PROP	PROPERTY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
R	RADIUS
RCB	REINFORCED CONCRETE BOX CULVERT
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REF	REFERENCE or REFER
REINF	REINFORCED
REQD	REQUIRED
RT	RIGHT
RW or ROW	RIGHT-OF-WAY
SCH	SCHEDULE
SD	STORM DRAIN
SECT	SECTION
SF	SQUARE FOOT
SI	SQUARE INCH
SSE	SANITARY SEWER EASEMENT
STA	STATION
SIM	SIMILAR
SPEC	SPECIFICATIONS
SQ	SQUARE
SS	SANITARY SEWER
STD	STANDARD
SW	SIDEWALK
SYMM	SYMMETRICAL
TAN	TANGENT
TB	THRUST BLOCK
TC	TOP OF CURB
TC-DC TECH	TOP OF CURB - DEPRESSED TECHNICAL
TEL	TELEPHONE
TEMP	TEMPERATURE
TF	TOP FACE
TW of TOW	TOP OF WALL
TYP	TYPICAL
V	VELOCITY
VC	VERTICAL CURVE
VERT	VERTICAL
VG	VALLEY GUTTER
W	WATER
WWF	WELDED WIRE FABRIC
YD	YARD

LEGEND

- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER
- 4391 — EXISTING 1' CONTOUR
- 4390 — EXISTING 5' CONTOUR
- 4391 — PROPOSED 1' CONTOUR
- 4390 — PROPOSED 5' CONTOUR
- SAWCUT
- (97.55) EG — EXISTING SPOT ELEVATION
- 97.55 FG — PROPOSED SPOT ELEVATION
- ℄ — PROPERTY/BOUNDARY LINE
- S — EXISTING SANITARY SEWER
- D — EXISTING STORM DRAIN
- E — EXISTING ELECTRIC
- G — EXISTING GAS
- T — EXISTING TELEPHONE
- OH — EXISTING OVERHEAD LINES
- CATV — EXISTING CABLE
- FO — EXISTING FIBER OPTIC
- W — EXISTING WATER LINE
- W-G — EXISTING WATER AND GAS LINE
- EXISTING CHAINLINK FENCE
- EXISTING STREET SIGN
- EXISTING STREET LIGHTING AND TRAFFIC SIGNAL
- EXISTING FIRE HYDRANT
- EXISTING FIRE DEPARTMENT CONNECTIONS
- EXISTING SURVEY MONUMENT
- EXISTING POWER POLE
- TP — EXISTING TRANSFORMER PAD
- E — EXISTING ELECTRIC VAULT
- T — EXISTING TELEPHONE VAULT
- S — EXISTING SANITARY SEWER MANHOLE
- D — EXISTING STORM DRAIN MANHOLE
- T — EXISTING ELECTRIC MANHOLE
- U — EXISTING UTILITY MANHOLE
- G — EXISTING GAS VALVE
- W — EXISTING WATER METER
- V — EXISTING WATER VALVE
- EXISTING TREE
- EXISTING TREE TO BE REMOVED

CAUTION – NOTICE TO CONTRACTOR

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND FEATURES AS SHOWN ON THESE PLANS IS BASED ON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE.

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4. THE CONTRACTOR ASSUMES ALL RISK FOR ANY CONSTRUCTION PERFORMED WITH PRELIMINARY OR NONAPPROVED PLANS.

5. CONTRACTOR TO PROVIDE TRAFFIC CONTROL IN CONFORMANCE WITH THE LATEST EDITION OF MUTCD WHENEVER CONSTRUCTION IS IN PROGRESS WITHIN THE PUBLIC TRAVEL WAY.

CALL BEFORE YOU DIG — USA NOTIFY — UNDERGROUND SERVICE ALERT — 800-227-2600

TENATIVE MAP
02-15-2018

BY	MARK	DATE	REVISIONS

PROFESSIONAL SEAL:

REGISTERED PROFESSIONAL ENGINEER · STATE OF NEVADA
JONATHON LAU
Exp. 12-31-19
CIVIL
No. 24130
02-15-2018

ENGINEERS ■ LAND SURVEYORS
PLANNERS
1150 CORPORATE BOULEVARD ■ RENO, NEVADA 89502
775-856-1150 MAIN ■ 775-856-1160 FAX ■ CFARENO.COM

VALLE VISTA COMMUNITY
TENTATIVE MAP
NOTES, LEGENDS, ABBREVIATIONS
550 E. 4TH AVENUE
SUN VALLEY, NV 89433
NEVADA
RENO

JOB NO.	17095.02
DESIGNED BY	JL
CHECKED BY	MW
DATE	02-15-2018

SHEET C1.1 OF 10

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085-721-18
RAMIREZ

085-813-11
DEANNA CASEY

085-813-10
SAHARAY HERRERA

085-813-09
MCCOLLUM LIVING TRUST

085-813-08
PHAIR FAMILY TRUST

085-813-07
HOSKING FAMILY TRUST

085-813-06
DIAZ

085-802-10
ROZNER

085-802-11
TAYLOR

085-802-12
ROZNER

085-802-18
GALASSI

085-802-19
OCWEN LOAN SERVICING, LLC

30' ACCESS & PUE PER PM 560

PEARL DRIVE

30' ACCESS & PUE - OFFERED FOR DEDICATION PER PM 4961

60'

5' PUE PER TM 574

STREETS & COMMON AREA
7.26 AC±

5' PUE PER PM 4961

STREET "C"
(PRIVATE)

14 4,309 SF±	15 4,302 SF±	16 4,295 SF±		
13 4,964 SF±	12 4,897 SF±	11 4,904 SF±	10 4,911 SF±	9 4,917 SF±
8 4,924 SF±				

STREET "E"
(PRIVATE)

STREET "B"
(PRIVATE)

17 4,605 SF±	18 4,152 SF±	19 4,152 SF±	20 4,152 SF±	21 4,152 SF±	22 4,152 SF±	23 4,152 SF±	24 4,152 SF±	25 4,605 SF±
34 6,105 SF±	33 5,473 SF±	32 5,473 SF±	31 5,473 SF±	30 5,473 SF±	29 5,473 SF±	28 5,473 SF±	27 5,473 SF±	26 6,105 SF±

35 4,605 SF±	36 4,152 SF±	37 4,152 SF±	38 4,152 SF±	39 4,152 SF±	40 4,152 SF±	41 4,152 SF±	42 4,153 SF±	43 4,605 SF±
52 6,293 SF±	51 5,637 SF±	50 5,637 SF±	49 5,637 SF±	48 5,637 SF±	47 5,637 SF±	46 5,637 SF±	45 5,638 SF±	44 6,293 SF±

STREET "D"
(PRIVATE)

53 4,238 SF±	54 4,277 SF±	55 4,277 SF±	56 4,277 SF±	57 4,277 SF±
58 4,151 SF±				

1 4,210 SF±	2 4,153 SF±	3 4,166 SF±	4 4,548 SF±	5 5,005 SF±	6 5,118 SF±	7 5,605 SF±				
75 4,091 SF±	74 4,556 SF±	73 5,103 SF±	72 4,872 SF±	71 4,270 SF±	70 4,017 SF±	69 4,015 SF±	68 4,015 SF±	67 4,015 SF±	66 4,015 SF±	65 4,015 SF±
64 4,015 SF±	63 4,015 SF±	62 4,015 SF±	61 4,015 SF±	60 4,380 SF±	59 4,399 SF±					

STREET "A"
(PRIVATE)

085-722-19
CHURCH OF JESUS CHRIST OF LDS

500-031-12
JUNIPER HEIGHTS HOMEOWNER ASSOCIATION

085-722-15
FIRST BAPTIST CHURCH SUN VALLEY

EAST 4TH AVENUE
(AS SHOWN ON TM 574)

10' PUE PER PM 4961

DRAINAGE EASEMENT PER PM 4961

FEMA ZONE "X"

FEMA ZONE "SHADED-X"

FEMA ZONE "AE"

10' PUE PER PM 4961

LUPIN DRIVE
(FORMERLY JUNIPER DRIVE)

E. GEPFORD PKWY
(AS SHOWN ON TM 3113)

085-770-18
TOLOTTI

085-151-49
MELINDA LANE LLC #1

085-151-50
MELINDA LANE LLC #1

085-151-45
MELINDA LANE LLC #1

085-151-46
MELINDA LANE LLC #1

085-151-47
MELINDA LANE LLC #1

085-151-48
MELINDA LANE LLC #1

085-151-02
VANN

GRAPHIC SCALE

50 0 25 50 100

1 inch = 50 ft.

TENATIVE MAP
02–15–2018

WARNING: WRITTEN CONSENT IS REQUIRED OF CFA, OWNER OF DESIGNS & DRAWINGS AS INSTRUMENTS OF SERVICE, FOR DUPLICATION AND–OR DISTRIBUTION OF DOCUMENTS.

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BY
REVISIONS
MARK
DATE

PROFESSIONAL SEAL:

REGISTERED PROFESSIONAL ENGINEER · STATE OF NEVADA
JONATHON LAU
Exp. 12–31–19
CIVIL
No. 24130
02-15-2018

ENGINEERS ■ LAND SURVEYORS
PLANNERS
1150 CORPORATE BOULEVARD ■ RENO, NEVADA 89502
775-856-1150 MAIN ■ 775-856-1160 FAX ■ CFARENO.COM

VALLE VISTA COMMUNITY
TENATIVE MAP

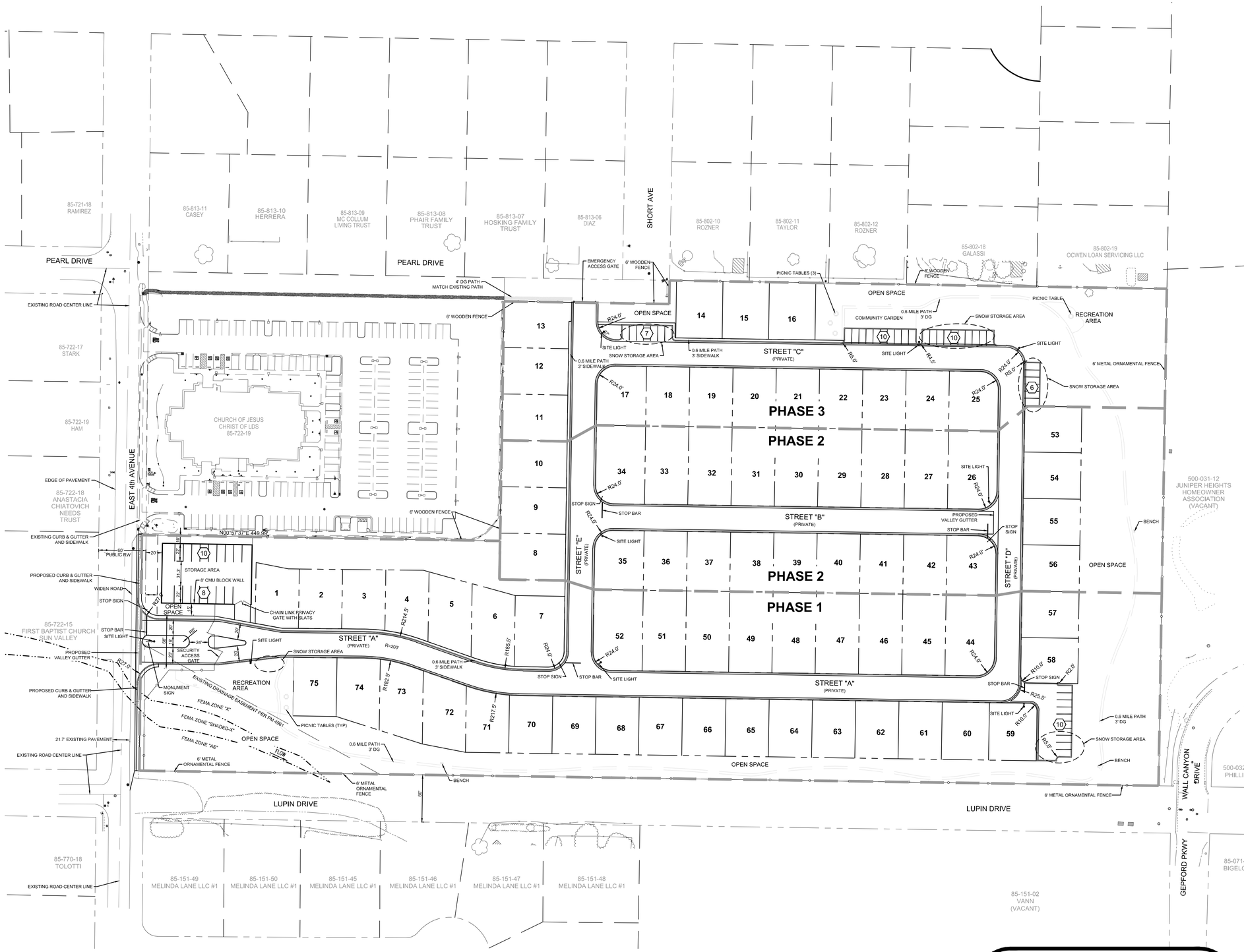
TENATIVE SUBDIVISION PLAT

550 E. 4TH AVENUE
SUN VALLEY, NV 89433

NEVADA
RENO

JOB NO.	17095.02
DESIGNED BY	JL
CHECKED BY	MW
DATE	02–15–2018

SHEET C2.0 OF 10



GRAPHIC SCALE

60 0 30 60 120

1 inch = 60 ft.

SITE INFORMATION

SITE STATISTICS:

TOTAL AREA: 15.33 AC
MAXIMUM TOTAL DWELLING UNITS ALLOWED: 76
TOTAL DWELLINGS: 75
COMMON AREA LOT: 1

AREA STATISTICS:

TOTAL RESIDENTIAL LOT AREA:	351,662± SF	(8.08 AC)
TOTAL COMMON AREA:	195,662± SF	(4.49 AC)
TOTAL STREET AREA:	120,367± SF	(2.76 AC)
TOTAL:		15.33 AC

GROSS DENSITY: 4.9 DWELLINGS PER ACRE

COUNTY REGULATIONS:

MINIMUM LOT SIZE:	4,015 SF
MAXIMUM LOT SIZE:	6,293 SF
AVERAGE LOT SIZE:	4,689 SF

SETBACKS:

FRONT:	10 FT
REAR:	10 FT
SIDEYARD:	5 FT

MISCELLANEOUS STATISTICS:

ASSESSOR PARCEL NUMBER: 085-122-03

STREET ADDRESS: 550 E. 4TH AVENUE
SUN VALLEY, NV 89433

LANDSCAPE STATISTICS:

TOTAL SITE AREA:	15.33 AC
UNDISTURBED AREA:	1.67 AC
TOTAL DEVELOPED AND GRADED AREA:	13.66 AC
REQUIRED LANDSCAPING (20%):	3.07 AC OR 133,555 SF
LANDSCAPE AREA PROVIDED:	4.49 AC OR 195,662 SF

SEE LANDSCAPE PLAN FOR ADDITIONAL STATISTICS

PARKING INFORMATION

(#) # OF PARKING SPACES IN A ROW

43 SURFACE PARKING STALLS PROVIDED

CALL BEFORE YOU DIG USA North UNDERGROUND SERVICE ALERT 800-227-2600

CAUTION – NOTICE TO CONTRACTOR

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TENATIVE MAP
02–15–2018

BY	REVISIONS	MARK	DATE

PROFESSIONAL SEAL:

REGISTERED PROFESSIONAL ENGINEER – STATE OF NEVADA
JONATHON LAU
Exp. 12–31–19
CIVIL
No. 24130
02-15-2018

ENGINEERS ■ LAND SURVEYORS
PLANNERS
1150 CORPORATE BOULEVARD ■ RENO, NEVADA 89502
775-856-1150 MAIN ■ 775-856-1160 FAX ■ CFARENO.COM

VALLE VISTA COMMUNITY
TENATIVE MAP

SITE PLAN

550 E. 4TH AVENUE
SUN VALLEY, NV 89433

NEVADA
RENO

JOB NO.	17095.02
DESIGNED BY	JL
CHECKED BY	MW
DATE	02–15–2018

SHEET C3.0 OF 10

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Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
Volume Surface	1.000	1.000	657945 Sq. Ft.	48495 Cu. Yd.	27376 Cu. Yd.	21119 Cu. Yd.<Cut>
Totals			657945 Sq. Ft.	48495 Cu. Yd.	27376 Cu. Yd.	21119 Cu. Yd.<Cut>

EXTRA CUT MATERIAL SHALL BE DISPOSED OF AT THE LOCKWOOD REGIONAL LANDFILL

GRAPHIC SCALE

60 0 30 60 120

1 inch = 60 ft.

PEARL DRIVE

SHORT AVE

STREET "A"

STREET "B"

STREET "C"

STREET "D"

STREET "E"

EAST 4th AVENUE

LUPIN DRIVE

GEPFORD PKWY

WALL CANYON DRIVE

CHURCH OF JESUS CHRIST OF LDS

DETENTION BASIN

STORAGE AREA

RECREATION AREA

OPEN SPACE

EMERGENCY ACCESS GATE

DG PATH

LIMITS OF GRADING

6' ROCKERY WALL

4' ROCKERY WALL

2' ROCKERY WALL

EXISTING DRAINAGE EASEMENT PER PM 4961

FEMA ZONE "A"

FEMA ZONE "SHADED X"

FEMA ZONE "AE"

B-B3.1

A-A3.1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 14+44

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CAUTION – NOTICE TO CONTRACTOR

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TENATIVE MAP

02–15–2018

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BY | REVISIONS | MARK | DATE

PROFESSIONAL SEAL:

REGISTERED PROFESSIONAL ENGINEER – STATE OF NEVADA
JONATHON LAU
No. 24130
Exp. 12–31–19
CIVIL
02-15-2018

ENGINEERS ■ LAND SURVEYORS
PLANNERS
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cfa

VALLE VISTA COMMUNITY
TENATIVE MAP

GRADING PLAN

550 E. 4TH AVENUE
SUN VALLEY, NV 89433

NEVADA
RENO

JOB NO.	17095.02
DESIGNED BY	JL
CHECKED BY	MW
DATE	02–15–2018

SHEET C4.0 OF 10

GRAPHIC SCALE

60 0 30 60 120

1 inch = 60 ft.

PEARL DRIVE

EXISTING FIRE HYDRANT

EXISTING ELECTRICAL LINE

CONNECT TO EXISTING 6" WATER MAIN

EXISTING FIRE HYDRANT

EMERGENCY ACCESS GATE

SHORT AVE

PROPOSED 8" WATER MAIN

OPEN SPACE

SITE LIGHT

STREET "C"

STREET "B"

STREET "A"

STREET "D"

STREET "E"

CHURCH OF JESUS CHRIST OF LDS

DETENTION BASIN

STORAGE AREA

EAST 4th AVENUE

EXISTING 8" WATER MAIN

EXISTING 8" SANITARY SEWER

CONNECT TO EXISTING 8" SANITARY SEWER

CONNECT TO EXISTING 8" WATER MAIN

RECREATION AREA

EXISTING DRAINAGE EASEMENT PER PM 49/1

FEMA ZONE "X"

FEMA ZONE "SHADED X"

FEMA ZONE "AE"

FLOW

LUPIN DRIVE

WALL CANYON DRIVE

GEPFORD PKWY

5' PUE

10' PUE

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TENATIVE MAP

02–15–2018

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VALLE VISTA COMMUNITY
TENATIVE MAP

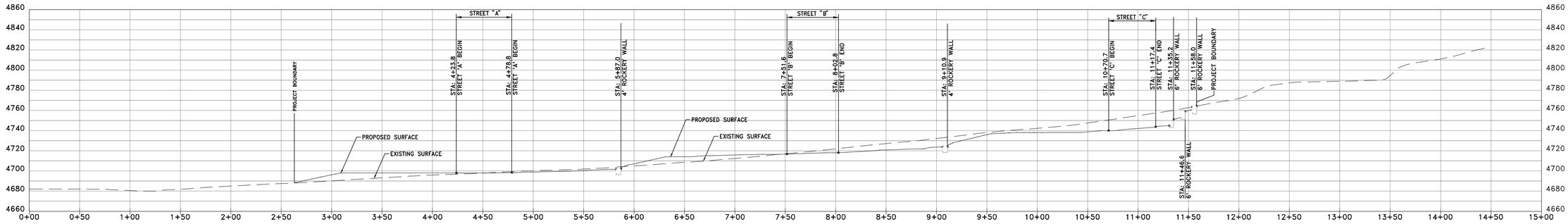
UTILITY PLAN

550 E. 4TH AVENUE
SUN VALLEY, NV 89433

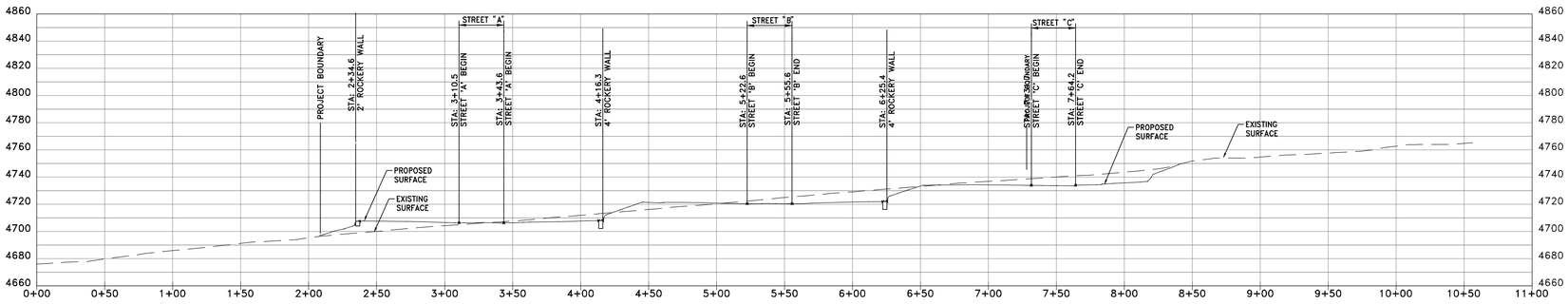
NEVADA
RENO

JOB NO.	17095.02
DESIGNED BY	JL
CHECKED BY	MW
DATE	02–15–2018

SHEET C5.0 OF 10



CROSS SECTION A-A
REF. SHEET C3.0



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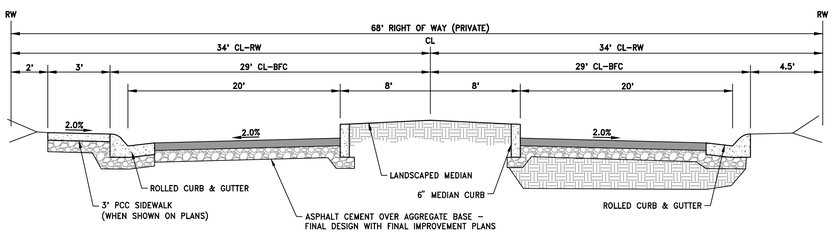
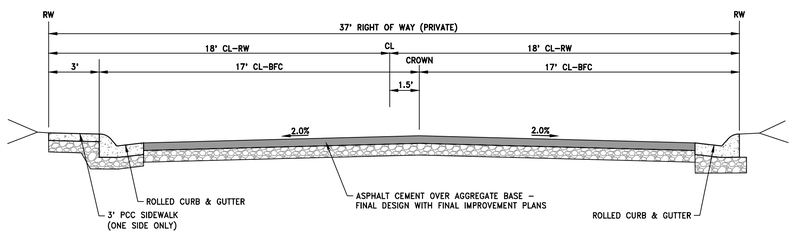
REF. SHEET C3.0



68' RIGHT OF WAY - (PRIVATE STREET)



37' RIGHT OF WAY - (PRIVATE STREET)

STREET CROSS SECTIONS
NOT TO SCALE

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TENATIVE MAP
02-15-2018

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VALLE VISTA COMMUNITY
TENATIVE MAP
CROSS SECTIONS
550 E. 4TH AVENUE
SUN VALLEY, NV 89433
NEVADA
RENO

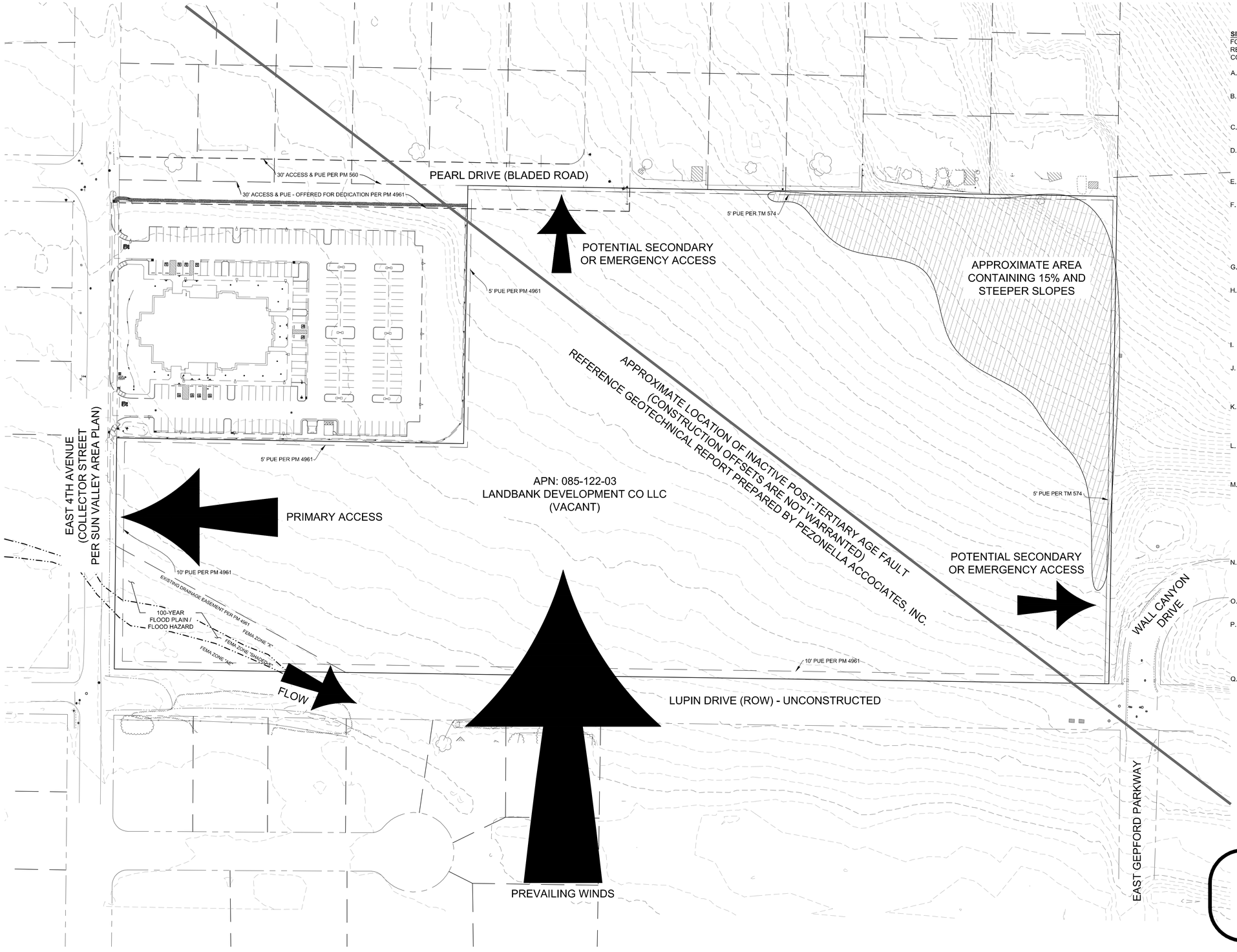
JOB NO.	17095.02
DESIGNED BY	JL
CHECKED BY	MW
DATE	02-15-2018

SHEET C6.0 OF 10

GRAPHIC SCALE

60 0 30 60 120

1 inch = 60 ft.



SITE ANALYSIS NOTES:
FOLLOWING ARE WRITTEN RESPONSES TO THE ITEMS REQUIRED FOR REVIEW UNDER WASHOE COUNTY DEVELOPMENT CODE 110.408.30 IN CONSIDERATION OF A COMMON OPEN SPACE DEVELOPMENT.

A. LOCATION MAP - A LOCATION MAP IS PROVIDED ON THE COVER OF THE TENTATIVE MAP SET THAT IS PROVIDED WITH THIS APPLICATION

B. LAND USE - CURRENT LAND USE IS "VACANT." THE PLANNED LAND USE IS ILLUSTRATED AND DEFINED AND MAPPED IN TENTATIVE FORM ON THE OTHER SHEETS PROVIDED WITH THIS APPLICATION.

C. EXISTING STRUCTURES - THERE ARE NO EXISTING STRUCTURES ON THE SITE.

D. EXISTING VEGETATION - THE VEGETATION THAT EXISTS OF THE SITE CAN BE DESCRIBED AS NATURAL HIGH DESERT VEGETATION. NO TREES EXIST ON THE SUBJECT PROPERTY.

E. PREVAILING WINDS - PREVAILING WINDS FOR THE AREA ARE SHOWN ON THIS SITE ANALYSIS MAP.

F. TOPOGRAPHY - A SLOPE ANALYSIS MAP IS PROVIDED IN THE APPLICATION DOCUMENT. THE SITE SLOPE CALCULATIONS SHOW THAT 1.44+/- ACRES OF THE 15.33+/- ACRE SITE (9.4%) IS CONTAINED IN 15% OR STEEPER SLOPES. THE STEEPEST AREAS OF THE SITE (30% OR GREATER) ARE HELD WITHIN THE SOUTHEASTERN CORNER OF THE SITE, WHICH IS PROPOSED TO REMAIN AS OPEN SPACE WITHIN THIS COMMON OPEN SPACE DEVELOPMENT.

G. SOILS - A GEOTECHNICAL REPORT IS PROVIDED IN THE APPLICATION PACKAGE IDENTIFYING THE SOIL CHARACTERISTICS OF THE SITE.

H. NATURAL DRAINAGEWAYS - A FLOODPLAIN EXISTS IN THE NORTHWESTERN CORNER OF THE SITE AND IT IS HELD WITHIN A DRAINAGE EASEMENT. IT IS UNCLEAR WHETHER THIS FLOODPLAIN CONSTITUTES A "NATURAL" DRAINAGEWAY OR NOT AS THE WATER FLOWS ONTO THE SITE, CROSSING THE NORTHWESTERN CORNER THROUGH A CULVERT RUNNING UNDER E. FOURTH AVENUE.

I. WETLANDS AND WATERBODIES - NO WETLANDS OR WATER BODIES APPEAR ON THE SUBJECT PROPERTY.

J. FLOOD HAZARDS - A 100-YEAR FLOODPLAIN IS LOCATED AT THE NORTHWESTERN CORNER OF THE SITE. A +/-24,000 S.F. DRAINAGE EASEMENT EXISTS FOR PROTECTION AND MAINTENANCE ACCESS TO THIS FLOODPLAIN AREA.

K. SEISMIC HAZARDS - A PRELIMINARY GEOTECHNICAL INVESTIGATION IS PROVIDED IN THE APPLICATION MATERIALS SUBMITTED WITH THIS PROJECT COVERING GEOLOGIC AND SEISMIC CONSIDERATIONS ON THE SUBJECT PROPERTY.

L. AVALANCHE HAZARDS - THE PRELIMINARY GEOTECHNICAL INVESTIGATION, PROVIDED WITH THIS APPLICATION IDENTIFIES THAT THE GEOTECHNICAL ENGINEER DOES NOT BELIEVE ROCK FALLS OR LANDSLIDES WILL IMPACT THE SITE.

M. SENSITIVE HABITAT AND MIGRATION ROUTES - THE WASHOE COUNTY MASTER PLAN CONSERVATION ELEMENT HABITAT AND MIGRATION ROUTE MAPS SHOW THAT COOPERS HAWK HABITAT MAY EXIST IN THE AREA OF THE SITE (AS IT ALSO APPEARS TO EXIST IN ALL OF SUN VALLEY, SPARKS AND THE NORTHWEST PORTION OF RENO). NO MULE DEER, BIGHORN, BLACK BEAR, PRONGHORN ANTELOPE SAGE GROUSE OR WILD HORSE AND BURRO HERD HABITATS ARE SHOWN TO EXIST IN THE AREA OF THE SUBJECT PROPERTY, PER THE WASHOE COUNTY CONSERVATION ELEMENT HABITAT AND MIGRATION ROUTE MAPS.

N. SIGNIFICANT VIEWS - THE SOUTHEASTERN CORNER OF THE SITE PROVIDES THE HIGHEST ELEVATION ON THE PROPERTY. FROM THAT POINT, VIEWS ACROSS SUN VALLEY AND VIEWS OF MT. ROSE CAN BE WITNESSED.

O. EASEMENTS - EXISTING EASEMENTS ARE SHOWN ON THIS SITE ANALYSIS MAP.

P. UTILITIES - UTILITY CONNECTIONS ARE SHOWN ON THE UTILITY PLAN PROVIDED WITH THE TENTATIVE MAP SHEETS. ELECTRIC SERVICE IS THE ONLY SERVICE IDENTIFIED IN THE REQUIREMENTS THAT IS NOT SHOWN ON THE UTILITY PLAN. IT IS EXPECTED TO ENTER THE SITE AT THE PROJECT ENTRANCE OFF E. FOURTH AVENUE AND WILL RUN UNDERGROUND THROUGH THE PROPOSED SUBDIVISION.

Q. APPROPRIATE ACCESS POINTS - THE BEST ACCESS TO THE SITE IS OFF OF E. FOURTH STREET, WHICH IS IDENTIFIED AS A COLLECTOR STATUS STREET AND CONNECTS TO SUN VALLEY BOULEVARD (SR 443) THROUGH A SIGNALIZED INTERSECTION. A SECONDARY OR EMERGENCY ACCESS COULD BE CONNECTED OFF PEARL DRIVE ON THE EASTERN SIDE OF THE SITE. ALTERNATIVELY, E. GEPFORD PARKWAY/WALL CANYON DRIVE COULD POTENTIALLY PROVIDE A SECONDARY OR EMERGENCY ACCESS POINT.

TENATIVE MAP
02–15–2018

BY | REVISIONS | MARK | DATE

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Exp. 12–31–19
CIVIL
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02-15-2018

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VALLE VISTA COMMUNITY
TENTATIVE MAP

SITE ANALYSIS MAP

550 E. 4TH AVENUE
SUN VALLEY, NV 89433

NEVADA
RENO

JOB NO.	17095.02
DESIGNED BY	JL
CHECKED BY	MW
DATE	02–15–2018

SHEET C7.0
OF 1

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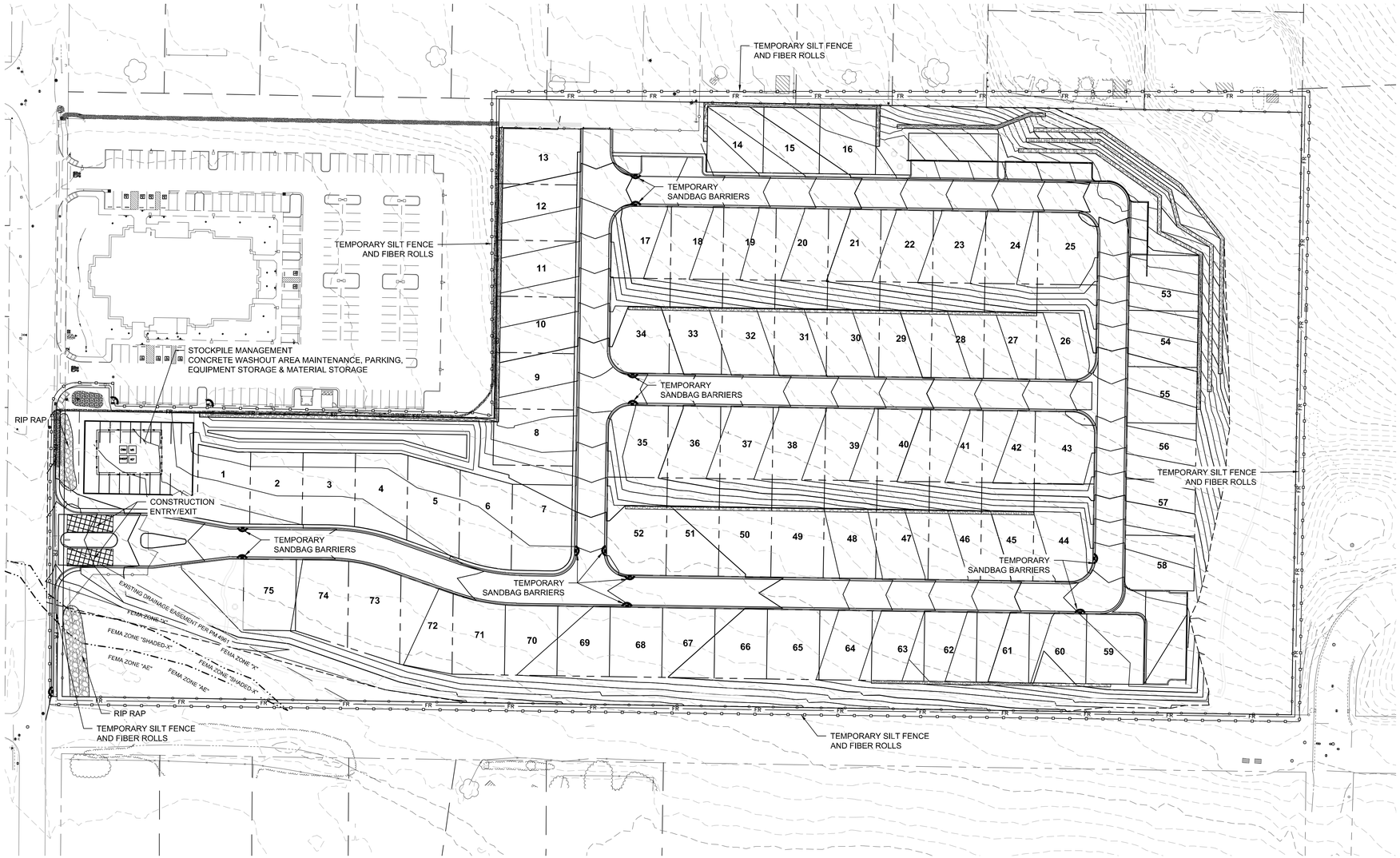
GRAPHIC SCALE

60 0 30 60 120

1 inch = 60 ft.



LEGEND:

BMP NO.	BMP NAME	MAP SYMBOL
SC-8	CONSTRUCTION SITE ENTRANCES AND EXITS	
EC-7	RIP RAP	
DP-3	SAND BAG BARRIERS (STORM DRAIN INLET PROTECTION)	&
GM-2	STOCK PILE MANAGEMENT	SM SM
GM-5	STREET SWEEPING	SWEEP
GM-8	VEHICLE AND EQUIPMENT MAINTENANCE AND FUELING	VEF
GM-9	HANDLING AND DISPOSAL OF CONCRETE AND CEMENT	CWM
GM-10	MATERIAL DELIVERY, HANDLING, STORAGE, AND USE	MS
SC-1	FIBER ROLLS (WATTLES)	FR FR
SC-5	SILT FENCE (MAY BE ATTACHED TO TEMP. CONSTRUCTION FENCE.	

STORMWATER QUALITY NOTES

1. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATE IN, THE PUBLIC RIGHTS OF WAYS OF THE CITY OF RENO OR WASHOE COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIAL SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN WASHOE COUNTY CODE AND THE TRUCKEE MEADOWS CONSTRUCTION SITE BEST MANAGEMENT PRACTICES HANDBOOK.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO STORMWATER GENERAL PERMIT NVR100000, SECTION 1.B.1.b.(2).
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS AND ALL BMPS WEEKLY, PRIOR TO A FORECASTED RAIN EVENT AND WITHIN 24 HOURS AFTER ANY ACTUAL RAIN EVENT. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS FROZEN GROUND CONDITIONS OR SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO STORMWATER GENERAL PERMIT NVR100000, SECTION 1.B.1.g.
5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.
6. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL PERMANENTLY REVEGETATE ALL AREAS DISTURBED WHERE CONSTRUCTION ACTIVITIES HAVE PERMANENTLY CEASED.
7. TEMPORARY BMPs SHALL BE REMOVED UPON COMPLETION OF CONSTRUCTION AND ACCEPTANCE OF MAINTENANCE BY WASHOE COUNTY.

REFERENCE TRUCKEE MEADOWS CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (BMP) HANDBOOK FOR DETAILS ON INSTALLATION, INSPECTION AND MAINTENANCE PROCEDURE.

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TENATIVE MAP

02–15–2018

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VALLE VISTA COMMUNITY
TENATIVE MAP
PROPOSED BMPS
550 E. 4TH AVENUE
SUN VALLEY, NV 89433

NEVADA
RENO

JOB NO.	17095.02
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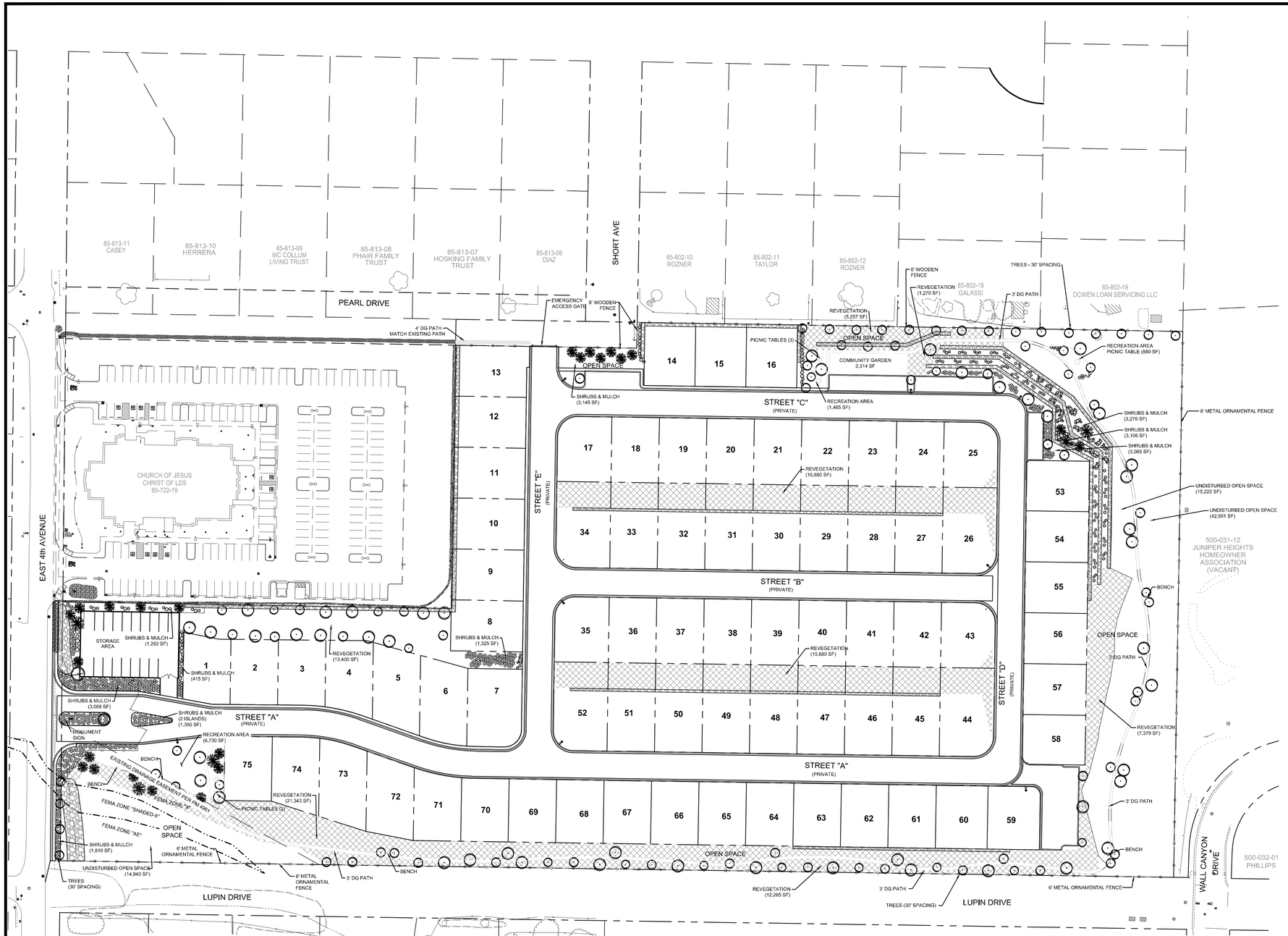

GRAPHIC SCALE

60 0 30 60 120

1 inch = 60 ft.

PLANT LEGEND:

BOTANICAL NAME	COMMON NAME	SIZE	SPACING	NO.
DECIDUOUS TREES:				
MALUS "PRARIFIRE"	PRARIFIRE CRABAPPLE	1.5"	SEE PLAN	
PRUNUS SERRULATTA "KWANSAN"	KWANSAN CHERRY	2.5"	SEE PLAN	132
FRAXINUS OXYCARPA "RAYWOOD"	RAYWOOD ASH	2.5"	SEE PLAN	
EVERGREEN TREES:				
PICEA PUNGENS	COLORADO SPRUCE	4'	SEE PLAN	29
PINUS NIGRA	AUSTRIAN PINE	4'	SEE PLAN	
SHRUBS:				
ACER GINNALA "FLAME"	FLAME AMUR MAPLE			
CORNUS STOLONIFERA "KELSEYI"	DWARF REDTWIG DOGWOOD			
EUONYMUS ALATUS "COMPACTA"	DWARF BURNING BRUSH			
JUNIPERUS CHINENSIS "TORULOSA"	HOLLYWOOD JUNIPER			
PHOTINIA FRASERI	RED TIP PHOTENIA			
PINUS MUGO	MUGO PINE			
SYRINGA VULGARIS	COMMON LILAC			
GROUNDCOVERS, GRASSES AND VINES:				
CALAMAGROSTIS ACUTIFOLIA	FEATHER REED GRASS			
CERASTIUM TOMENTOSUM	SNOW-IN-SUMMER			
EUONYMUS FORTUNEI "COLORATA"	PURPLELEAF WINTERCREEPER			
GENISTA LYDIA	DWARF BROOM			
HELICTOTRICHON SEMPERVIRONS	BLUE OAT GRASS			
JUNIPERUS SABINA "BUFFALO	BUFFALO JUNIPER			
LONICERA JAPONICA "PURPUREA"	PURPLELEAF HONEYSUCKLE			
PARTHENOCISSUS QUINQUEFOLIA	VIRGINIA CREEPER			
COTONEASTER DAMMERI "LOWFAST"	BEARBERRY COTONEASTER			

REVEGETATION SEED MIX:	
SEED TYPE	PLS LBS/ACRE
SAGEBRUSH, WYOMING BIG	0.20
RABBITBRUSH, RUBBER	0.20
SPINY HOSPAGE	0.20
BITTERBRUSH ANTELOPE	0.50
SALTBRUSH, FOURWING	1.00
MORMONO TEA, GREEN	0.25
PENSTEMON, PALMER	0.50
FLAX, BLUE	2.00
LUPINE BLEND AGRENTUS, ALPESTRIS	1.00
WHITE YARROW	0.50
BUCKWHEAT SULFUR	0.20
POPPY CALIFORNIA	1.00
FESCUE, SHEEP COVAR	2.00
WILDRYE, BASIN NATIVE	1.00
INDIAN RICEGRASS NEZPAR	2.00
WHEATGRASS, BLUEBUNCH GOLDAR	3.00
WHEATGRASS, LENDER PRYOR	3.00
WHEATGRASS, SIBERIAN P-27	3.00
BARLEY, CEREAL	5.45
TOTAL:	30.0

AREA STATISTICS:

REVEGETATED AREAS:	91,149 SF
SHRUBS & MULCH:	20,561 SF
RECREATION AREAS:	11,389 SF
NATURAL VEGETATION: (ACCESSIBLE BY TRAILS)	72,563 SF
TOTAL:	195,662 SF (4.49 AC)

LANDSCAPE LEGEND

- GROUND COVER
- SHRUBS
- EVERGREEN TREES
- DECIDUOUS TREES
- REVEGETATION

NOTE:

1. THE NUMBER OF SHRUBS AND GROUND COVER SHOWN ON THE PLANS DO NOT REPRESENT THE ACTUAL NUMBER OF PLANTS BUT REPRESENTS THE GENERAL LIMITS OF THE TYPES OF PLANTS.
2. FINAL DESIGN SHALL DETERMINE THE EXACT NUMBERS AND THE TYPES OF PLANTS.
3. PLANT PALETTES SHALL BE IN ACCORDANCE WITH WASHOE COUNTY REQUIREMENTS.
4. NUMBER OF AND TYPE OF TREES LISTED BELOW ARE APPROXIMATE AND SHALL BE ADJUSTED WITH FINAL PLANS.
5. ALL PLANTING BED AREAS SHALL BE MULCHED.
6. REVEGETATION SHALL BE HYDROSEEDED WITH A SEED MIX LISTED BELOW OR APPROVED EQUAL.

TENATIVE MAP
02-15-2018

BY | MARK | DATE | REVISIONS

PROFESSIONAL SEAL:

REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA
JONATHON LAU
Exp. 12-31-19
CIVIL
No. 24130
02-15-2018

ENGINEERS ▪ LAND SURVEYORS
PLANNERS
1150 CORPORATE BOULEVARD ▪ RENO, NEVADA 89502
775-856-1150 MAIN ▪ 775-856-1160 FAX ▪ CFARENO.COM
cfa

VALLE VISTA COMMUNITY
TENTATIVE MAP

LANDSCAPE PLAN

550 E. 4TH AVENUE
SUN VALLEY, NV 89433
NEVADA
RENO

JOB NO.	17095.02
DESIGNED BY	JL
CHECKED BY	MW
DATE	02-15-2018

SHEET C9.0 OF 10

Sun Valley General Improvement District
5000 Sun Valley Boulevard
Sun Valley, NV 89433-8229
Phone: (775) 673-2220
Fax: (775) 673-1835

February 16, 2018

CFA Inc.
Attn: David Snelgrove, AICP
1150 Corporate Blvd.
Reno, NV 89502

Re: Valle Vista

Dear Mr. Snelgrove,

The Sun Valley General Improvement District is the owner/operator of the water and wastewater facilities in the Sun Valley Hydro Basin. This Hydro Basin includes the acre site of Valle Vista subdivision, 75 lot common open space subdivision that is proposed at the SE corner of E. Fourth Avenue and Lupin Drive.

Water:

At the writing of this letter there is currently enough capacity to serve this proposed subdivision. This capacity is being utilized on a first come, first serve basis.

Wastewater:

At the writing of this letter there is currently enough capacity to serve this proposed subdivision. This capacity is being utilized on a first come, first serve basis.

General Water and Wastewater Facilities fees must be paid to Sun Valley General Improvement District prior to issuant of the Will Serve Letter.

Sincerely,

Jon Combs
Public Works Director

Valle Vista Manufactured Home Subdivision

Water Capacity Study

February, 2018

Sandra Ainsworth, Chairperson
Susan Severt, Vice Chairman
Garth Elliott, Treasurer
Joseph Barstow, Secretary
Carmen Ortiz, Trustee

Darrin Price, General Manager
Jon Combs, Public Works Director

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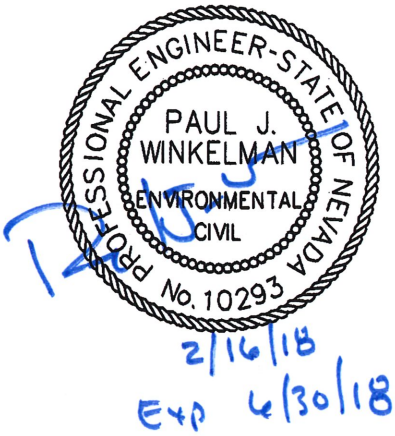
VALLE VISTA
MANUFACTURED HOME SUBDIVISION

WATER CAPACITY STUDY

February, 2018



SHAW
ENGINEERING

20 Vine Street
Reno, Nevada 89503
775.329.5559
775.329.5406 (Fax)

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1.0 Summary

The purpose of this Study was to evaluate the ability of the Sun Valley General Improvement District (SVGID) to supply potable water service to the proposed Valle Vista Manufactured Home Subdivision (hereinafter referred to as the "Development"). The determination of this ability was made in accordance with the minimum design standards established by SVGID and those contained in the Nevada Administrative Code (NAC).

The Development consists of 75 lots containing manufactured homes. The Development layout and location, as provided by CFA, Inc., is approximately shown in Figure 1, Page 2.

This Study demonstrates that the SVGID water system has the capacity to serve the Development with the improvements recommended herein.

2.0 Water System Evaluation

2.1 Givens and General Assumptions

All of the existing water system information was obtained from the *SVGID Water System Master Plan Update*, dated September, 2016, (WMP) that was prepared by Shaw Engineering. As identified in the WMP, the following flows were utilized in this Study;

Average Day Demand, (ADD)	262 Gallons per Day/Customer (GPD/Customer)
Maximum Day Demand	603 GPD/Customer (PF=2.3)
Peak Hour Demand	1,025 GPD/Customer (PF=3.6)
Minimum Month Demand	140 GPD/Customer (PF=0.46)

Within the Development, a Residential Fire Flow requirement of 1,500 GPM for 2 hours was identified by the Development.

SVGID's current existing and planned future customers are summarized below;

Existing	6,000
Active Will Serves	
Ladera Phase 1	105
Planned Future Will Serves	
Middle School	1
Ladera Phase 2	100
Ladera Phase 3	151
Valle Vista	75
Total	6,432

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The only improvement recommended in the WMP that will be in place prior to servicing the Development will be the interconnection of the Sidehill and Chimney Hydraulic Zones (valve opened) which has no effect on the Development.

The SVGID has historically and successfully utilized the following planning and design criteria for their public water system which is consistent with the WMP and either meets or exceeds the minimum standards specified in the NAC;

Source of Supply (via TMWA Wholesale)

Sullivan + Raleigh Heights =Maximum Day Demand
(via SVGID Main Pump Station and Boundary Tank respectively)

Raleigh =Minimum Month Demand
(via Boundary Tank)

Storage

Operational	=17% of Maximum Day Demand (approximately equivalent to the peak hour demand minus what can be supplied into the zone via pumping considering the diurnal flow pattern)
Emergency	=2 Average Day Demands
Fire	=As dictated by Fire Authority

Pumping (with adequate Zone Storage)

With Largest Pump Offline =Maximum Day Demand

Pumping (with none or inadequate Zone Storage)

With Largest Pump Offline =Peak Hour Demand
(on dedicated standby power)

Distribution

Existing and New

20 psi residual pressure @ Tank ½ Full at Maximum Day plus Fire
30 psi residual pressure @ Tank LWL at Peak Hour
40 psi residual pressure @ Tank LWL at Maximum Day

New

100 psi static pressure @ Tank HWL at Zero Demand.

Static pressures exceed 100 psi at various locations in the existing water distribution and transmission systems. All services that this poses a problem for have had individual pressure reducing valves installed on their services.

The Developments surface elevations range from approximately 4685 to 4750 feet. The proposed Development site is therefore located in the Central hydraulic pressure zone (HPZ) which is fed from the upper Chocolate and Boundary HPZ Tanks via pressure reducing stations. The Central HPZ also serves the lower Southern HPZ via pressure reducing stations. The Development can be served by either the Raleigh and/or Sullivan wholesale points.

Based upon all of the above presented information, the total flows utilized in this Study are summarized below in Tables 1 and 2.

Table 1
Total System Wide Demands, GPM

User	Average Day	Maximum Day	Peak Hour	Minimum Month
Existing SVGID	1,092	2,513	4,271	583
Will Serves Ladera Phase 1	19	44	75	10
Planned-Middle School	26	60	94	12
Planned-Ladera Phase 2	18	42	71	10
Planned-Ladera Phase 3	27	63	107	15
Planned-Valle Vista	14	31	53	7
Total	**1,196 (1,722,240 GPD)**	**2,753 (3,964,320 GPD)**	**4,671 (6,726,240 GPD)**	**637 (917,280 GPD)**

Table 2
Total Boundary + Chocolate Hydraulic Pressure Zone Demands, GPM

User	Average Day	Maximum Day	Peak Hour	Minimum Month
Existing SVGID	1,031	2,374	4,035	552
Planned-Valle Vista	14	31	53	7
Total	**1,045 (1,504,800 GPD)**	**2,405 (3,463,200 GPD)**	**4,088 (5,886,720 GPD)**	**559 (804,960 GPD)**

The water system was modeled utilizing Bentley WaterCAD V8i Cybernet V7.0 hydraulic modeling software.

2.2 Source Capacity

SVGID currently has a total source capacity available during all times of the year of up to 4,700 GPM from two TMWA wholesale points, Sullivan Lane (3,600 GPM) and Raleigh Heights (1,100 GPM) per the TMWA/SVGID Contract and Amendment.

With the largest wholesale point (Sullivan) completely off line (an emergency event), SVGID has the ability to provide a total gravity source capacity of 1,100 GPM (Raleigh Heights via Boundary Tank).

The proposed Maximum Day Demand is 2,753 GPM and the proposed Minimum Month Demand is 637 GPM (Table 1).

Since the existing source capacity (4,700 GPM maximum day and 1,100 GPM minimum month) exceeds the proposed Maximum Day Demand (2,753 GPM) and Minimum Month Demand (637 GPM), ***the SVGID system has the source capacity to meet the proposed Development demands.***

2.3 Pump Station Capacity with Zone Storage

The Sullivan Lane wholesale point is pumped into the SVGID Chocolate Zone storage via SVGID's Main Pump Station. The Main Pump Station capacity is 3,155 GPM (largest pump off line on dedicated standby power, WMP, Table 3.1).

The proposed Maximum Day Demand is 2,753 GPM (Table 1).

Since the existing Main Pump Station capacity (3,155 GPM) exceeds the proposed Maximum Day Demand (2,753 GPM) ***the SVGID system has the pump station capacity to meet the proposed Development demands.***

2.4 Storage Capacity

The Development is served by Boundary and Chocolate HPZ Tanks that provides a total storage volume of 7.70 MG (WMP, Table 3.5).

The estimated required storage volume to meet the proposed demands was calculated and is shown below.

Operational (3,463,200 GPD from Table 2)(0.17)	=0.589 MG
Emergency (1,504,800 GPD from Table 2)(2)	=3.010 MG
Fire ((3,000 GPM for 3 Hours) x 2)[1]	=1.080 MG

Total =4.679 MG

Footnote 1. The Boundary and Chocolate Zone Tanks were each designed to provide for a commercial Fire Flow of 3,000 GPM for 3 hours in their respective zones therefore the Tanks have adequate Fire Flow storage to supply the Development Fire Flow Demands of 1,500 GPM for 2 hours.

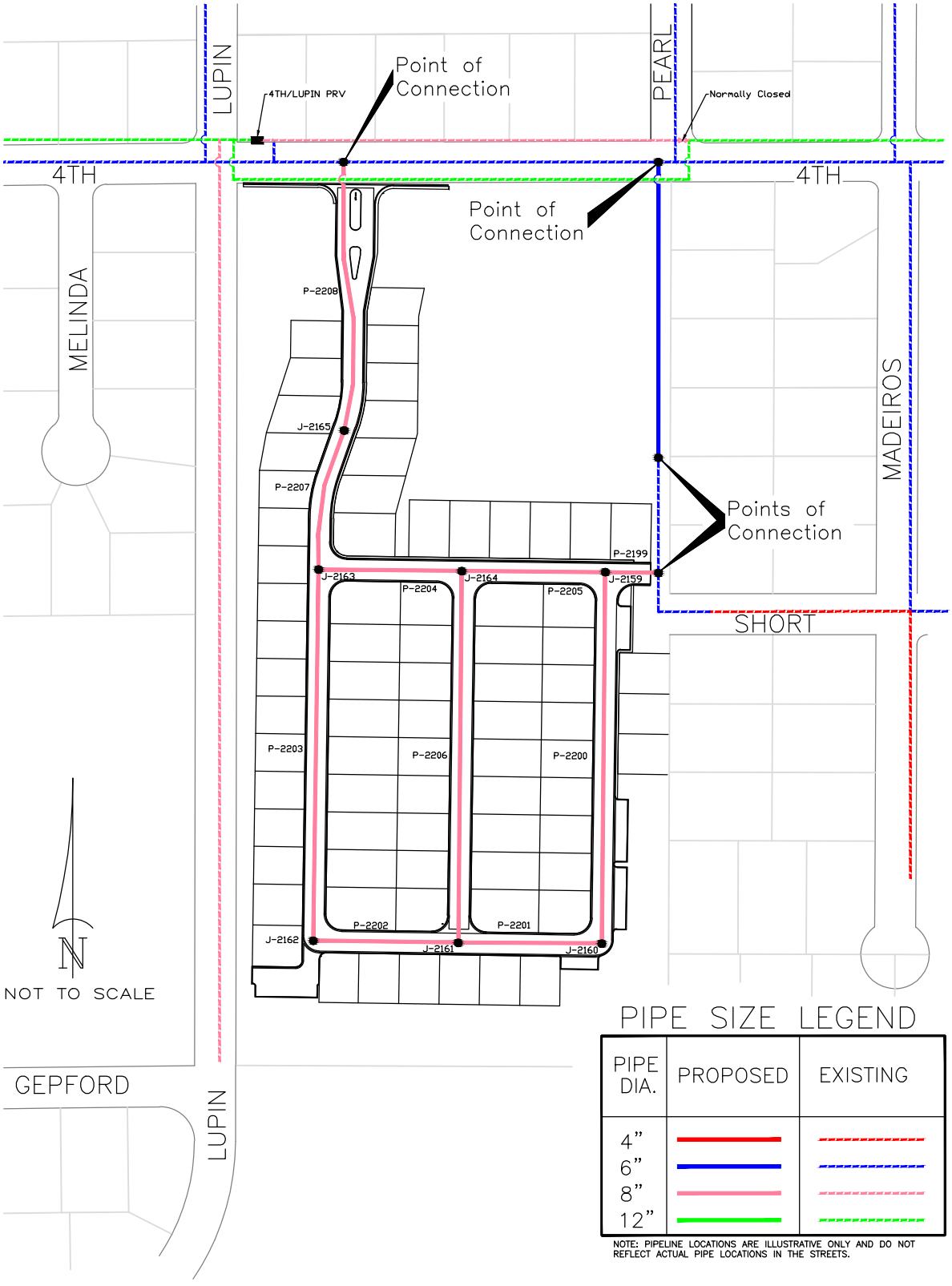
Since the existing storage volume (7.70 MG) exceeds the required storage volume (4.679 MG), ***the SVGID system has the storage volume capacity to meet the proposed Development demands.***

2.5 Distribution System Capacity

The existing water distribution system was modeled to verify that the existing SVGID distribution/transmission system and the proposed Development distribution system could meet the minimum conditions while providing service to the proposed Development.

The Development is required to be fed from two locations for reliability/redundancy reasons. An offsite 6 inch main will have to be installed on Pearl approximately in between 4th and Short. Figure 2 illustrates the Development distribution system, the offsite improvements and the points of connection.

Based upon the hydraulic model, the recommended offsite improvements and the points of connection recommended, ***the SVGID distribution/transmission system and the proposed Development distribution system will have the capacity to meet the Maximum Day Demand plus Fire Flow (at 20 psi minimum residual pressure), the Maximum Day Demand (at 40 psi minimum residual pressure), and the Peak Hour Demand (at 30 psi minimum residual pressure). The Distribution system within the Development slightly exceeds 100 psi static pressure at a maximum static pressure of approximately 102 psi. It is recommended that any service that is at an elevation of 4,700 feet or less consider installing individual pressure reducing valves.***



PIPE SIZE LEGEND

PIPE DIA.	PROPOSED	EXISTING
4"		
6"		
8"		
12"		

NOTE: PIPELINE LOCATIONS ARE ILLUSTRATIVE ONLY AND DO NOT REFLECT ACTUAL PIPE LOCATIONS IN THE STREETS.

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Appendix A
Hydraulic Model Results

Maximum Day + Fire

Maximum Day

Peak Hour

Zero Demand (Static)

Maximum Day + Fire

Scenario Summary Report
Scenario: Existing SVGID System

Scenario Summary

ID	64
Label	Existing SVGID System
Notes	
Active Topology	Base-Active Topology
Physical	Existing System
Demand	6432 Maximum Day Demand
Initial Settings	Existing System Pumps OFF Tanks at 50%
Operational	Base
Age	Base-Age Alternative
Constituent	Base-Constituent
Trace	Base-Trace Alternative
Fire Flow	All Nodes
Energy Cost	Base-Energy Cost
Transient	Base Transient
Pressure Dependent Demand	Base Pressure Dependent Demand
Failure History	Base Failure History
SCADA	Base SCADA
User Data Extensions	Base-User Data
Steady State/EPS Solver Calculation Options	Proposed SVGID System
Transient Solver Calculation Options	Base Calculation Options

Hydraulic Summary

Time Analysis Type	Steady State	Use simple controls during steady state?	True
Friction Method	Hazen-Williams	Is EPS Snapshot?	False
Accuracy	0.001	Start Time	12:00:00 AM
Trials	40	Calculation Type	Fire Flow

Scenario: Existing SVGID System
Current Time Step: 0.000 h
FlexTable: Tank Table

Label	Zone	Elevation (Base) (ft)	Elevation (Minimum) (ft)	Elevation (Initial) (ft)	Elevation (Maximum) (ft)	Diameter (ft)	Volume Full (Calculated) (gal)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
Eastside	Zone-1-2-3	4,963.00	4,963.00	4,978.00	4,992.92	90.00	1,423,863.12	720	4,978.00
Chocolate	Zone-1-2-3	4,964.25	4,964.25	4,978.00	4,992.92	74.00	922,386.13	369	4,978.00
Klondike	Zone-1-2-3	4,968.00	4,968.00	4,978.00	4,992.92	107.00	1,676,243.96	513	4,978.00
Juniper Terr. Tank	Zone-1-2-3	4,952.29	4,952.29	4,974.94	4,974.94	60.00	479,062.68	0	4,974.94
Sidehill	Zone-4 (Sidehill/Chimney)	5,104.00	5,104.00	5,119.34	5,134.41	40.00	285,863.06	69	5,119.34
Chimney 1	Zone-4 (Sidehill/Chimney)	5,104.00	5,104.00	5,119.34	5,135.09	40.00	292,255.26	140	5,119.34
Westside Tank	Zone-3 (Chocolate)	4,961.90	4,961.90	4,978.00	4,992.92	90.00	1,476,211.03	654	4,978.00
Boundary Tank	Zone 6 (Boundary)	5,279.50	5,279.50	5,297.50	5,315.50	80.00	1,353,642.89	150	5,297.50
Chimney 2	Zone-4 (Sidehill/Chimney)	5,104.00	5,104.00	5,119.34	5,135.09	75.00	1,027,459.90	138	5,119.34

2753 ✓

S:\Projects\STU\SVGID\SVGID Valle Vista Development\WaterCad\2018 SVGID School + 356 Ladera + 75 VV Water Model.wtg

Scenario: Existing SVGID System
Current Time Step: 0.000 h
Fire Flow Node FlexTable: Fire Flow Report

Label	Zone	Fire Flow Iterations	Satisfies Fire Flow Constraints?	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Residual Lower Limit) (psi)	Pressure (Calculated Residual) (psi)	Pressure (Zone Lower Limit) (psi)	Pressure (Calculated Zone Lower Limit) (psi)	Junction w/ Minimum Pressure (Zone)	Is Fire Flow Run Balanced?
J-1001	Zone-1 (Southern)	14	True	500	4,336	504	4,340	20	31	20	20	J-1006	True
J-1002	Zone-1 (Southern)	19	True	500	782	505	787	20	21	20	20	J-1006	True
J-1003	Zone-1 (Southern)	19	True	500	782	501	783	20	21	20	20	J-1006	True
J-1004	Zone-1 (Southern)	19	True	500	712	504	715	20	21	20	20	J-1006	True
J-1005	Zone-1 (Southern)	3	True	500	691	500	691	20	20	20	21	J-1006	True
J-1006	Zone-1 (Southern)	3	True	500	575	504	579	20	20	20	21	J-1007	True
J-1007	Zone-1 (Southern)	3	True	500	559	501	560	20	20	20	21	J-1006	True
J-1008	Zone-1 (Southern)	6	True	500	2,304	505	2,309	20	31	20	20	J-1015	True
J-1009	Zone-1 (Southern)	5	True	500	981	508	989	20	24	20	20	J-1014	True
J-1010	Zone-1 (Southern)	17	False	500	470	503	473	20	20	20	40	J-1015	True
J-1011	Zone-1 (Southern)	5	True	500	946	503	949	20	27	20	20	J-1014	True
J-1012	Zone-1 (Southern)	5	True	500	941	506	947	20	26	20	20	J-1014	True
J-1013	Zone-1 (Southern)	5	True	500	939	504	942	20	28	20	20	J-1014	True
J-1014	Zone-1 (Southern)	3	True	500	895	503	898	20	20	20	29	J-1015	True
J-1015	Zone-1 (Southern)	3	True	500	1,042	503	1,045	20	20	20	25	J-1014	True
J-1016	Zone-1 (Southern)	6	True	500	1,731	507	1,738	20	32	20	20	J-1015	True
J-1017	Zone-1 (Southern)	3	True	500	1,849	512	1,862	20	20	20	22	J-1015	True
J-1018	Zone-1 (Southern)	6	True	500	1,687	508	1,695	20	21	20	20	J-1019	True
J-1019	Zone-1 (Southern)	3	True	500	1,425	501	1,426	20	20	20	29	J-1018	True
J-1020	Zone-1 (Southern)	8	True	500	1,736	504	1,740	20	24	20	20	J-1021	True
J-1021	Zone-1 (Southern)	4	True	500	1,187	502	1,189	20	20	20	43	J-1015	True
J-1022	Zone-1 (Southern)	4	True	500	1,235	501	1,235	20	20	20	41	J-1021	True
J-2001	Zone-1 (Southern)	4	True	500	1,809	505	1,814	20	20	20	44	J-1015	True
J-2002	Zone-2 (Central)	4	True	500	1,272	506	1,278	20	20	20	20	J-2003	True
J-2003	Zone-2 (Central)	4	True	500	1,176	503	1,179	20	20	20	28	J-2002	True
J-2004	Zone-2 (Central)	4	True	500	952	503	955	20	20	20	34	J-2005	True
J-2005	Zone-2 (Central)	5	True	500	952	504	956	20	24	20	20	J-2004	True
J-2006	Zone-2 (Central)	3	True	500	891	505	895	20	20	20	27	J-2004	True
J-2007	Zone-2 (Central)	5	True	500	952	533	984	20	24	20	20	J-2004	True
J-2008	Zone-2 (Central)	6	True	500	4,257	504	4,261	20	74	20	20	J-2025	True
J-2009	Zone-2 (Central)	5	True	500	2,901	502	2,903	20	20	20	24	J-2010	True
J-2010	Zone-2 (Central)	3	False	500	452	504	456	20	20	20	35	J-2043	True
J-2011	Zone-2 (Central)	6	True	500	3,661	550	3,711	20	72	20	20	J-2025	True
J-2012	Zone-2 (Central)	4	True	500	2,202	517	2,219	20	20	20	27	J-2043	True
J-2013	Zone-2 (Central)	8	True	500	2,484	519	2,503	20	44	20	20	J-2043	True
J-2014	Zone-2 (Central)	4	True	500	2,463	543	2,505	20	20	20	20	J-2043	True
J-2015	Zone-2 (Central)	4	True	500	1,916	506	1,922	20	20	20	31	J-2043	True
J-2016	Zone-2 (Central)	14	True	500	1,420	519	1,438	20	66	20	20	J-2025	True
J-2017	Zone-2 (Central)	3	True	500	1,188	507	1,195	20	20	20	24	J-2025	True
J-2018	Zone-2 (Central)	6	True	500	1,790	514	1,804	20	30	20	20	J-2025	True
J-2019	Zone-2 (Central)	14	True	500	1,800	511	1,812	20	49	20	20	J-2043	True
J-2020	Zone-2 (Central)	15	True	500	1,646	512	1,659	20	50	20	20	J-2043	True
J-2021	Zone-2 (Central)	7	True	500	933	509	943	20	50	20	20	J-2025	True
J-2022	Zone-2 (Central)	21	True	500	933	503	937	20	20	20	20	J-2025	True
J-2023	Zone-2 (Central)	7	True	500	721	505	726	20	49	20	20	J-2025	True
J-2024	Zone-2 (Central)	7	True	500	603	508	611	20	46	20	20	J-2025	True
J-2025	Zone-2 (Central)	3	False	500	472	505	477	20	20	20	33	J-2043	True
J-2026	Zone-2 (Central)	6	True	500	602	503	606	20	41	20	20	J-2025	True
J-2027	Zone-2 (Central)	7	True	500	1,043	509	1,051	20	48	20	20	J-2025	True
J-2028	Zone-2 (Central)	13	True	500	1,128	514	1,141	20	42	20	20	J-2025	True
J-2029	Zone-2 (Central)	7	True	500	1,075	506	1,081	20	31	20	20	J-2025	True

J-2030	Zone-2 (Central)	6	True	500	1,092	508	1,100	20	24	20	20	J-2025	True
J-2031	Zone-2 (Central)	14	True	500	1,203	510	1,213	20	50	20	20	J-2043	True
J-2032	Zone-2 (Central)	6	True	500	1,857	502	1,859	20	25	20	20	J-2043	True
J-2033	Zone-2 (Central)	7	True	500	1,397	509	1,405	20	39	20	20	J-2043	True
J-2034	Zone-2 (Central)	7	True	500	1,641	507	1,648	20	30	20	20	J-2043	True
J-2035	Zone-2 (Central)	8	True	500	1,725	512	1,737	20	35	20	20	J-2042	True
J-2036	Zone-2 (Central)	8	True	500	2,050	511	2,062	20	30	20	20	J-2043	True
J-2037	Zone-2 (Central)	6	True	500	1,893	505	1,898	20	26	20	20	J-2043	True
J-2038	Zone-2 (Central)	5	True	500	777	506	783	20	37	20	20	J-2042	True
J-2039	Zone-2 (Central)	7	True	500	690	510	700	20	42	20	20	J-2043	True
J-2040	Zone-2 (Central)	5	True	500	579	505	584	20	33	20	20	J-2043	True
J-2041	Zone-2 (Central)	3	True	500	569	504	573	20	20	20	20	J-2043	True
J-2042	Zone-2 (Central)	13	True	500	612	508	620	20	20	20	33	J-2043	True
J-2043	Zone-2 (Central)	3	True	500	509	502	512	20	20	20	32	J-2041	True
J-2044	Zone-2 (Central)	4	True	500	3,521	512	3,533	20	20	20	26	J-2043	True
J-2045	Zone-2 (Central)	4	True	500	1,403	502	1,405	20	20	20	33	J-2043	True
J-2046	Zone-2 (Central)	15	True	500	2,763	504	2,767	20	32	20	20	J-2056	True
J-2047	Zone-2 (Central)	5	True	500	1,681	508	1,689	20	20	20	23	J-2048	True
J-2048	Zone-2 (Central)	4	True	500	1,324	504	1,328	20	20	20	33	J-2043	True
J-2049	Zone-2 (Central)	15	True	500	2,715	505	2,720	20	35	20	20	J-2056	True
J-2050	Zone-2 (Central)	6	True	500	2,025	505	2,030	20	42	20	20	J-2056	True
J-2051	Zone-2 (Central)	6	True	500	1,922	505	1,927	20	42	20	20	J-2056	True
J-2052	Zone-2 (Central)	21	True	500	1,194	505	1,199	20	31	20	20	J-2056	True
J-2053	Zone-2 (Central)	5	True	500	937	505	941	20	28	20	20	J-2056	True
J-2054	Zone-2 (Central)	3	True	500	867	503	870	20	20	20	27	J-2055	True
J-2055	Zone-2 (Central)	3	True	500	803	503	806	20	20	20	27	J-2054	True
J-2056	Zone-2 (Central)	13	True	500	785	503	789	20	20	20	34	J-2043	True
J-2057	Zone-2 (Central)	16	True	500	2,937	508	2,945	20	24	20	20	J-2056	True
J-2058	Zone-2 (Central)	5	True	500	3,393	505	3,398	20	20	20	21	J-2062	True
J-2059	Zone-2 (Central)	5	True	500	3,344	506	3,351	20	20	20	25	J-2060	True
J-2060	Zone-2 (Central)	18	True	500	2,610	507	2,617	20	20	20	24	J-2061	True
J-2061	Zone-2 (Central)	18	True	500	2,460	508	2,468	20	20	20	30	J-2043	True
J-2062	Zone-2 (Central)	5	True	500	3,323	502	3,324	20	20	20	24	J-2058	True
J-2063	Zone-2 (Central)	6	True	500	2,684	507	2,691	20	31	20	20	J-2056	True
J-2064	Zone-2 (Central)	8	True	500	3,357	507	3,364	20	27	20	20	J-2108	True
J-2065	Zone-2 (Central)	12	True	500	3,104	507	3,111	20	20	20	26	J-2068	True
J-2066	Zone-2 (Central)	13	True	500	2,736	507	2,743	20	20	20	25	J-2043	True
J-2067	Zone-2 (Central)	4	True	500	2,737	512	2,749	20	20	20	22	J-2043	True
J-2068	Zone-2 (Central)	4	True	500	2,864	503	2,868	20	20	20	28	J-2043	True
J-2069	Zone-2 (Central)	4	True	500	2,542	506	2,548	20	20	20	21	J-2071	True
J-2070	Zone-2 (Central)	6	True	500	2,398	508	2,406	20	26	20	20	J-2071	True
J-2071	Zone-2 (Central)	4	True	500	1,364	515	1,379	20	20	20	24	J-2072	True
J-2072	Zone-2 (Central)	4	True	500	1,178	510	1,188	20	20	20	27	J-2073	True
J-2073	Zone-2 (Central)	4	True	500	1,204	508	1,211	20	20	20	22	J-2072	True
J-2074	Zone-2 (Central)	20	True	500	2,743	507	2,750	20	21	20	20	J-2072	True
J-2075	Zone-2 (Central)	18	True	500	2,348	517	2,366	20	20	20	32	J-2089	True
J-2076	Zone-2 (Central)	7	True	500	2,553	514	2,566	20	29	20	20	J-2089	True
J-2077	Zone-2 (Central)	18	True	500	2,676	507	2,683	20	20	20	27	J-2089	True
J-2078	Zone-2 (Central)	5	True	500	2,901	505	2,905	20	20	20	22	J-2089	True
J-2079	Zone-2 (Central)	18	True	500	2,547	505	2,552	20	20	20	28	J-2089	True
J-2080	Zone-2 (Central)	7	True	500	3,041	509	3,050	20	21	20	20	J-2089	True
J-2081	Zone-2 (Central)	7	True	500	2,863	507	2,870	20	33	20	20	J-2089	True
J-2082	Zone-2 (Central)	18	True	500	2,379	510	2,389	20	20	20	25	J-2089	True
J-2083	Zone-2 (Central)	18	True	500	2,315	509	2,323	20	20	20	25	J-2089	True
J-2084	Zone-2 (Central)	18	True	500	2,181	506	2,187	20	20	20	26	J-2089	True
J-2085	Zone-2 (Central)	17	True	500	2,135	507	2,142	20	20	20	27	J-2089	True
J-2086	Zone-2 (Central)	21	True	500	2,374	507	2,380	20	33	20	20	J-2089	True
J-2087	Zone-2 (Central)	6	True	500	1,668	509	1,676	20	23	20	20	J-2089	True
J-2088	Zone-2 (Central)	6	True	500	1,656	507	1,663	20	23	20	20	J-2089	True
J-2089	Zone-2 (Central)	4	True	500	1,318	504	1,321	20	20	20	27	J-2090	True
J-2090	Zone-2 (Central)	4	True	500	1,346	512	1,357	20	20	20	23	J-2089	True
J-2091	Zone-2 (Central)	20	True	500	1,969	509	1,979	20	27	20	20	J-2089	True
J-2092	Zone-2 (Central)	19	True	500	1,903	507	1,910	20	23	20	20	J-2089	True
J-2093	Zone-2 (Central)	19	True	500	1,924	502	1,925	20	22	20	20	J-2089	True

	Zone-2 (Central)	5	True	500	3,987	504	3,990	20	20	20	30	J-2043	True
J-2095	Zone-2 (Central)	3	True	500	5,000	506	5,006	20	27	20	22	J-2131	True
J-2096	Zone-2 (Central)	12	True	500	3,025	511	3,036	20	20	20	33	J-2043	True
J-2097	Zone-2 (Central)	5	True	500	3,454	505	3,460	20	20	20	21	J-2089	True
J-2098	Zone-2 (Central)	22	True	500	3,880	502	3,882	20	58	20	20	J-2131	True
J-2099	Zone-2 (Central)	22	True	500	4,115	508	4,123	20	55	20	20	J-2131	True
J-2100	Zone-2 (Central)	4	True	500	4,990	502	4,992	20	67	20	20	J-2131	True
J-2101	Zone-2 (Central)	7	True	500	3,365	516	3,382	20	36	20	20	J-2089	True
J-2102	Zone-2 (Central)	7	True	500	2,790	518	2,808	20	34	20	20	J-2089	True
J-2103	Zone-2 (Central)	20	True	500	2,450	517	2,466	20	30	20	20	J-2089	True
J-2104	Zone-2 (Central)	20	True	500	2,350	507	2,357	20	29	20	20	J-2089	True
J-2105	Zone-2 (Central)	17	True	500	2,087	508	2,096	20	20	20	21	J-2155	True
J-2106	Zone-2 (Central)	18	True	500	2,065	507	2,072	20	20	20	22	J-2089	True
J-2107	Zone-2 (Central)	18	True	500	1,564	513	1,576	20	24	20	20	J-2108	True
J-2108	Zone-2 (Central)	4	True	500	1,145	504	1,148	20	20	20	34	J-2043	True
J-2109	Zone-2 (Central)	4	True	500	1,047	505	1,052	20	20	20	33	J-2043	True
J-2110	Zone-2 (Central)	4	True	500	1,228	506	1,235	20	20	20	23	J-2109	True
J-2111	Zone-2 (Central)	8	True	500	2,105	509	2,114	20	53	20	20	J-2131	True
J-2112	Zone-2 (Central)	12	True	500	1,835	513	1,848	20	26	20	20	J-2131	True
J-2113	Zone-2 (Central)	20	True	500	1,912	507	1,918	20	49	20	20	J-2131	True
J-2114	Zone-2 (Central)	7	True	500	2,304	512	2,316	20	34	20	20	J-2132	True
J-2115	Zone-2 (Central)	7	True	500	2,487	505	2,492	20	38	20	20	J-2147	True
J-2116	Zone-2 (Central)	7	True	500	2,554	504	2,558	20	37	20	20	J-2147	True
J-2117	Zone-2 (Central)	8	True	500	2,094	511	2,104	20	38	20	20	J-2135	True
J-2118	Zone-2 (Central)	7	True	500	2,437	520	2,457	20	23	20	20	J-2135	True
J-2119	Zone-2 (Central)	23	True	500	2,589	511	2,600	20	32	20	20	J-2144	True
J-2120	Zone-2 (Central)	20	True	500	2,288	509	2,297	20	28	20	20	J-2144	True
J-2121	Zone-2 (Central)	17	True	500	1,862	509	1,871	20	20	20	23	J-2144	True
J-2122	Zone-2 (Central)	19	True	500	1,758	506	1,765	20	24	20	20	J-2155	True
J-2123	Zone-2 (Central)	7	True	500	1,688	503	1,692	20	46	20	20	J-2131	True
J-2124	Zone-2 (Central)	8	True	500	1,680	506	1,686	20	27	20	20	J-2131	True
J-2125	Zone-2 (Central)	22	True	500	1,357	506	1,363	20	39	20	20	J-2131	True
J-2126	Zone-2 (Central)	14	True	500	1,561	509	1,569	20	23	20	20	J-2131	True
J-2127	Zone-2 (Central)	29	True	500	1,159	507	1,166	20	27	20	20	J-2128	True
J-2128	Zone-2 (Central)	4	True	500	912	504	916	20	20	20	34	J-2043	True
J-2129	Zone-2 (Central)	15	True	500	1,076	506	1,082	20	37	20	20	J-2131	True
J-2130	Zone-2 (Central)	6	True	500	1,016	506	1,022	20	22	20	20	J-2131	True
J-2131	Zone-2 (Central)	4	True	500	869	513	881	20	20	20	33	J-2130	True
J-2132	Zone-2 (Central)	11	True	500	1,460	506	1,466	20	20	20	29	J-2133	True
J-2133	Zone-2 (Central)	11	True	500	1,530	505	1,535	20	20	20	22	J-2132	True
J-2134	Zone-2 (Central)	6	True	500	1,827	507	1,835	20	33	20	20	J-2147	True
J-2135	Zone-2 (Central)	3	True	500	906	512	917	20	20	20	34	J-2043	True
J-2136	Zone-2 (Central)	19	True	500	1,877	510	1,886	20	22	20	20	J-2140	True
J-2137	Zone-2 (Central)	4	True	500	1,477	509	1,486	20	20	20	34	J-2043	True
J-2138	Zone-2 (Central)	17	True	500	1,935	509	1,944	20	20	20	22	J-2144	True
J-2139	Zone-2 (Central)	17	True	500	2,013	511	2,024	20	20	20	23	J-2144	True
J-2140	Zone-2 (Central)	4	True	500	1,511	507	1,518	20	20	20	34	J-2043	True
J-2141	Zone-2 (Central)	19	True	500	1,828	510	1,839	20	21	20	20	J-2144	True
J-2142	Zone-2 (Central)	21	True	500	1,295	510	1,305	20	26	20	20	J-2144	True
J-2143	Zone-2 (Central)	4	True	500	1,504	519	1,523	20	20	20	20	J-2156	True
J-2144	Zone-2 (Central)	4	True	500	869	504	873	20	20	20	34	J-2043	True
J-2145	Zone-2 (Central)	5	True	500	4,444	500	4,444	20	20	20	21	J-2015	True
J-2146	Zone-2 (Central)	3	True	500	5,000	500	5,000	20	31	20	30	J-2015	True
J-2147	Zone-2 (Central)	10	True	500	1,002	500	1,002	20	20	20	34	J-2043	True
J-2148	Zone-2 (Central)	21	True	500	1,195	500	1,195	20	29	20	20	J-2135	True
J-2149	Zone-2 (Central)	4	True	500	1,315	500	1,315	20	20	20	33	J-2043	True
J-2150	Zone-2 (Central)	5	True	500	579	500	579	20	26	20	20	J-2043	True
J-2151	Zone-2 (Central)	6	True	500	2,148	500	2,148	20	20	20	31	J-2043	True
J-2152	Zone-2 (Central)	11	True	500	3,448	500	3,448	20	20	20	28	J-2003	True
J-2153	Zone-2 (Central)	7	True	500	2,028	500	2,028	20	25	20	20	J-2042	True
J-2154	Zone-2 (Central)	7	True	500	614	500	614	20	22	20	20	J-2155	True
J-2155	Zone-2 (Central)	3	False	500	450	500	450	20	20	20	35	J-2043	True
J-2156	Zone-2 (Central)	3	False	500	457	500	457	20	20	20	35	J-2043	True
J-2157	Zone-2 (Central)	5	True	500	4,863	500	4,863	20	61	20	20	J-2131	True

J-2158VV	Zone-2 (Central)	23	True	500	2,910	500	2,910	20	28	20	20	J-2160 VV	True
J-2159 VV	Zone-2 (Central)	23	True	500	2,889	504	2,893	20	28	20	20	J-2160 VV	True
J-2160 VV	Zone-2 (Central)	13	True	500	2,677	502	2,679	20	20	20	31	J-2161 VV	True
J-2161 VV	Zone-2 (Central)	7	True	500	2,781	506	2,787	20	25	20	20	J-2160 VV	True
J-2162 VV	Zone-2 (Central)	6	True	500	2,827	506	2,833	20	25	20	20	J-2160 VV	True
J-2163 VV	Zone-2 (Central)	8	True	500	2,922	505	2,927	20	36	20	20	J-2160 VV	True
J-2164 VV	Zone-2 (Central)	8	True	500	2,890	505	2,895	20	32	20	20	J-2160 VV	True
J-2165 VV	Zone-2 (Central)	7	True	500	3,610	504	3,614	20	23	20	20	J-2160 VV	True
J-3001	Zone Exempt	1	False	500	0	500	0	20	142	20	8	J-4050C	True
J-3002	Zone Exempt	1	False	500	0	500	0	20	142	20	8	J-4050C	True
J-3003	Zone Exempt	1	False	500	0	500	0	20	143	20	8	J-4050C	True
J-3004	Zone Exempt	1	False	500	0	500	0	20	136	20	8	J-4050C	True
J-3005	Zone Exempt	1	False	500	0	502	2	20	136	20	8	J-4050C	True
J-3006	Zone Exempt	1	False	500	0	505	5	20	136	20	8	J-4050C	True
J-3007	Zone-3 (Chocolate)	2	True	500	5,000	509	5,009	20	89	20	34	J-3065	True
J-3008	Zone-3 (Chocolate)	2	True	500	5,000	503	5,003	20	49	20	37	J-3065	True
J-3010	Zone-3 (Chocolate)	4	True	500	4,496	505	4,501	20	20	20	37	J-3065	True
J-3011	Zone-3 (Chocolate)	4	True	500	3,384	506	3,391	20	20	20	37	J-3010	True
J-3012	Zone-3 (Chocolate)	4	True	500	2,929	509	2,938	20	20	20	29	J-3014	True
J-3013	Zone-3 (Chocolate)	4	True	500	2,995	505	3,000	20	20	20	20	J-3014	True
J-3014	Zone-3 (Chocolate)	4	True	500	2,675	502	2,677	20	20	20	20	J-3015	True
J-3015	Zone-3 (Chocolate)	4	True	500	2,679	505	2,684	20	20	20	20	J-3014	True
J-3016	Zone-3 (Chocolate)	4	True	500	2,808	504	2,812	20	20	20	22	J-3017	True
J-3017	Zone-3 (Chocolate)	4	True	500	2,779	504	2,783	20	20	20	26	J-3016	True
J-3018	Zone-3 (Chocolate)	6	True	500	3,128	507	3,135	20	25	20	20	J-3017	True
J-3019	Zone-3 (Chocolate)	2	True	500	5,000	527	5,027	20	42	20	32	J-3165	True
J-3020	Zone-3 (Chocolate)	4	True	500	3,931	506	3,937	20	20	20	35	J-3165	True
J-3021	Zone-3 (Chocolate)	4	True	500	3,218	503	3,221	20	20	20	22	J-3201	True
J-3022	Zone-3 (Chocolate)	6	True	500	2,149	509	2,158	20	27	20	20	J-3201	True
J-3023	Zone-3 (Chocolate)	6	True	500	1,711	507	1,718	20	31	20	20	J-3201	True
J-3024	Zone-3 (Chocolate)	6	True	500	1,565	501	1,566	20	25	20	20	J-3201	True
J-3025	Zone-3 (Chocolate)	6	True	500	1,565	503	1,569	20	24	20	20	J-3201	True
J-3026	Zone Exempt	1	False	500	0	500	0	20	37	20	8	J-4050C	True
J-3027	Zone-3 (Chocolate)	6	True	500	1,636	510	1,646	20	31	20	20	J-3201	True
J-3028	Zone-3 (Chocolate)	6	True	500	1,615	500	1,616	20	36	20	20	J-3201	True
J-3029	Zone-3 (Chocolate)	6	True	500	1,393	506	1,399	20	30	20	20	J-3201	True
J-3030	Zone-3 (Chocolate)	6	True	500	1,291	505	1,296	20	38	20	20	J-3201	True
J-3031	Zone-3 (Chocolate)	6	True	500	1,578	503	1,582	20	44	20	20	J-3201	True
J-3032	Zone-3 (Chocolate)	6	True	500	1,490	508	1,498	20	41	20	20	J-3165	True
J-3033	Zone-3 (Chocolate)	5	True	500	766	508	774	20	29	20	20	J-3165	True
J-3034	Zone-3 (Chocolate)	3	True	500	618	506	624	20	20	20	20	J-3165	True
J-3035	Zone Exempt	1	False	500	0	500	0	20	142	20	8	J-4050C	True
J-3036	Zone Exempt	1	False	500	0	500	0	20	143	20	8	J-4050C	True
J-3037	Zone Exempt	1	False	500	0	503	3	20	136	20	8	J-4050C	True
J-3038	Zone Exempt	1	False	500	0	508	8	20	123	20	8	J-4050C	True
J-3039	Zone Exempt	1	False	500	0	507	7	20	87	20	8	J-4050C	True
J-3040	Zone Exempt	1	False	500	0	500	0	20	92	20	8	J-4050C	True
J-3041	Zone-3 (Chocolate)	2	True	500	5,000	510	5,010	20	74	20	28	J-3065	True
J-3042	Zone-3 (Chocolate)	3	True	500	5,000	506	5,006	20	48	20	21	J-3065	True
J-3043	Zone-3 (Chocolate)	5	True	500	4,287	505	4,292	20	47	20	20	J-3165	True
J-3044	Zone-3 (Chocolate)	4	True	500	2,513	510	2,523	20	20	20	32	J-3065	True
J-3045	Zone-3 (Chocolate)	4	True	500	4,972	506	4,978	20	54	20	20	J-3065	True
J-3046	Zone-3 (Chocolate)	5	True	500	4,580	506	4,586	20	38	20	20	J-3065	True
J-3047	Zone-3 (Chocolate)	4	True	500	2,455	503	2,459	20	20	20	30	J-3065	True
J-3048	Zone-3 (Chocolate)	7	True	500	4,455	501	4,456	20	33	20	20	J-3065	True
J-3049	Zone-3 (Chocolate)	5	True	500	4,363	509	4,372	20	27	20	20	J-3050	True
J-3050	Zone-3 (Chocolate)	5	True	500	4,178	503	4,181	20	20	20	22	J-3065	True
J-3051	Zone Exempt	1	False	500	0	502	2	20	29	20	8	J-4050C	True
J-3052	Zone Exempt	1	False	500	0	500	0	20	22	20	8	J-4050C	True
J-3053	Zone Exempt	1	False	500	0	500	0	20	22	20	8	J-4050C	True
J-3054	Zone Exempt	1	False	500	0	500	0	20	24	20	8	J-4050C	True
J-3055	Zone Exempt	1	False	500	0	500	0	20	11	20	8	J-4050C	True
J-3056	Zone Exempt	1	False	500	0	500	0	20	14	20	8	J-4050C	True
J-3057	Zone-3 (Chocolate)	4	True	500	2,379	510	2,390	20	20	20	29	J-3065	True

	Zone-3 (Chocolate)	6	True	500	3,052	505	3,057	20	29	20	20	J-3065	True
J-3059	Zone-3 (Chocolate)	6	True	500	2,272	505	2,277	20	24	20	20	J-3065	True
J-3060	Zone-3 (Chocolate)	6	True	500	1,765	503	1,768	20	27	20	20	J-3065	True
J-3061	Zone-3 (Chocolate)	6	True	500	1,554	501	1,556	20	28	20	20	J-3065	True
J-3062	Zone-3 (Chocolate)	4	True	500	1,481	505	1,487	20	20	20	20	J-3065	True
J-3063	Zone-3 (Chocolate)	4	True	500	1,738	507	1,745	20	20	20	28	J-3065	True
J-3064	Zone-3 (Chocolate)	6	True	500	1,104	504	1,108	20	26	20	20	J-3065	True
J-3065	Zone-3 (Chocolate)	3	True	500	877	502	879	20	20	20	32	J-3064	True
J-3066	Zone-3 (Chocolate)	6	True	500	1,379	503	1,383	20	29	20	20	J-3065	True
J-3067	Zone-3 (Chocolate)	6	True	500	1,632	505	1,638	20	30	20	20	J-3065	True
J-3068	Zone-3 (Chocolate)	6	True	500	1,761	504	1,765	20	32	20	20	J-3065	True
J-3069	Zone-3 (Chocolate)	6	True	500	2,281	505	2,286	20	28	20	20	J-3065	True
J-3070	Zone-3 (Chocolate)	7	True	500	2,693	502	2,695	20	39	20	20	J-3065	True
J-3071	Zone-3 (Chocolate)	6	True	500	3,377	500	3,377	20	32	20	20	J-3065	True
J-3072	Zone-3 (Chocolate)	6	True	500	3,426	502	3,428	20	29	20	20	J-3065	True
J-3073	Zone-3 (Chocolate)	4	True	500	1,843	507	1,850	20	20	20	20	J-3074	True
J-3074	Zone-3 (Chocolate)	4	True	500	1,823	505	1,828	20	20	20	21	J-3073	True
J-3075	Zone-3 (Chocolate)	3	True	500	1,454	513	1,467	20	20	20	26	J-3076	True
J-3076	Zone-3 (Chocolate)	3	True	500	1,305	505	1,310	20	20	20	23	J-3077	True
J-3077	Zone-3 (Chocolate)	3	True	500	1,247	501	1,248	20	20	20	26	J-3076	True
J-3078	Zone Exempt	1	False	500	0	500	0	20	39	20	8	J-4050C	True
J-3079	Zone-3 (Chocolate)	4	True	500	5,000	503	5,003	20	20	20	23	J-3065	True
J-3080	Zone-3 (Chocolate)	3	True	500	5,000	501	5,001	20	23	20	21	J-3079	True
J-3081	Zone-3 (Chocolate)	3	True	500	5,000	511	5,011	20	24	20	22	J-3079	True
J-3082	Zone-3 (Chocolate)	3	True	500	5,000	512	5,012	20	26	20	22	J-3065	True
J-3083	Zone-3 (Chocolate)	3	True	500	5,000	511	5,011	20	29	20	21	J-3065	True
J-3084	Zone-3 (Chocolate)	3	True	500	5,000	510	5,010	20	31	20	21	J-3065	True
J-3085	Zone-3 (Chocolate)	3	True	500	5,000	511	5,011	20	35	20	20	J-3065	True
J-3086	Zone-3 (Chocolate)	5	True	500	4,996	511	5,007	20	39	20	20	J-3065	True
J-3087	Zone-3 (Chocolate)	5	True	500	4,930	504	4,934	20	45	20	20	J-3065	True
J-3088	Zone-3 (Chocolate)	5	True	500	4,926	507	4,932	20	45	20	20	J-3065	True
J-3089	Zone-3 (Chocolate)	5	True	500	4,882	500	4,882	20	49	20	20	J-3065	True
J-3090	Zone-3 (Chocolate)	5	True	500	4,880	502	4,882	20	48	20	20	J-3065	True
J-3091	Zone-3 (Chocolate)	3	True	500	5,000	501	5,001	20	50	20	25	J-3065	True
J-3092	Zone-3 (Chocolate)	2	True	500	5,000	500	5,000	20	54	20	25	J-3065	True
J-3093	Zone-3 (Chocolate)	2	True	500	5,000	503	5,003	20	54	20	25	J-3065	True
J-3094	Zone-3 (Chocolate)	2	True	500	5,000	505	5,005	20	54	20	26	J-3065	True
J-3095	Zone-3 (Chocolate)	3	True	500	5,000	506	5,006	20	44	20	26	J-3065	True
J-3096	Zone-3 (Chocolate)	3	True	500	5,000	508	5,008	20	38	20	26	J-3065	True
J-3097	Zone-3 (Chocolate)	3	True	500	5,000	509	5,009	20	38	20	26	J-3065	True
J-3098	Zone-3 (Chocolate)	3	True	500	5,000	500	5,000	20	39	20	25	J-3065	True
J-3099	Zone-3 (Chocolate)	3	True	500	5,000	510	5,010	20	28	20	25	J-3065	True
J-3100	Zone-3 (Chocolate)	3	True	500	5,000	507	5,007	20	24	20	24	J-3101	True
J-3101	Zone-3 (Chocolate)	4	True	500	5,000	509	5,009	20	21	20	23	J-3102	True
J-3102	Zone-3 (Chocolate)	4	True	500	5,000	506	5,006	20	20	20	23	J-3079	True
J-3103	Zone-3 (Chocolate)	2	True	500	5,000	503	5,003	20	54	20	26	J-3065	True
J-3104	Zone-3 (Chocolate)	2	True	500	5,000	507	5,007	20	53	20	26	J-3065	True
J-3105	Zone-3 (Chocolate)	3	True	500	5,000	503	5,003	20	53	20	26	J-3065	True
J-3106	Zone-3 (Chocolate)	3	True	500	5,000	510	5,010	20	49	20	26	J-3065	True
J-3107	Zone-3 (Chocolate)	3	True	500	5,000	505	5,005	20	46	20	26	J-3065	True
J-3108	Zone-3 (Chocolate)	3	True	500	5,000	505	5,005	20	45	20	26	J-3065	True
J-3109	Zone-3 (Chocolate)	3	True	500	5,000	504	5,004	20	50	20	26	J-3065	True
J-3110	Zone-3 (Chocolate)	3	True	500	5,000	501	5,001	20	51	20	26	J-3065	True
J-3111	Zone-3 (Chocolate)	3	True	500	5,000	505	5,005	20	49	20	26	J-3065	True
J-3112	Zone-3 (Chocolate)	3	True	500	5,000	505	5,005	20	44	20	26	J-3065	True
J-3113	Zone-3 (Chocolate)	3	True	500	5,000	502	5,002	20	45	20	25	J-3065	True
J-3114	Zone-3 (Chocolate)	4	True	500	2,130	510	2,140	20	20	20	26	J-3115	True
J-3115	Zone-3 (Chocolate)	3	True	500	1,342	503	1,345	20	20	20	36	J-3065	True
J-3116	Zone Exempt	1	False	500	0	500	0	20	129	20	8	J-4050C	True
J-3117	Zone Exempt	1	False	500	0	502	2	20	126	20	8	J-4050C	True
J-3118	Zone Exempt	1	False	500	0	502	2	20	126	20	8	J-4050C	True
J-3119	Zone Exempt	1	False	500	0	502	2	20	126	20	8	J-4050C	True
J-3120	Zone Exempt	1	False	500	0	500	0	20	118	20	8	J-4050C	True
J-3121	Zone-3 (Chocolate)	3	True	500	5,000	501	5,001	20	57	20	30	J-3186	True

	Zone-3 (Chocolate)	2	True	500	5,000	500	5,000	20	69	20	21	J-3186	True
J-3123	Zone-3 (Chocolate)	3	True	500	5,000	509	5,009	20	54	20	21	J-3186	True
J-3124	Zone-3 (Chocolate)	3	True	500	5,000	511	5,011	20	54	20	22	J-3186	True
J-3125	Zone-3 (Chocolate)	3	True	500	5,000	508	5,008	20	52	20	23	J-3186	True
J-3126	Zone-3 (Chocolate)	3	True	500	5,000	510	5,010	20	50	20	23	J-3186	True
J-3127	Zone-3 (Chocolate)	3	True	500	5,000	505	5,005	20	48	20	24	J-3186	True
J-3128	Zone-3 (Chocolate)	3	True	500	5,000	506	5,006	20	46	20	25	J-3186	True
J-3129	Zone-3 (Chocolate)	3	True	500	5,000	505	5,005	20	43	20	26	J-3186	True
J-3130	Zone-3 (Chocolate)	3	True	500	5,000	505	5,005	20	49	20	27	J-3186	True
J-3131	Zone-3 (Chocolate)	3	True	500	5,000	515	5,015	20	48	20	27	J-3186	True
J-3132	Zone-3 (Chocolate)	3	True	500	5,000	512	5,012	20	50	20	28	J-3186	True
J-3133	Zone-3 (Chocolate)	3	True	500	5,000	511	5,011	20	47	20	28	J-3186	True
J-3134	Zone-3 (Chocolate)	3	True	500	5,000	509	5,009	20	46	20	29	J-3186	True
J-3135	Zone-3 (Chocolate)	3	True	500	5,000	517	5,017	20	47	20	30	J-3186	True
J-3136	Zone-3 (Chocolate)	3	True	500	5,000	503	5,003	20	48	20	30	J-3186	True
J-3137	Zone-3 (Chocolate)	3	True	500	5,000	516	5,016	20	50	20	30	J-3065	True
J-3138	Zone-3 (Chocolate)	3	True	500	5,000	512	5,012	20	52	20	30	J-3065	True
J-3139	Zone-3 (Chocolate)	3	True	500	5,000	511	5,011	20	51	20	29	J-3065	True
J-3140	Zone-3 (Chocolate)	3	True	500	5,000	512	5,012	20	49	20	29	J-3065	True
J-3141	Zone-3 (Chocolate)	3	True	500	5,000	504	5,004	20	46	20	29	J-3065	True
J-3142	Zone-3 (Chocolate)	3	True	500	5,000	500	5,000	20	55	20	28	J-3065	True
J-3143	Zone-3 (Chocolate)	3	True	500	5,000	501	5,001	20	53	20	28	J-3065	True
J-3144	Zone-3 (Chocolate)	4	True	500	2,496	502	2,498	20	20	20	34	J-3065	True
J-3145	Zone-3 (Chocolate)	3	True	500	5,000	502	5,002	20	35	20	27	J-3065	True
J-3146	Zone-3 (Chocolate)	3	True	500	5,000	504	5,004	20	30	20	26	J-3065	True
J-3147	Zone-3 (Chocolate)	3	True	500	5,000	500	5,000	20	23	20	26	J-3065	True
J-3148	Zone-3 (Chocolate)	3	True	500	5,000	503	5,003	20	54	20	27	J-3065	True
J-3149	Zone-3 (Chocolate)	3	True	500	5,000	520	5,020	20	34	20	30	J-3065	True
J-3150	Zone-3 (Chocolate)	6	True	500	4,759	509	4,768	20	21	20	20	J-3151	True
J-3151	Zone-3 (Chocolate)	4	True	500	4,260	510	4,271	20	20	20	22	J-3153	True
J-3152	Zone-3 (Chocolate)	4	True	500	3,803	512	3,816	20	20	20	20	J-3153	True
J-3153	Zone-3 (Chocolate)	4	True	500	3,150	509	3,159	20	20	20	34	J-3065	True
J-3154	Zone-3 (Chocolate)	3	True	500	5,000	503	5,003	20	55	20	31	J-3186	True
J-3155	Zone-3 (Chocolate)	6	True	500	3,405	504	3,409	20	39	20	20	J-3186	True
J-3156	Zone-3 (Chocolate)	4	True	500	2,430	501	2,431	20	20	20	20	J-3157	True
J-3157	Zone-3 (Chocolate)	4	True	500	1,876	500	1,876	20	20	20	36	J-3186	True
J-3158	Zone Exempt	1	False	500	0	505	5	20	42	20	8	J-4050C	True
J-3159	Zone-3 (Chocolate)	3	True	500	5,000	506	5,006	20	28	20	25	J-3160	True
J-3160	Zone-3 (Chocolate)	4	True	500	2,709	512	2,721	20	20	20	33	J-3065	True
J-3161	Zone-3 (Chocolate)	3	True	500	5,000	501	5,001	20	40	20	27	J-3065	True
J-3162	Zone-3 (Chocolate)	3	True	500	5,000	510	5,010	20	45	20	27	J-3065	True
J-3163	Zone-3 (Chocolate)	3	True	500	5,000	502	5,002	20	42	20	28	J-3065	True
J-3164	Zone-3 (Chocolate)	6	True	500	2,611	506	2,617	20	32	20	20	J-3065	True
J-3165	Zone-3 (Chocolate)	3	True	500	580	504	585	20	20	20	22	J-3034	True
J-3167	Zone-3 (Chocolate)	4	True	500	2,356	502	2,358	20	20	20	25	J-3170	True
J-3168	Zone-3 (Chocolate)	3	True	500	5,000	504	5,004	20	34	20	31	J-3065	True
J-3169	Zone-3 (Chocolate)	6	True	500	2,646	507	2,653	20	32	20	20	J-3170	True
J-3170	Zone-3 (Chocolate)	4	True	500	1,565	503	1,568	20	20	20	37	J-3065	True
J-3171	Zone Exempt	1	False	500	0	500	0	20	12	20	8	J-4050C	True
J-3172	Zone Exempt	1	False	500	0	500	0	20	142	20	8	J-4050C	True
J-3173	Zone Exempt	1	False	500	0	500	0	20	40	20	8	J-4050C	True
J-3174	Zone Exempt	1	False	500	0	500	0	20	142	20	8	J-4050C	True
J-3175	Zone Exempt	1	False	500	0	500	0	20	142	20	8	J-4050C	True
J-3176	Zone Exempt	1	False	500	0	500	0	20	40	20	8	J-4050C	True
J-3177	Zone-3 (Chocolate)	2	True	500	5,000	500	5,000	20	65	20	35	J-3065	True
J-3178	Zone-3 (Chocolate)	3	True	500	5,000	500	5,000	20	43	20	35	J-3065	True
J-3180	Zone-3 (Chocolate)	2	True	500	5,000	500	5,000	20	55	20	34	J-3065	True
J-3181	Zone Exempt	1	False	500	0	500	0	20	98	20	8	J-4050C	True
J-3182	Zone Exempt	1	False	500	0	500	0	20	69	20	8	J-4050C	True
J-3183	Zone-3 (Chocolate)	5	True	500	4,902	503	4,906	20	65	20	20	J-3186	True
J-3184	Zone-3 (Chocolate)	8	True	500	3,295	505	3,300	20	42	20	20	J-3186	True
J-3185	Zone-3 (Chocolate)	6	True	500	2,774	506	2,779	20	30	20	20	J-3186	True
J-3186	Zone-3 (Chocolate)	4	True	500	2,395	507	2,403	20	20	20	36	J-3191	True
J-3191	Zone-3 (Chocolate)	6	True	500	2,763	506	2,768	20	24	20	20	J-3186	True

	Zone-3 (Chocolate)	6	True	500	2,914	504	2,918	20	34	20	20	J-3186	True
J-3193	Zone-3 (Chocolate)	7	True	500	3,112	503	3,115	20	43	20	20	J-3186	True
J-3194	Zone-3 (Chocolate)	7	True	500	3,087	503	3,090	20	43	20	20	J-3186	True
J-3195	Zone-3 (Chocolate)	4	True	500	2,529	503	2,532	20	20	20	28	J-3186	True
J-3198	Zone Exempt	1	False	500	0	500	0	20	34	20	8	J-4050C	True
J-3199	Zone Exempt	1	False	500	0	500	0	20	34	20	8	J-4050C	True
J-3200	Zone-3 (Chocolate)	3	True	500	557	500	557	20	20	20	24	J-3165	True
J-3201	Zone-3 (Chocolate)	3	True	500	893	500	893	20	20	20	36	J-3165	True
J-4001S	Zone-4 (Sidehill/Chimney)	6	True	500	2,001	502	2,002	20	29	20	20	J-4085S	True
J-4002S	Zone-4 (Sidehill/Chimney)	6	True	500	1,942	505	1,947	20	24	20	20	J-4085S	True
J-4003S	Zone-4 (Sidehill/Chimney)	3	True	500	1,643	503	1,646	20	20	20	21	J-Tangberg	True
J-4004S	Zone-4 (Sidehill/Chimney)	5	True	500	1,493	505	1,498	20	27	20	20	J-Tangberg	True
J-4005S	Zone-4 (Sidehill/Chimney)	5	True	500	1,413	502	1,414	20	33	20	20	J-Tangberg	True
J-4006S	Zone-4 (Sidehill/Chimney)	5	True	500	1,271	501	1,271	20	33	20	20	J-Tangberg	True
J-4007S	Zone-4 (Sidehill/Chimney)	6	True	500	1,598	502	1,600	20	29	20	20	J-4008S	True
J-4008S	Zone-4 (Sidehill/Chimney)	4	True	500	1,497	503	1,501	20	20	20	22	J-4085S	True
J-4009S	Zone-4 (Sidehill/Chimney)	3	True	500	1,219	502	1,221	20	20	20	34	J-4085S	True
J-4010S	Zone-4 (Sidehill/Chimney)	6	True	500	1,943	503	1,947	20	52	20	20	J-4085S	True
J-4011S	Zone-4 (Sidehill/Chimney)	6	True	500	2,636	503	2,639	20	33	20	20	J-4085S	True
J-4012S	Zone-4 (Sidehill/Chimney)	6	True	500	3,131	504	3,135	20	39	20	20	J-4013S	True
J-4013S	Zone-4 (Sidehill/Chimney)	3	True	500	1,149	502	1,151	20	20	20	46	J-4051C	True
J-4014S	Zone Exempt	1	False	500	0	500	0	20	8	20	8	J-4050C	True
J-4015S	Zone-4 (Sidehill/Chimney)	6	True	500	2,119	502	2,120	20	48	20	20	J-4085S	True
J-4016S	Zone-4 (Sidehill/Chimney)	6	True	500	2,145	503	2,148	20	47	20	20	J-4085S	True
J-4017S	Zone-4 (Sidehill/Chimney)	22	True	500	1,878	503	1,881	20	22	20	20	J-4086S	True
J-4018	Zone-4 (Sidehill/Chimney)	20	True	500	1,694	503	1,697	20	22	20	20	J-4086S	True
J-4019	Zone-4 (Sidehill/Chimney)	3	True	500	1,391	500	1,391	20	20	20	41	J-4085S	True
J-4020S	Zone-4 (Sidehill/Chimney)	6	True	500	2,325	502	2,327	20	27	20	20	J-4085S	True
J-4021S	Zone-4 (Sidehill/Chimney)	6	True	500	2,662	500	2,663	20	30	20	20	J-4085S	True
J-4022C	Zone-4 (Sidehill/Chimney)	6	True	500	2,839	502	2,841	20	39	20	20	J-4028C	True
J-4023C	Zone-4 (Sidehill/Chimney)	6	True	500	2,829	503	2,832	20	34	20	20	J-4028C	True
J-4024C	Zone-4 (Sidehill/Chimney)	6	True	500	2,888	503	2,890	20	43	20	20	J-4028C	True
J-4025C	Zone-4 (Sidehill/Chimney)	4	True	500	2,763	501	2,764	20	20	20	23	J-4085S	True
J-4026C	Zone-4 (Sidehill/Chimney)	6	True	500	2,693	500	2,693	20	30	20	20	J-4085S	True
J-4027C	Zone-4 (Sidehill/Chimney)	6	True	500	2,751	503	2,754	20	32	20	20	J-4028C	True
J-4028C	Zone-4 (Sidehill/Chimney)	3	True	500	1,101	502	1,103	20	20	20	44	J-4051C	True
J-4029C	Zone-4 (Sidehill/Chimney)	6	True	500	2,793	503	2,796	20	34	20	20	J-4028C	True
J-4030C	Zone-4 (Sidehill/Chimney)	6	True	500	2,899	502	2,901	20	35	20	20	J-4028C	True
J-4031C	Zone-4 (Sidehill/Chimney)	4	True	500	1,608	501	1,609	20	20	20	40	J-4028C	True
J-4032C	Zone-4 (Sidehill/Chimney)	6	True	500	2,948	503	2,952	20	35	20	20	J-4028C	True
J-4033C	Zone-4 (Sidehill/Chimney)	6	True	500	3,133	504	3,137	20	46	20	20	J-4028C	True
J-4034C	Zone-4 (Sidehill/Chimney)	6	True	500	3,012	507	3,019	20	48	20	20	J-4028C	True
J-4035C	Zone-4 (Sidehill/Chimney)	6	True	500	2,921	501	2,922	20	48	20	20	J-4028C	True
J-4036C	Zone-4 (Sidehill/Chimney)	6	True	500	2,868	502	2,870	20	47	20	20	J-4028C	True
J-4037C	Zone-4 (Sidehill/Chimney)	6	True	500	2,860	500	2,861	20	34	20	20	J-4028C	True
J-4038C	Zone-4 (Sidehill/Chimney)	7	True	500	3,250	505	3,255	20	50	20	20	J-4028C	True
J-4039C	Zone-4 (Sidehill/Chimney)	7	True	500	3,340	503	3,343	20	52	20	20	J-4028C	True
J-4040C	Zone-4 (Sidehill/Chimney)	6	True	500	2,014	503	2,018	20	25	20	20	J-4041C	True
J-4041C	Zone-4 (Sidehill/Chimney)	4	True	500	1,585	500	1,585	20	20	20	36	J-4043C	True
J-4042C	Zone-4 (Sidehill/Chimney)	6	True	500	1,830	506	1,837	20	35	20	20	J-4043C	True
J-4043C	Zone-4 (Sidehill/Chimney)	3	True	500	980	503	983	20	20	20	44	J-4051C	True
J-4044C	Zone-4 (Sidehill/Chimney)	6	True	500	3,696	507	3,703	20	57	20	20	J-4028C	True
J-4045C	Zone-4 (Sidehill/Chimney)	6	True	500	3,492	503	3,495	20	57	20	20	J-4028C	True
J-4046C	Zone-4 (Sidehill/Chimney)	6	True	500	4,029	502	4,031	20	34	20	20	J-4028C	True
J-4047C	Zone-4 (Sidehill/Chimney)	7	True	500	4,236	505	4,240	20	32	20	20	J-4051C	True
J-4048C	Zone-4 (Sidehill/Chimney)	7	True	500	4,204	503	4,208	20	23	20	20	J-4051C	True
J-4049C	Zone Exempt	1	False	500	0	500	0	20	47	20	8	J-4050C	True
J-4050C	Zone Exempt	1	False	500	0	500	0	20	8	20	8	J-4014S	True
J-4051C	Zone-4 (Sidehill/Chimney)	4	True	500	3,124	504	3,128	20	20	20	33	J-4052C	True
J-4052C	Zone-4 (Sidehill/Chimney)	4	True	500	2,661	506	2,667	20	20	20	31	J-4051C	True
J-4053C	Zone-4 (Sidehill/Chimney)	4	True	500	2,585	504	2,589	20	20	20	25	J-4065C	True
J-4054C	Zone-4 (Sidehill/Chimney)	4	True	500	2,456	505	2,461	20	20	20	34	J-4052C	True
J-4055C	Zone-4 (Sidehill/Chimney)	4	True	500	2,876	503	2,879	20	20	20	28	J-4054C	True
J-4056C	Zone-4 (Sidehill/Chimney)	5	True	500	4,098	505	4,104	20	50	20	20	J-4028C	True

	Zone-4 (Sidehill/Chimney)	5	True	500	4,165	510	4,175	20	53	20	20	J-4028C	True
J-4058C	Zone-4 (Sidehill/Chimney)	8	True	500	4,166	502	4,168	20	29	20	20	J-4028C	True
J-4059C	Zone-4 (Sidehill/Chimney)	4	True	500	1,892	510	1,902	20	20	20	21	J-4060C	True
J-4060C	Zone-4 (Sidehill/Chimney)	3	True	500	1,489	502	1,491	20	20	20	42	J-4051C	True
J-4061C	Zone-4 (Sidehill/Chimney)	7	True	500	4,220	512	4,232	20	40	20	20	J-4051C	True
J-4062C	Zone-4 (Sidehill/Chimney)	6	True	500	4,200	514	4,214	20	33	20	20	J-4051C	True
J-4063C	Zone-4 (Sidehill/Chimney)	6	True	500	4,141	510	4,151	20	33	20	20	J-4053C	True
J-4064C	Zone-4 (Sidehill/Chimney)	6	True	500	3,609	500	3,609	20	33	20	20	J-4053C	True
J-4065C	Zone-4 (Sidehill/Chimney)	6	True	500	2,650	510	2,660	20	22	20	20	J-4053C	True
J-4066C	Zone-4 (Sidehill/Chimney)	6	True	500	4,197	504	4,201	20	21	20	20	J-4051C	True
J-4067C	Zone-4 (Sidehill/Chimney)	6	True	500	3,982	508	3,991	20	36	20	20	J-4068C	True
J-4068C	Zone-4 (Sidehill/Chimney)	4	True	500	3,161	511	3,171	20	20	20	30	J-4051C	True
J-4069C	Zone-4 (Sidehill/Chimney)	8	True	500	4,196	507	4,203	20	36	20	20	J-4051C	True
J-4070C	Zone-4 (Sidehill/Chimney)	4	True	500	3,490	502	3,493	20	20	20	27	J-4051C	True
J-4071C	Zone-4 (Sidehill/Chimney)	6	True	500	4,196	501	4,197	20	36	20	20	J-4051C	True
J-4072C	Zone-4 (Sidehill/Chimney)	7	True	500	4,196	500	4,196	20	43	20	20	J-4051C	True
J-4073C	Zone-4 (Sidehill/Chimney)	6	True	500	4,191	503	4,194	20	32	20	20	J-4051C	True
J-4074C	Zone-4 (Sidehill/Chimney)	8	True	500	4,184	504	4,187	20	29	20	20	J-4051C	True
J-4075C	Zone-4 (Sidehill/Chimney)	6	True	500	4,196	504	4,200	20	34	20	20	J-4051C	True
J-4076C	Zone-4 (Sidehill/Chimney)	4	True	500	2,675	504	2,679	20	20	20	34	J-4051C	True
J-4077C	Zone-4 (Sidehill/Chimney)	4	True	500	2,580	506	2,586	20	20	20	35	J-4051C	True
J-4078C	Zone-4 (Sidehill/Chimney)	6	True	500	4,196	506	4,202	20	35	20	20	J-4051C	True
J-4079S	Zone-4 (Sidehill/Chimney)	4	True	500	2,339	500	2,339	20	20	20	20	J-4085S	True
J-4080S	Zone-4 (Sidehill/Chimney)	4	True	500	2,341	500	2,341	20	20	20	20	J-4085S	True
J-4081S	Zone-4 (Sidehill/Chimney)	6	True	500	2,374	500	2,374	20	25	20	20	J-4085S	True
J-4085S	Zone-4 (Sidehill/Chimney)	4	True	500	1,478	500	1,478	20	20	20	34	J-4008S	True
J-4086S	Zone-4 (Sidehill/Chimney)	3	True	500	1,325	503	1,328	20	20	20	42	J-4085S	True
J-4087C	Zone Exempt	1	False	500	0	500	0	20	8	20	8	J-4050C	True
J-4106 School	Zone-4 (Sidehill/Chimney)	8	True	500	4,196	500	4,196	20	38	20	20	J-4051C	True
J-4107 School	Zone-4 (Sidehill/Chimney)	8	True	500	4,196	500	4,196	20	38	20	20	J-4051C	True
J-4108 School	Zone-4 (Sidehill/Chimney)	4	True	500	4,030	560	4,090	20	20	20	22	J-4051C	True
J-5001	Zone 5 (West7th)	2	True	500	5,000	500	5,000	20	37	20	37	J-5001	True
J-6001	Zone 6 (Boundary)	4	True	500	3,938	500	3,938	20	66	20	20	J-6049	True
J-6002	Zone 6 (Boundary)	7	True	500	2,946	507	2,952	20	45	20	20	J-6049	True
J-6003	Zone 6 (Boundary)	4	True	500	2,374	503	2,377	20	20	20	25	J-6049	True
J-6004	Zone 6 (Boundary)	7	True	500	2,892	508	2,900	20	44	20	20	J-6049	True
J-6005	Zone 6 (Boundary)	6	True	500	2,892	507	2,899	20	32	20	20	J-6049	True
J-6006	Zone 6 (Boundary)	4	True	500	2,669	505	2,674	20	20	20	22	J-6049	True
J-6007	Zone 6 (Boundary)	6	True	500	2,770	506	2,776	20	45	20	20	J-6049	True
J-6008	Zone 6 (Boundary)	7	True	500	2,669	507	2,676	20	51	20	20	J-6049	True
J-6009	Zone 6 (Boundary)	6	True	500	2,669	503	2,673	20	31	20	20	J-6049	True
J-6010	Zone 6 (Boundary)	6	True	500	2,669	503	2,672	20	22	20	20	J-6049	True
J-6011	Zone 6 (Boundary)	6	True	500	2,605	505	2,610	20	47	20	20	J-6049	True
J-6012	Zone 6 (Boundary)	6	True	500	2,557	501	2,558	20	40	20	20	J-6049	True
J-6024	Zone 6 (Boundary)	6	True	500	2,238	505	2,243	20	29	20	20	J-6049	True
J-6028	Zone 6 (Boundary)	6	True	500	2,373	506	2,379	20	36	20	20	J-6049	True
J-6029	Zone 6 (Boundary)	7	True	500	2,534	506	2,540	20	47	20	20	J-6049	True
J-6030	Zone 6 (Boundary)	7	True	500	2,679	506	2,685	20	46	20	20	J-6049	True
J-6031	Zone 6 (Boundary)	6	True	500	2,373	504	2,377	20	29	20	20	J-6049	True
J-6032	Zone 6 (Boundary)	6	True	500	2,557	503	2,560	20	28	20	20	J-6049	True
J-6034	Zone Exempt	1	False	500	0	500	0	20	45	20	8	J-4050C	True
J-6045	Zone Exempt	1	False	500	0	500	0	20	100	20	8	J-4050C	True
J-6046	Zone Exempt	1	False	500	0	500	0	20	172	20	8	J-4050C	True
J-6047	Zone 6 (Boundary)	6	True	500	2,178	505	2,183	20	24	20	20	J-6049	True
J-6048	Zone 6 (Boundary)	4	True	500	2,110	506	2,116	20	20	20	20	J-6049	True
J-6049	Zone 6 (Boundary)	4	True	500	2,064	502	2,066	20	20	20	22	J-6048	True
J-6050	Zone 6 (Boundary)	6	True	500	2,158	508	2,166	20	40	20	20	J-6049	True
J-6051	Zone 6 (Boundary)	6	True	500	2,201	506	2,207	20	33	20	20	J-6049	True
J-6052	Zone 6 (Boundary)	6	True	500	2,252	505	2,257	20	46	20	20	J-6049	True
J-6053	Zone 6 (Boundary)	6	True	500	2,252	503	2,255	20	38	20	20	J-6049	True
J-6054	Zone 6 (Boundary)	6	True	500	2,296	505	2,301	20	47	20	20	J-6049	True
J-6055	Zone 6 (Boundary)	6	True	500	2,296	504	2,300	20	29	20	20	J-6049	True
J-6056	Zone 6 (Boundary)	7	True	500	2,354	505	2,359	20	53	20	20	J-6049	True
J-6057	Zone 6 (Boundary)	6	True	500	2,408	507	2,415	20	52	20	20	J-6049	True

	Zone 6 (Boundary)	6	True	500	2,470	508	2,478	20	45	20	20	J-6049	True
J-Section 5.3.2	Zone 6 (Boundary)	12	False	500	0	500	0	20	89	20	37	J-6049	True
J-Tangberg	Zone-4 (Sidehill/Chimney)	3	True	500	1,109	500	1,109	20	20	20	41	J-4085S	True

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Maximum Day

Scenario Summary Report
Scenario: Existing SVGID System

Scenario Summary

ID	64
Label	Existing SVGID System
Notes	
Active Topology	Base-Active Topology
Physical	Existing System
Demand	6432 Maximum Day Demand
Initial Settings	Existing System Pumps OFF Tanks at LWL
Operational	Base
Age	Base-Age Alternative
Constituent	Base-Constituent
Trace	Base-Trace Alternative
Fire Flow	All Nodes
Energy Cost	Base-Energy Cost
Transient	Base Transient
Pressure Dependent Demand	Base Pressure Dependent Demand
Failure History	Base Failure History
SCADA	Base SCADA
User Data Extensions	Base-User Data
Steady State/EPS Solver Calculation Options	Proposed SVGID System
Transient Solver Calculation Options	Base Calculation Options

Hydraulic Summary

Time Analysis Type	Steady State	Use simple controls during steady state?	True
Friction Method	Hazen-Williams	Is EPS Snapshot?	False
Accuracy	0.001	Start Time	12:00:00 AM
Trials	40	Calculation Type	Fire Flow

Scenario: Existing SVGID System
Current Time Step: 0.000 h
FlexTable: Tank Table

Label	Zone	Elevation (Base) (ft)	Elevation (Minimum) (ft)	Elevation (Initial) (ft)	Elevation (Maximum) (ft)	Diameter (ft)	Volume Full (Calculated) (gal)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
Eastside	Zone-1-2-3	4,963.00	4,963.00	4,989.25	4,992.92	90.00	1,423,863.12	720	4,989.25
Chocolate	Zone-1-2-3	4,964.25	4,964.25	4,989.25	4,992.92	74.00	922,386.13	369	4,989.25
Klondike	Zone-1-2-3	4,968.00	4,968.00	4,989.25	4,992.92	107.00	1,676,243.96	513	4,989.25
Juniper Terr. Tank	Zone-1-2-3	4,952.29	4,952.29	4,974.94	4,974.94	60.00	479,062.68	0	4,974.94
Sidehill	Zone-4 (Sidehill/Chimney)	5,104.00	5,104.00	5,123.59	5,134.41	40.00	285,863.06	69	5,123.59
Chimney 1	Zone-4 (Sidehill/Chimney)	5,104.00	5,104.00	5,123.59	5,135.09	40.00	292,255.26	140	5,123.59
Westside Tank	Zone-3 (Chocolate)	4,961.90	4,961.90	4,989.25	4,992.92	90.00	1,476,211.03	654	4,989.25
Boundary Tank	Zone 6 (Boundary)	5,279.50	5,279.50	5,304.50	5,315.50	80.00	1,353,642.89	149	5,304.50
Chimney 2	Zone-4 (Sidehill/Chimney)	5,104.00	5,104.00	5,123.59	5,135.09	75.00	1,027,459.90	138	5,123.59

2,752 ✓

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Scenario: Existing SVGID System
Current Time Step: 0.000 h
FlexTable: Junction Table

SORT

ID	Label	Zone	Elevation (ft)	Pressure (psi)	Demand (gpm)
518	J-4050C	Zone Exempt	5,100.00	10	0
483	J-4014S	Zone Exempt	5,100.00	10	0
619	J-4087C	Zone Exempt	5,100.00	10	0
373	J-3055	Zone Exempt	4,950.00	16	0
468	J-3171	Zone Exempt	4,949.00	17	0
374	J-3056	Zone Exempt	4,943.00	19	0
351	J-3052	Zone Exempt	4,925.00	27	0
371	J-3053	Zone Exempt	4,925.00	27	0
372	J-3054	Zone Exempt	4,921.00	29	0
350	J-3051	Zone Exempt	4,909.00	34	2
584	J-3198	Zone Exempt	4,900.00	39	0
585	J-3199	Zone Exempt	4,900.00	39	0
461	J-3173	Zone Exempt	4,648.00	40	0
462	J-3176	Zone Exempt	4,648.00	40	0
1540	J-6049	Zone 6 (Boundary)	5,212.00	40	2
1538	J-6048	Zone 6 (Boundary)	5,210.00	41	6
328	J-3026	Zone Exempt	4,892.00	41	0
193	J-2043	Zone-2 (Central)	4,810.00	42	2
557	J-2151	Zone-2 (Central)	4,810.00	42	0
359	J-3065	Zone-3 (Chocolate)	4,888.00	43	2
375	J-3078	Zone Exempt	4,887.00	43	0
174	J-2025	Zone-2 (Central)	4,806.00	44	5
141	J-1015	Zone-1 (Southern)	4,665.00	44	3
129	J-1006	Zone-1 (Southern)	4,664.00	44	4
1536	J-6047	Zone 6 (Boundary)	5,200.00	45	5
128	J-1004	Zone-1 (Southern)	4,662.00	45	4
131	J-1002	Zone-1 (Southern)	4,662.00	45	5
148	J-1021	Zone-1 (Southern)	4,662.00	45	2
349	J-3050	Zone-3 (Chocolate)	4,882.00	46	3
456	J-3165	Zone-3 (Chocolate)	4,882.00	46	4
331	J-3034	Zone-3 (Chocolate)	4,882.00	46	6
130	J-1007	Zone-1 (Southern)	4,661.00	46	1
356	J-3062	Zone-3 (Chocolate)	4,881.00	46	5
376	J-3158	Zone Exempt	4,880.00	47	5
147	J-1022	Zone-1 (Southern)	4,659.00	47	1
140	J-1014	Zone-1 (Southern)	4,658.00	47	3
185	J-2042	Zone-2 (Central)	4,797.00	47	8
357	J-3063	Zone-3 (Chocolate)	4,877.00	48	7
588	J-6034	Zone Exempt	5,194.00	48	0
379	J-3079	Zone-3 (Chocolate)	4,876.00	48	3
523	J-4051C	Zone-4 (Sidehill/Chimney)	5,011.00	49	4
358	J-3064	Zone-3 (Chocolate)	4,875.00	49	4
1368	J-3200	Zone-3 (Chocolate)	4,875.00	49	0
517	J-4049C	Zone Exempt	5,010.00	49	0
145	J-1019	Zone-1 (Southern)	4,653.00	49	1
133	J-1005	Zone-1 (Southern)	4,653.00	49	0
146	J-1020	Zone-1 (Southern)	4,653.00	49	4
1481	J-6024	Zone 6 (Boundary)	5,190.00	49	5
144	J-1018	Zone-1 (Southern)	4,651.00	50	8
189	J-2041	Zone-2 (Central)	4,790.00	50	4
132	J-1003	Zone-1 (Southern)	4,649.00	51	1
380	J-3080	Zone-3 (Chocolate)	4,869.00	51	1
467	J-3170	Zone-3 (Chocolate)	4,870.00	51	3
464	J-3168	Zone-3 (Chocolate)	4,870.00	51	4
564	J-3186	Zone-3 (Chocolate)	4,868.30	51	7
378	J-3160	Zone-3 (Chocolate)	4,869.00	51	12
516	J-4048C	Zone-4 (Sidehill/Chimney)	5,004.00	52	3

402	J-3102	Zone-3 (Chocolate)	4,867.00	52	6
482	J-4013S	Zone-4 (Sidehill/Chimney)	5,002.00	53	2
560	J-2150	Zone-2 (Central)	4,785.00	53	0
498	J-4028C	Zone-4 (Sidehill/Chimney)	4,999.00	54	2
360	J-3066	Zone-3 (Chocolate)	4,863.00	54	3
354	J-3060	Zone-3 (Chocolate)	4,863.00	54	3
355	J-3061	Zone-3 (Chocolate)	4,863.00	54	1
348	J-3049	Zone-3 (Chocolate)	4,863.00	54	9
1370	J-3201	Zone-3 (Chocolate)	4,863.00	54	0
608	J-6003	Zone 6 (Boundary)	5,179.37	54	3
330	J-3033	Zone-3 (Chocolate)	4,862.00	54	8
1544	J-6051	Zone 6 (Boundary)	5,178.00	55	6
377	J-3159	Zone-3 (Chocolate)	4,861.00	55	6
240	J-2089	Zone-2 (Central)	4,784.00	55	4
381	J-3081	Zone-3 (Chocolate)	4,860.00	55	11
188	J-2040	Zone-2 (Central)	4,779.00	55	5
143	J-1017	Zone-1 (Southern)	4,639.00	55	12
127	J-1001	Zone-1 (Southern)	4,639.00	55	4
308	J-3010	Zone-3 (Chocolate)	4,860.00	56	5
401	J-3101	Zone-3 (Chocolate)	4,858.00	56	9
521	J-4052C	Zone-4 (Sidehill/Chimney)	4,993.00	56	6
1483	J-6028	Zone 6 (Boundary)	5,174.00	56	6
142	J-1016	Zone-1 (Southern)	4,636.00	57	7
134	J-1008	Zone-1 (Southern)	4,635.00	57	5
296	J-2131	Zone-2 (Central)	4,790.00	57	13
165	J-2015	Zone-2 (Central)	4,776.00	57	6
175	J-2022	Zone-2 (Central)	4,773.00	58	3
241	J-2090	Zone-2 (Central)	4,777.00	58	12
353	J-3059	Zone-3 (Chocolate)	4,853.00	58	5
610	J-6006	Zone 6 (Boundary)	5,168.84	59	5
511	J-4043C	Zone-4 (Sidehill/Chimney)	4,987.00	59	3
382	J-3082	Zone-3 (Chocolate)	4,848.00	60	12
400	J-3100	Zone-3 (Chocolate)	4,848.00	60	7
347	J-3048	Zone-3 (Chocolate)	4,848.00	60	1
578	J-4085S	Zone-4 (Sidehill/Chimney)	4,983.00	61	0
1542	J-6050	Zone 6 (Boundary)	5,164.00	61	8
361	J-3068	Zone-3 (Chocolate)	4,847.00	61	4
466	J-3167	Zone-3 (Chocolate)	4,848.00	61	2
238	J-2087	Zone-2 (Central)	4,770.00	61	9
239	J-2088	Zone-2 (Central)	4,770.00	61	7
136	J-1011	Zone-1 (Southern)	4,625.00	61	3
137	J-1013	Zone-1 (Southern)	4,625.00	61	4
295	J-2130	Zone-2 (Central)	4,780.00	61	6
569	J-3191	Zone-3 (Chocolate)	4,844.00	62	6
505	J-4031C	Zone-4 (Sidehill/Chimney)	4,980.00	62	1
183	J-2035	Zone-2 (Central)	4,763.00	62	12
563	J-3185	Zone-3 (Chocolate)	4,842.90	62	6
1505	J-6031	Zone 6 (Boundary)	5,160.00	62	4
362	J-3067	Zone-3 (Chocolate)	4,843.00	62	5
178	J-2030	Zone-2 (Central)	4,762.00	63	8
454	J-3163	Zone-3 (Chocolate)	4,843.00	63	2
465	J-3169	Zone-3 (Chocolate)	4,843.00	63	7
135	J-1009	Zone-1 (Southern)	4,621.00	63	8
339	J-2145	Zone-2 (Central)	4,763.00	63	0
338	J-2146	Zone-2 (Central)	4,763.00	63	0
187	J-2039	Zone-2 (Central)	4,760.00	63	10
138	J-1012	Zone-1 (Southern)	4,619.00	64	6
452	J-3161	Zone-3 (Chocolate)	4,840.00	64	1
513	J-4041C	Zone-4 (Sidehill/Chimney)	4,975.00	64	0
399	J-3099	Zone-3 (Chocolate)	4,839.00	64	10
317	J-3020	Zone-3 (Chocolate)	4,840.00	64	6
139	J-1010	Zone-1 (Southern)	4,618.00	64	3
184	J-2038	Zone-2 (Central)	4,758.00	64	6
307	J-3008	Zone-3 (Chocolate)	4,840.00	64	3
609	J-6005	Zone 6 (Boundary)	5,155.32	64	7
383	J-3083	Zone-3 (Chocolate)	4,838.00	65	11
589	J-6002	Zone 6 (Boundary)	5,154.57	65	7

	J-6032	Zone 6 (Boundary)	5,154.00	65	3
559	J-2153	Zone-2 (Central)	4,756.00	65	0
250	J-2106	Zone-2 (Central)	4,760.00	65	7
582	J-2155	Zone-2 (Central)	4,760.00	66	0
260	J-2144	Zone-2 (Central)	4,760.00	66	4
342	J-3044	Zone-3 (Chocolate)	4,836.00	66	10
497	J-4027C	Zone-4 (Sidehill/Chimney)	4,971.00	66	3
293	J-2128	Zone-2 (Central)	4,770.00	66	4
242	J-2092	Zone-2 (Central)	4,759.00	66	7
243	J-2093	Zone-2 (Central)	4,759.00	66	2
590	J-6004	Zone 6 (Boundary)	5,152.08	66	8
1487	J-6030	Zone 6 (Boundary)	5,152.00	66	6
352	J-3058	Zone-3 (Chocolate)	4,834.00	66	5
343	J-3046	Zone-3 (Chocolate)	4,834.00	66	6
329	J-3032	Zone-3 (Chocolate)	4,834.00	66	8
316	J-3019	Zone-3 (Chocolate)	4,835.00	66	27
583	J-3180	Zone-3 (Chocolate)	4,835.00	66	0
315	J-3017	Zone-3 (Chocolate)	4,835.00	66	4
182	J-2034	Zone-2 (Central)	4,753.00	67	7
453	J-3162	Zone-3 (Chocolate)	4,834.00	67	10
321	J-3024	Zone-3 (Chocolate)	4,833.00	67	1
322	J-3025	Zone-3 (Chocolate)	4,833.00	67	3
515	J-4047C	Zone-4 (Sidehill/Chimney)	4,968.00	67	5
186	J-2036	Zone-2 (Central)	4,751.00	67	11
1485	J-6029	Zone 6 (Boundary)	5,148.00	68	6
581	J-2154	Zone-2 (Central)	4,755.00	68	0
499	J-4029C	Zone-4 (Sidehill/Chimney)	4,966.00	68	3
1460	J-6012	Zone 6 (Boundary)	5,146.00	68	1
570	J-3192	Zone-3 (Chocolate)	4,828.00	69	4
573	J-3195	Zone-3 (Chocolate)	4,828.00	69	3
288	J-2126	Zone-2 (Central)	4,763.00	69	9
1551	J-6055	Zone 6 (Boundary)	5,145.00	69	4
1313	J-5001	Zone 5 (West7th)	5,066.00	69	0
251	J-2105	Zone-2 (Central)	4,752.00	69	8
384	J-3084	Zone-3 (Chocolate)	4,828.00	69	10
172	J-2024	Zone-2 (Central)	4,747.00	69	8
177	J-2029	Zone-2 (Central)	4,747.00	69	6
271	J-2132	Zone-2 (Central)	4,758.00	69	6
232	J-2077	Zone-2 (Central)	4,750.00	69	7
512	J-4040C	Zone-4 (Sidehill/Chimney)	4,963.00	69	3
500	J-4030C	Zone-4 (Sidehill/Chimney)	4,963.00	69	2
514	J-4046C	Zone-4 (Sidehill/Chimney)	4,963.00	69	2
1547	J-6052	Zone 6 (Boundary)	5,144.00	69	5
1553	J-6053	Zone 6 (Boundary)	5,144.00	69	3
1351	J-2152	Zone-2 (Central)	4,729.75	70	0
327	J-3029	Zone-3 (Chocolate)	4,827.00	70	6
256	J-2122	Zone-2 (Central)	4,750.00	70	6
398	J-3098	Zone-3 (Chocolate)	4,826.00	70	0
181	J-2033	Zone-2 (Central)	4,745.00	70	9
309	J-3011	Zone-3 (Chocolate)	4,827.00	70	6
591	J-6007	Zone 6 (Boundary)	5,142.51	70	6
522	J-4053C	Zone-4 (Sidehill/Chimney)	4,961.00	70	4
501	J-4032C	Zone-4 (Sidehill/Chimney)	4,961.00	70	3
287	J-2124	Zone-2 (Central)	4,760.00	70	6
164	J-2014	Zone-2 (Central)	4,745.00	70	43
318	J-3021	Zone-3 (Chocolate)	4,826.00	70	3
314	J-3016	Zone-3 (Chocolate)	4,826.00	70	4
173	J-2026	Zone-2 (Central)	4,744.00	70	3
320	J-3023	Zone-3 (Chocolate)	4,825.00	70	7
257	J-2121	Zone-2 (Central)	4,748.00	71	9
496	J-4023C	Zone-4 (Sidehill/Chimney)	4,959.00	71	3
520	J-4054C	Zone-4 (Sidehill/Chimney)	4,959.00	71	5
231	J-2076	Zone-2 (Central)	4,746.00	71	14
259	J-2142	Zone-2 (Central)	4,747.00	71	10
481	J-4012S	Zone-4 (Sidehill/Chimney)	4,959.00	71	4
326	J-3030	Zone-3 (Chocolate)	4,822.00	72	5
180	J-2031	Zone-2 (Central)	4,741.00	72	10

	J-6054	Zone 6 (Boundary)	5,138.00	72	5
363	J-3069	Zone-3 (Chocolate)	4,821.00	72	5
552	J-2147	Zone-2 (Central)	4,751.00	72	0
258	J-2143	Zone-2 (Central)	4,745.00	72	19
1327	J-2156	Zone-2 (Central)	4,745.00	72	0
171	J-2023	Zone-2 (Central)	4,740.00	72	5
191	J-2032	Zone-2 (Central)	4,740.00	72	2
268	J-2135	Zone-2 (Central)	4,748.00	72	12
455	J-3164	Zone-3 (Chocolate)	4,820.00	72	6
611	J-6009	Zone 6 (Boundary)	5,136.51	73	3
1437	J-4108 School	Zone-4 (Sidehill/Chimney)	4,955.00	73	60
533	J-4065C	Zone-4 (Sidehill/Chimney)	4,955.00	73	10
244	J-2091	Zone-2 (Central)	4,743.00	73	9
313	J-3015	Zone-3 (Chocolate)	4,820.00	73	5
312	J-3014	Zone-3 (Chocolate)	4,820.00	73	2
262	J-2140	Zone-2 (Central)	4,743.00	73	7
292	J-2127	Zone-2 (Central)	4,753.00	73	7
170	J-2021	Zone-2 (Central)	4,737.00	73	9
272	J-2133	Zone-2 (Central)	4,748.00	73	5
477	J-4008S	Zone-4 (Sidehill/Chimney)	4,953.00	74	3
562	J-3184	Zone-3 (Chocolate)	4,816.70	74	5
149	J-2001	Zone-1 (Southern)	4,720.00	74	5
1559	J-6058	Zone 6 (Boundary)	5,134.00	74	8
397	J-3097	Zone-3 (Chocolate)	4,817.00	74	9
233	J-2084	Zone-2 (Central)	4,740.00	74	6
194	J-3018	Zone-3 (Chocolate)	4,818.00	74	7
510	J-4042C	Zone-4 (Sidehill/Chimney)	4,952.00	74	6
319	J-3022	Zone-3 (Chocolate)	4,817.00	74	9
549	J-3182	Zone Exempt	4,817.00	74	0
385	J-3085	Zone-3 (Chocolate)	4,816.00	74	11
192	J-2037	Zone-2 (Central)	4,735.00	74	5
294	J-2129	Zone-2 (Central)	4,750.00	74	6
223	J-2072	Zone-2 (Central)	4,737.00	75	10
1458	J-6011	Zone 6 (Boundary)	5,131.00	75	5
412	J-3112	Zone-3 (Chocolate)	4,814.00	75	5
346	J-3057	Zone-3 (Chocolate)	4,813.00	75	10
179	J-2028	Zone-2 (Central)	4,732.00	76	14
234	J-2085	Zone-2 (Central)	4,736.00	76	7
289	J-2125	Zone-2 (Central)	4,746.00	76	6
364	J-3070	Zone-3 (Chocolate)	4,811.00	76	2
341	J-3043	Zone-3 (Chocolate)	4,811.00	76	5
340	J-3042	Zone-3 (Chocolate)	4,811.00	76	6
190	J-2020	Zone-2 (Central)	4,730.00	77	12
418	J-3154	Zone-3 (Chocolate)	4,810.00	77	3
396	J-3096	Zone-3 (Chocolate)	4,810.00	77	8
519	J-4055C	Zone-4 (Sidehill/Chimney)	4,944.00	77	3
411	J-3111	Zone-3 (Chocolate)	4,808.00	78	5
176	J-2027	Zone-2 (Central)	4,727.00	78	9
222	J-2071	Zone-2 (Central)	4,730.00	78	15
571	J-3194	Zone-3 (Chocolate)	4,807.00	78	3
572	J-3193	Zone-3 (Chocolate)	4,807.00	78	3
169	J-2019	Zone-2 (Central)	4,727.00	78	11
469	J-4022C	Zone-4 (Sidehill/Chimney)	4,943.00	78	2
151	J-2003	Zone-2 (Central)	4,710.00	78	3
150	J-2002	Zone-2 (Central)	4,710.00	78	6
235	J-2086	Zone-2 (Central)	4,731.00	78	7
366	J-3072	Zone-3 (Chocolate)	4,807.00	78	2
365	J-3071	Zone-3 (Chocolate)	4,807.00	78	0
224	J-2073	Zone-2 (Central)	4,729.00	78	8
478	J-4009S	Zone-4 (Sidehill/Chimney)	4,942.00	78	2
592	J-6008	Zone 6 (Boundary)	5,123.20	78	7
249	J-2104	Zone-2 (Central)	4,730.00	78	7
410	J-3110	Zone-3 (Chocolate)	4,806.00	79	1
386	J-3086	Zone-3 (Chocolate)	4,804.00	79	11
230	J-2075	Zone-2 (Central)	4,727.00	79	17
255	J-2141	Zone-2 (Central)	4,728.00	79	10
1555	J-6056	Zone 6 (Boundary)	5,120.00	80	5

	J-6057	Zone 6 (Boundary)	5,120.00	80	7
286	J-2112	Zone-2 (Central)	4,738.00	80	13
417	J-3121	Zone-3 (Chocolate)	4,802.00	80	1
502	J-4033C	Zone-4 (Sidehill/Chimney)	4,938.00	80	4
254	J-2138	Zone-2 (Central)	4,726.00	80	9
263	J-2136	Zone-2 (Central)	4,726.00	81	10
409	J-3109	Zone-3 (Chocolate)	4,801.00	81	4
1582	J-2160 VV	Zone-2 (Central)	4,740.00	81	2
325	J-3031	Zone-3 (Chocolate)	4,801.00	81	3
323	J-3027	Zone-3 (Chocolate)	4,801.00	81	10
248	J-2103	Zone-2 (Central)	4,724.00	81	17
253	J-2139	Zone-2 (Central)	4,724.00	81	11
324	J-3028	Zone-3 (Chocolate)	4,800.00	81	0
554	J-4080S	Zone-4 (Sidehill/Chimney)	4,935.00	81	0
553	J-4079S	Zone-4 (Sidehill/Chimney)	4,935.00	81	0
556	J-2148	Zone-2 (Central)	4,727.00	81	0
612	J-6010	Zone 6 (Boundary)	5,115.09	82	3
210	J-2056	Zone-2 (Central)	4,721.00	82	3
408	J-3108	Zone-3 (Chocolate)	4,798.00	82	5
310	J-3012	Zone-3 (Chocolate)	4,799.00	82	9
236	J-2083	Zone-2 (Central)	4,722.00	82	9
152	J-2004	Zone-2 (Central)	4,700.00	82	3
395	J-3095	Zone-3 (Chocolate)	4,797.00	82	6
252	J-2120	Zone-2 (Central)	4,721.00	82	9
163	J-2013	Zone-2 (Central)	4,716.00	83	19
225	J-2074	Zone-2 (Central)	4,719.00	83	7
555	J-4081S	Zone-4 (Sidehill/Chimney)	4,930.00	84	0
489	J-4020S	Zone-4 (Sidehill/Chimney)	4,930.00	84	2
290	J-2123	Zone-2 (Central)	4,729.00	84	3
208	J-2054	Zone-2 (Central)	4,717.00	84	3
237	J-2082	Zone-2 (Central)	4,718.00	84	10
493	J-4024C	Zone-4 (Sidehill/Chimney)	4,929.00	84	3
506	J-4038C	Zone-4 (Sidehill/Chimney)	4,928.00	84	5
1401	J-Tangberg	Zone-4 (Sidehill/Chimney)	4,928.00	84	0
480	J-4011S	Zone-4 (Sidehill/Chimney)	4,928.00	85	3
387	J-3087	Zone-3 (Chocolate)	4,792.00	85	4
388	J-3088	Zone-3 (Chocolate)	4,792.00	85	7
407	J-3107	Zone-3 (Chocolate)	4,792.00	85	5
344	J-3045	Zone-3 (Chocolate)	4,792.00	85	6
494	J-4025C	Zone-4 (Sidehill/Chimney)	4,927.00	85	1
264	J-2137	Zone-2 (Central)	4,715.00	85	9
368	J-3074	Zone-3 (Chocolate)	4,790.00	85	5
367	J-3073	Zone-3 (Chocolate)	4,790.00	85	7
273	J-2134	Zone-2 (Central)	4,720.00	85	7
492	J-4037C	Zone-4 (Sidehill/Chimney)	4,925.00	86	0
587	J-6001	Zone 6 (Boundary)	5,106.13	86	0
406	J-3106	Zone-3 (Chocolate)	4,789.00	86	10
311	J-3013	Zone-3 (Chocolate)	4,790.00	86	5
226	J-2078	Zone-2 (Central)	4,713.00	86	5
218	J-2067	Zone-2 (Central)	4,708.00	86	12
530	J-4062C	Zone-4 (Sidehill/Chimney)	4,923.00	87	14
507	J-4039C	Zone-4 (Sidehill/Chimney)	4,923.00	87	3
405	J-3105	Zone-3 (Chocolate)	4,787.00	87	3
1580	J-2161 VV	Zone-2 (Central)	4,725.00	87	6
491	J-4036C	Zone-4 (Sidehill/Chimney)	4,921.00	87	2
291	J-2113	Zone-2 (Central)	4,720.00	87	7
389	J-3089	Zone-3 (Chocolate)	4,785.00	88	0
390	J-3090	Zone-3 (Chocolate)	4,785.00	88	2
229	J-2081	Zone-2 (Central)	4,710.00	88	7
394	J-3094	Zone-3 (Chocolate)	4,784.00	88	5
345	J-3047	Zone-3 (Chocolate)	4,784.00	88	3
221	J-2070	Zone-2 (Central)	4,706.00	88	8
247	J-2102	Zone-2 (Central)	4,708.00	89	18
270	J-2114	Zone-2 (Central)	4,713.00	89	12
426	J-3129	Zone-3 (Chocolate)	4,781.00	89	5
531	J-4063C	Zone-4 (Sidehill/Chimney)	4,917.00	89	10
503	J-4035C	Zone-4 (Sidehill/Chimney)	4,917.00	89	1

	J-4056C	Zone-4 (Sidehill/Chimney)	4,917.00	89	5
1321	J-Section 5.3.2	Zone 6 (Boundary)	4,704.00	89	0
404	J-3104	Zone-3 (Chocolate)	4,781.00	89	7
403	J-3103	Zone-3 (Chocolate)	4,781.00	89	3
220	J-2069	Zone-2 (Central)	4,703.00	89	6
227	J-2079	Zone-2 (Central)	4,706.00	89	5
167	J-2017	Zone-2 (Central)	4,700.00	90	7
438	J-3141	Zone-3 (Chocolate)	4,780.00	90	4
207	J-2053	Zone-2 (Central)	4,703.00	90	5
217	J-2066	Zone-2 (Central)	4,701.00	90	7
261	J-2119	Zone-2 (Central)	4,705.00	90	11
450	J-3155	Zone-3 (Chocolate)	4,779.00	90	4
532	J-4064C	Zone-4 (Sidehill/Chimney)	4,915.00	90	0
1409	J-4106 School	Zone-4 (Sidehill/Chimney)	4,915.00	90	0
1431	J-4107 School	Zone-4 (Sidehill/Chimney)	4,915.00	90	0
547	J-3177	Zone-3 (Chocolate)	4,780.00	90	0
548	J-3178	Zone-3 (Chocolate)	4,780.00	90	0
369	J-3075	Zone-3 (Chocolate)	4,779.00	90	13
1567	J-2158	Zone-2 (Central)	4,718.00	90	0
1584	J-2159 VV	Zone-2 (Central)	4,718.00	90	4
504	J-4034C	Zone-4 (Sidehill/Chimney)	4,914.00	90	7
266	J-2117	Zone-2 (Central)	4,706.00	91	11
209	J-2055	Zone-2 (Central)	4,701.00	91	3
425	J-3128	Zone-3 (Chocolate)	4,777.00	91	6
420	J-3123	Zone-3 (Chocolate)	4,777.00	91	9
267	J-2116	Zone-2 (Central)	4,707.00	91	4
269	J-2115	Zone-2 (Central)	4,707.00	91	5
298	J-2110	Zone-2 (Central)	4,699.00	91	6
168	J-2018	Zone-2 (Central)	4,696.00	91	14
166	J-2016	Zone-2 (Central)	4,696.00	91	19
265	J-2118	Zone-2 (Central)	4,703.00	91	20
393	J-3093	Zone-3 (Chocolate)	4,776.00	91	3
162	J-2012	Zone-2 (Central)	4,696.00	91	17
1578	J-2162 VV	Zone-2 (Central)	4,715.00	92	6
335	J-3039	Zone Exempt	4,776.00	92	7
424	J-3127	Zone-3 (Chocolate)	4,775.00	92	5
508	J-4045C	Zone-4 (Sidehill/Chimney)	4,911.00	92	3
509	J-4044C	Zone-4 (Sidehill/Chimney)	4,911.00	92	7
216	J-2065	Zone-2 (Central)	4,697.00	92	7
228	J-2080	Zone-2 (Central)	4,701.00	92	9
536	J-4068C	Zone-4 (Sidehill/Chimney)	4,910.00	92	11
529	J-4061C	Zone-4 (Sidehill/Chimney)	4,910.00	92	12
413	J-3113	Zone-3 (Chocolate)	4,774.00	92	2
392	J-3091	Zone-3 (Chocolate)	4,774.00	92	1
391	J-3092	Zone-3 (Chocolate)	4,774.00	92	0
285	J-2111	Zone-2 (Central)	4,710.00	92	9
219	J-2068	Zone-2 (Central)	4,696.00	92	3
423	J-3126	Zone-3 (Chocolate)	4,773.00	93	10
421	J-3124	Zone-3 (Chocolate)	4,773.00	93	11
206	J-2052	Zone-2 (Central)	4,696.00	93	5
422	J-3125	Zone-3 (Chocolate)	4,772.00	93	8
479	J-4010S	Zone-4 (Sidehill/Chimney)	4,908.00	93	3
441	J-3145	Zone-3 (Chocolate)	4,771.00	94	2
448	J-3148	Zone-3 (Chocolate)	4,771.00	94	3
299	J-2109	Zone-2 (Central)	4,693.00	94	5
274	J-3157	Zone-3 (Chocolate)	4,770.00	94	0
451	J-3156	Zone-3 (Chocolate)	4,770.00	94	1
542	J-4074C	Zone-4 (Sidehill/Chimney)	4,906.00	94	4
439	J-3142	Zone-3 (Chocolate)	4,770.00	94	0
440	J-3143	Zone-3 (Chocolate)	4,770.00	94	1
442	J-3146	Zone-3 (Chocolate)	4,770.00	94	4
449	J-3147	Zone-3 (Chocolate)	4,770.00	94	0
1588	J-2164 VV	Zone-2 (Central)	4,708.00	95	5
431	J-3134	Zone-3 (Chocolate)	4,768.00	95	9
300	J-2108	Zone-2 (Central)	4,693.00	95	4
428	J-3131	Zone-3 (Chocolate)	4,766.00	96	15
430	J-3133	Zone-3 (Chocolate)	4,766.00	96	11

	J-3135	Zone-3 (Chocolate)	4,766.00	96	17
437	J-3140	Zone-3 (Chocolate)	4,766.00	96	12
540	J-4072C	Zone-4 (Sidehill/Chimney)	4,902.00	96	0
463	J-3144	Zone-3 (Chocolate)	4,766.00	96	2
427	J-3130	Zone-3 (Chocolate)	4,765.00	96	5
370	J-3076	Zone-3 (Chocolate)	4,765.00	96	5
197	J-2061	Zone-2 (Central)	4,687.00	96	8
153	J-2005	Zone-2 (Central)	4,667.00	96	4
527	J-4059C	Zone-4 (Sidehill/Chimney)	4,900.00	96	10
495	J-4026C	Zone-4 (Sidehill/Chimney)	4,900.00	97	0
490	J-4021S	Zone-4 (Sidehill/Chimney)	4,900.00	97	0
474	J-4005S	Zone-4 (Sidehill/Chimney)	4,899.00	97	2
475	J-4006S	Zone-4 (Sidehill/Chimney)	4,899.00	97	1
414	J-3114	Zone-3 (Chocolate)	4,763.00	97	10
246	J-2101	Zone-2 (Central)	4,693.00	97	16
337	J-3041	Zone-3 (Chocolate)	4,763.00	97	10
336	J-3040	Zone Exempt	4,763.00	97	0
561	J-3183	Zone-3 (Chocolate)	4,762.00	97	3
433	J-3136	Zone-3 (Chocolate)	4,762.00	97	3
198	J-2060	Zone-2 (Central)	4,685.00	97	7
245	J-2097	Zone-2 (Central)	4,692.00	97	5
155	J-2006	Zone-2 (Central)	4,664.00	98	5
528	J-4060C	Zone-4 (Sidehill/Chimney)	4,897.00	98	2
525	J-4057C	Zone-4 (Sidehill/Chimney)	4,897.00	98	10
485	J-4016S	Zone-4 (Sidehill/Chimney)	4,897.00	98	3
473	J-4004S	Zone-4 (Sidehill/Chimney)	4,897.00	98	5
484	J-4015S	Zone-4 (Sidehill/Chimney)	4,897.00	98	2
279	J-2098	Zone-2 (Central)	4,700.00	98	2
280	J-2099	Zone-2 (Central)	4,700.00	98	8
445	J-3151	Zone-3 (Chocolate)	4,760.00	98	10
436	J-3139	Zone-3 (Chocolate)	4,760.00	98	11
541	J-4073C	Zone-4 (Sidehill/Chimney)	4,896.00	98	3
429	J-3132	Zone-3 (Chocolate)	4,759.00	99	12
434	J-3137	Zone-3 (Chocolate)	4,759.00	99	16
199	J-2059	Zone-2 (Central)	4,682.00	99	6
301	J-3077	Zone-3 (Chocolate)	4,759.00	99	1
1569	J-2163 VV	Zone-2 (Central)	4,698.00	99	5
444	J-3150	Zone-3 (Chocolate)	4,758.00	99	9
443	J-3149	Zone-3 (Chocolate)	4,758.00	99	20
200	J-2058	Zone-2 (Central)	4,681.00	99	5
215	J-2062	Zone-2 (Central)	4,681.00	99	2
472	J-4003S	Zone-4 (Sidehill/Chimney)	4,893.00	100	3
297	J-2107	Zone-2 (Central)	4,683.00	100	13
558	J-2149	Zone-2 (Central)	4,683.00	100	0
544	J-4078C	Zone-4 (Sidehill/Chimney)	4,892.00	100	6
539	J-4071C	Zone-4 (Sidehill/Chimney)	4,892.00	100	1
534	J-4066C	Zone-4 (Sidehill/Chimney)	4,892.00	100	4
447	J-3153	Zone-3 (Chocolate)	4,755.00	100	9
446	J-3152	Zone-3 (Chocolate)	4,755.00	100	12
435	J-3138	Zone-3 (Chocolate)	4,755.00	100	12
278	J-2096	Zone-2 (Central)	4,687.00	100	11
161	J-2011	Zone-2 (Central)	4,675.00	101	50
1573	J-2165 VV	Zone-2 (Central)	4,694.00	101	4
580	J-4086S	Zone-4 (Sidehill/Chimney)	4,890.00	101	3
470	J-4001S	Zone-4 (Sidehill/Chimney)	4,890.00	101	2
476	J-4007S	Zone-4 (Sidehill/Chimney)	4,890.00	101	2
538	J-4070C	Zone-4 (Sidehill/Chimney)	4,889.00	101	2
212	J-2064	Zone-2 (Central)	4,678.00	102	7
419	J-3122	Zone-3 (Chocolate)	4,751.00	102	0
211	J-2063	Zone-2 (Central)	4,674.00	103	7
550	J-3181	Zone Exempt	4,750.00	103	0
487	J-4018	Zone-4 (Sidehill/Chimney)	4,885.00	103	3
486	J-4017S	Zone-4 (Sidehill/Chimney)	4,885.00	103	3
1308	J-6045	Zone Exempt	5,066.00	103	0
276	J-2094	Zone-2 (Central)	4,681.00	103	4
201	J-2057	Zone-2 (Central)	4,672.00	103	8
526	J-4058C	Zone-4 (Sidehill/Chimney)	4,884.00	103	2

	J-3115	Zone-3 (Chocolate)	4,748.00	104	3
205	J-2051	Zone-2 (Central)	4,671.00	104	5
214	J-2050	Zone-2 (Central)	4,671.00	104	5
154	J-2007	Zone-2 (Central)	4,649.00	104	33
277	J-2095	Zone-2 (Central)	4,681.00	104	6
195	J-2044	Zone-2 (Central)	4,667.00	105	12
158	J-2009	Zone-2 (Central)	4,664.00	105	2
543	J-4075C	Zone-4 (Sidehill/Chimney)	4,879.00	106	4
1380	J-2157	Zone-2 (Central)	4,681.00	106	0
202	J-2046	Zone-2 (Central)	4,664.00	106	4
213	J-2049	Zone-2 (Central)	4,664.00	106	5
471	J-4002S	Zone-4 (Sidehill/Chimney)	4,877.00	106	5
281	J-2100	Zone-2 (Central)	4,681.00	107	2
203	J-2047	Zone-2 (Central)	4,662.00	107	8
1331	J-4019	Zone-4 (Sidehill/Chimney)	4,875.00	107	0
157	J-2008	Zone-2 (Central)	4,659.00	107	4
535	J-4067C	Zone-4 (Sidehill/Chimney)	4,873.00	108	8
537	J-4069C	Zone-4 (Sidehill/Chimney)	4,871.00	109	7
159	J-2010	Zone-2 (Central)	4,655.00	109	4
204	J-2048	Zone-2 (Central)	4,654.00	111	4
196	J-2045	Zone-2 (Central)	4,651.00	112	2
156	J-3007	Zone-3 (Chocolate)	4,720.00	116	9
545	J-4076C	Zone-4 (Sidehill/Chimney)	4,851.00	118	4
546	J-4077C	Zone-4 (Sidehill/Chimney)	4,851.00	118	6
284	J-3120	Zone Exempt	4,700.00	123	0
334	J-3038	Zone Exempt	4,692.00	127	8
282	J-3117	Zone Exempt	4,681.00	131	2
415	J-3118	Zone Exempt	4,681.00	131	2
416	J-3119	Zone Exempt	4,681.00	131	2
283	J-3116	Zone Exempt	4,675.00	134	0
333	J-3037	Zone Exempt	4,662.00	140	3
160	J-3006	Zone Exempt	4,662.00	140	5
305	J-3004	Zone Exempt	4,660.00	141	0
306	J-3005	Zone Exempt	4,660.00	141	2
302	J-3035	Zone Exempt	4,648.00	146	0
303	J-3001	Zone Exempt	4,648.00	146	0
304	J-3002	Zone Exempt	4,648.00	146	0
458	J-3172	Zone Exempt	4,648.00	146	0
459	J-3175	Zone Exempt	4,648.00	146	0
460	J-3174	Zone Exempt	4,648.00	146	0
126	J-3003	Zone Exempt	4,645.00	148	0
332	J-3036	Zone Exempt	4,645.00	148	0
586	J-6046	Zone Exempt	4,900.00	175	0

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Peak Hour

Scenario Summary Report
Scenario: Existing SVGID System

Scenario Summary

ID	64
Label	Existing SVGID System
Notes	
Active Topology	Base-Active Topology
Physical	Existing System
Demand	6432 Peak Hour Demand
Initial Settings	Existing System Pumps OFF Tanks at LWL
Operational	Base
Age	Base-Age Alternative
Constituent	Base-Constituent
Trace	Base-Trace Alternative
Fire Flow	All Nodes
Energy Cost	Base-Energy Cost
Transient	Base Transient
Pressure Dependent Demand	Base Pressure Dependent Demand
Failure History	Base Failure History
SCADA	Base SCADA
User Data Extensions	Base-User Data
Steady State/EPS Solver Calculation Options	Proposed SVGID System
Transient Solver Calculation Options	Base Calculation Options

Hydraulic Summary

Time Analysis Type	Steady State	Use simple controls during steady state?	True
Friction Method	Hazen-Williams	Is EPS Snapshot?	False
Accuracy	0.001	Start Time	12:00:00 AM
Trials	40	Calculation Type	Fire Flow

Scenario: Existing SVGID System
Current Time Step: 0.000 h
FlexTable: Tank Table

Label	Zone	Elevation (Base) (ft)	Elevation (Minimum) (ft)	Elevation (Initial) (ft)	Elevation (Maximum) (ft)	Diameter (ft)	Volume Full (Calculated) (gal)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
Eastside	Zone-1-2-3	4,963.00	4,963.00	4,989.25	4,992.92	90.00	1,423,863.12	1,158	4,989.25
Chocolate	Zone-1-2-3	4,964.25	4,964.25	4,989.25	4,992.92	74.00	922,386.13	650	4,989.25
Klondike	Zone-1-2-3	4,968.00	4,968.00	4,989.25	4,992.92	107.00	1,676,243.96	862	4,989.25
Juniper Terr. Tank	Zone-1-2-3	4,952.29	4,952.29	4,974.94	4,974.94	60.00	479,062.68	0	4,974.94
Sidehill	Zone-4 (Sidehill/Chimney)	5,104.00	5,104.00	5,123.59	5,134.41	40.00	285,863.06	116	5,123.59
Chimney 1	Zone-4 (Sidehill/Chimney)	5,104.00	5,104.00	5,123.59	5,135.09	40.00	292,255.26	235	5,123.59
Westside Tank	Zone-3 (Chocolate)	4,961.90	4,961.90	4,989.25	4,992.92	90.00	1,476,211.03	1,164	4,989.25
Boundary Tank	Zone 6 (Boundary)	5,279.50	5,279.50	5,304.50	5,315.50	80.00	1,353,642.89	254	5,304.50
Chimney 2	Zone-4 (Sidehill/Chimney)	5,104.00	5,104.00	5,123.59	5,135.09	75.00	1,027,459.90	232	5,123.59

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Scenario: Existing SVGID System
Current Time Step: 0.000 h
FlexTable: Junction Table

SORT

ID	Label	Zone	Elevation (ft)	Pressure (psi)	Demand (gpm)
518	J-4050C	Zone Exempt	5,100.00	10	0
483	J-4014S	Zone Exempt	5,100.00	10	0
619	J-4087C	Zone Exempt	5,100.00	10	0
373	J-3055	Zone Exempt	4,950.00	15	0
468	J-3171	Zone Exempt	4,949.00	15	0
374	J-3056	Zone Exempt	4,943.00	18	0
351	J-3052	Zone Exempt	4,925.00	26	0
371	J-3053	Zone Exempt	4,925.00	26	1
372	J-3054	Zone Exempt	4,921.00	28	0
350	J-3051	Zone Exempt	4,909.00	33	3
193	J-2043	Zone-2 (Central)	4,810.00	34	4
557	J-2151	Zone-2 (Central)	4,810.00	34	0
174	J-2025	Zone-2 (Central)	4,806.00	35	8
584	J-3198	Zone Exempt	4,900.00	38	0
585	J-3199	Zone Exempt	4,900.00	38	0
185	J-2042	Zone-2 (Central)	4,797.00	39	14
461	J-3173	Zone Exempt	4,648.00	40	0
462	J-3176	Zone Exempt	4,648.00	40	0
1540	J-6049	Zone 6 (Boundary)	5,212.00	40	4
328	J-3026	Zone Exempt	4,892.00	40	0
1538	J-6048	Zone 6 (Boundary)	5,210.00	41	11
359	J-3065	Zone-3 (Chocolate)	4,888.00	42	4
375	J-3078	Zone Exempt	4,887.00	42	0
189	J-2041	Zone-2 (Central)	4,790.00	42	7
141	J-1015	Zone-1 (Southern)	4,665.00	44	5
456	J-3165	Zone-3 (Chocolate)	4,882.00	44	7
331	J-3034	Zone-3 (Chocolate)	4,882.00	44	11
349	J-3050	Zone-3 (Chocolate)	4,882.00	44	5
129	J-1006	Zone-1 (Southern)	4,664.00	44	7
560	J-2150	Zone-2 (Central)	4,785.00	45	0
356	J-3062	Zone-3 (Chocolate)	4,881.00	45	9
1536	J-6047	Zone 6 (Boundary)	5,200.00	45	9
128	J-1004	Zone-1 (Southern)	4,662.00	45	7
131	J-1002	Zone-1 (Southern)	4,662.00	45	9
148	J-1021	Zone-1 (Southern)	4,662.00	45	3
376	J-3158	Zone Exempt	4,880.00	45	9
130	J-1007	Zone-1 (Southern)	4,661.00	46	2
357	J-3063	Zone-3 (Chocolate)	4,877.00	47	12
147	J-1022	Zone-1 (Southern)	4,659.00	47	1
240	J-2089	Zone-2 (Central)	4,784.00	47	7
140	J-1014	Zone-1 (Southern)	4,658.00	47	5
379	J-3079	Zone-3 (Chocolate)	4,876.00	47	6
188	J-2040	Zone-2 (Central)	4,779.00	47	8
358	J-3064	Zone-3 (Chocolate)	4,875.00	47	7
1368	J-3200	Zone-3 (Chocolate)	4,875.00	47	0
588	J-6034	Zone Exempt	5,194.00	48	0
523	J-4051C	Zone-4 (Sidehill/Chimney)	5,011.00	48	7
517	J-4049C	Zone Exempt	5,010.00	49	1
145	J-1019	Zone-1 (Southern)	4,653.00	49	2
133	J-1005	Zone-1 (Southern)	4,653.00	49	1
146	J-1020	Zone-1 (Southern)	4,653.00	49	7
1481	J-6024	Zone 6 (Boundary)	5,190.00	49	9
165	J-2015	Zone-2 (Central)	4,776.00	49	11
175	J-2022	Zone-2 (Central)	4,773.00	50	6
241	J-2090	Zone-2 (Central)	4,777.00	50	20
564	J-3186	Zone-3 (Chocolate)	4,868.30	50	13
380	J-3080	Zone-3 (Chocolate)	4,869.00	50	2

144	J-1018	Zone-1 (Southern)	4,651.00	50	13
378	J-3160	Zone-3 (Chocolate)	4,869.00	50	21
467	J-3170	Zone-3 (Chocolate)	4,870.00	51	5
464	J-3168	Zone-3 (Chocolate)	4,870.00	51	7
402	J-3102	Zone-3 (Chocolate)	4,867.00	51	11
132	J-1003	Zone-1 (Southern)	4,649.00	51	2
516	J-4048C	Zone-4 (Sidehill/Chimney)	5,004.00	51	6
360	J-3066	Zone-3 (Chocolate)	4,863.00	52	6
354	J-3060	Zone-3 (Chocolate)	4,863.00	52	5
355	J-3061	Zone-3 (Chocolate)	4,863.00	52	2
482	J-4013S	Zone-4 (Sidehill/Chimney)	5,002.00	53	3
348	J-3049	Zone-3 (Chocolate)	4,863.00	53	15
238	J-2087	Zone-2 (Central)	4,770.00	53	14
239	J-2088	Zone-2 (Central)	4,770.00	53	12
1370	J-3201	Zone-3 (Chocolate)	4,863.00	53	0
330	J-3033	Zone-3 (Chocolate)	4,862.00	53	14
296	J-2131	Zone-2 (Central)	4,790.00	53	22
498	J-4028C	Zone-4 (Sidehill/Chimney)	4,999.00	53	3
377	J-3159	Zone-3 (Chocolate)	4,861.00	54	11
381	J-3081	Zone-3 (Chocolate)	4,860.00	54	18
608	J-6003	Zone 6 (Boundary)	5,179.37	54	6
183	J-2035	Zone-2 (Central)	4,763.00	54	21
178	J-2030	Zone-2 (Central)	4,762.00	54	14
1544	J-6051	Zone 6 (Boundary)	5,178.00	55	10
401	J-3101	Zone-3 (Chocolate)	4,858.00	55	14
143	J-1017	Zone-1 (Southern)	4,639.00	55	21
339	J-2145	Zone-2 (Central)	4,763.00	55	0
338	J-2146	Zone-2 (Central)	4,763.00	55	0
127	J-1001	Zone-1 (Southern)	4,639.00	55	7
187	J-2039	Zone-2 (Central)	4,760.00	55	17
308	J-3010	Zone-3 (Chocolate)	4,860.00	55	9
521	J-4052C	Zone-4 (Sidehill/Chimney)	4,993.00	56	10
1483	J-6028	Zone 6 (Boundary)	5,174.00	56	11
184	J-2038	Zone-2 (Central)	4,758.00	56	10
142	J-1016	Zone-1 (Southern)	4,636.00	57	12
353	J-3059	Zone-3 (Chocolate)	4,853.00	57	9
134	J-1008	Zone-1 (Southern)	4,635.00	57	8
559	J-2153	Zone-2 (Central)	4,756.00	57	0
250	J-2106	Zone-2 (Central)	4,760.00	57	12
582	J-2155	Zone-2 (Central)	4,760.00	57	0
260	J-2144	Zone-2 (Central)	4,760.00	57	7
295	J-2130	Zone-2 (Central)	4,780.00	58	11
242	J-2092	Zone-2 (Central)	4,759.00	58	12
243	J-2093	Zone-2 (Central)	4,759.00	58	3
511	J-4043C	Zone-4 (Sidehill/Chimney)	4,987.00	58	5
182	J-2034	Zone-2 (Central)	4,753.00	58	12
610	J-6006	Zone 6 (Boundary)	5,168.84	59	9
382	J-3082	Zone-3 (Chocolate)	4,848.00	59	20
400	J-3100	Zone-3 (Chocolate)	4,848.00	59	11
347	J-3048	Zone-3 (Chocolate)	4,848.00	59	2
186	J-2036	Zone-2 (Central)	4,751.00	59	19
361	J-3068	Zone-3 (Chocolate)	4,847.00	59	7
581	J-2154	Zone-2 (Central)	4,755.00	60	0
466	J-3167	Zone-3 (Chocolate)	4,848.00	60	4
569	J-3191	Zone-3 (Chocolate)	4,844.00	60	10
578	J-4085S	Zone-4 (Sidehill/Chimney)	4,983.00	60	0
1542	J-6050	Zone 6 (Boundary)	5,164.00	61	13
563	J-3185	Zone-3 (Chocolate)	4,842.90	61	10
251	J-2105	Zone-2 (Central)	4,752.00	61	14
172	J-2024	Zone-2 (Central)	4,747.00	61	14
177	J-2029	Zone-2 (Central)	4,747.00	61	10
362	J-3067	Zone-3 (Chocolate)	4,843.00	61	9
232	J-2077	Zone-2 (Central)	4,750.00	61	13
136	J-1011	Zone-1 (Southern)	4,625.00	61	4
137	J-1013	Zone-1 (Southern)	4,625.00	61	7
505	J-4031C	Zone-4 (Sidehill/Chimney)	4,980.00	61	2
256	J-2122	Zone-2 (Central)	4,750.00	62	11

	J-2033	Zone-2 (Central)	4,745.00	62	15
293	J-2128	Zone-2 (Central)	4,770.00	62	7
454	J-3163	Zone-3 (Chocolate)	4,843.00	62	3
164	J-2014	Zone-2 (Central)	4,745.00	62	72
173	J-2026	Zone-2 (Central)	4,744.00	62	6
1505	J-6031	Zone 6 (Boundary)	5,160.00	62	6
465	J-3169	Zone-3 (Chocolate)	4,843.00	62	12
257	J-2121	Zone-2 (Central)	4,748.00	63	14
135	J-1009	Zone-1 (Southern)	4,621.00	63	14
452	J-3161	Zone-3 (Chocolate)	4,840.00	63	1
399	J-3099	Zone-3 (Chocolate)	4,839.00	63	16
231	J-2076	Zone-2 (Central)	4,746.00	63	24
259	J-2142	Zone-2 (Central)	4,747.00	63	16
383	J-3083	Zone-3 (Chocolate)	4,838.00	63	18
271	J-2132	Zone-2 (Central)	4,758.00	64	10
180	J-2031	Zone-2 (Central)	4,741.00	64	18
513	J-4041C	Zone-4 (Sidehill/Chimney)	4,975.00	64	1
317	J-3020	Zone-3 (Chocolate)	4,840.00	64	10
138	J-1012	Zone-1 (Southern)	4,619.00	64	11
258	J-2143	Zone-2 (Central)	4,745.00	64	32
1327	J-2156	Zone-2 (Central)	4,745.00	64	0
171	J-2023	Zone-2 (Central)	4,740.00	64	9
307	J-3008	Zone-3 (Chocolate)	4,840.00	64	6
191	J-2032	Zone-2 (Central)	4,740.00	64	3
139	J-1010	Zone-1 (Southern)	4,618.00	64	5
342	J-3044	Zone-3 (Chocolate)	4,836.00	64	17
609	J-6005	Zone 6 (Boundary)	5,155.32	64	12
244	J-2091	Zone-2 (Central)	4,743.00	65	16
589	J-6002	Zone 6 (Boundary)	5,154.57	65	11
1490	J-6032	Zone 6 (Boundary)	5,154.00	65	5
288	J-2126	Zone-2 (Central)	4,763.00	65	14
352	J-3058	Zone-3 (Chocolate)	4,834.00	65	8
343	J-3046	Zone-3 (Chocolate)	4,834.00	65	11
262	J-2140	Zone-2 (Central)	4,743.00	65	12
329	J-3032	Zone-3 (Chocolate)	4,834.00	65	13
170	J-2021	Zone-2 (Central)	4,737.00	65	16
497	J-4027C	Zone-4 (Sidehill/Chimney)	4,971.00	65	5
453	J-3162	Zone-3 (Chocolate)	4,834.00	66	18
233	J-2084	Zone-2 (Central)	4,740.00	66	11
268	J-2135	Zone-2 (Central)	4,748.00	66	20
590	J-6004	Zone 6 (Boundary)	5,152.08	66	14
1487	J-6030	Zone 6 (Boundary)	5,152.00	66	11
316	J-3019	Zone-3 (Chocolate)	4,835.00	66	45
315	J-3017	Zone-3 (Chocolate)	4,835.00	66	7
321	J-3024	Zone-3 (Chocolate)	4,833.00	66	1
322	J-3025	Zone-3 (Chocolate)	4,833.00	66	6
583	J-3180	Zone-3 (Chocolate)	4,835.00	66	0
552	J-2147	Zone-2 (Central)	4,751.00	66	0
192	J-2037	Zone-2 (Central)	4,735.00	66	9
287	J-2124	Zone-2 (Central)	4,760.00	66	11
223	J-2072	Zone-2 (Central)	4,737.00	67	16
515	J-4047C	Zone-4 (Sidehill/Chimney)	4,968.00	67	8
570	J-3192	Zone-3 (Chocolate)	4,828.00	67	7
573	J-3195	Zone-3 (Chocolate)	4,828.00	67	5
179	J-2028	Zone-2 (Central)	4,732.00	67	24
1485	J-6029	Zone 6 (Boundary)	5,148.00	68	11
234	J-2085	Zone-2 (Central)	4,736.00	68	13
499	J-4029C	Zone-4 (Sidehill/Chimney)	4,966.00	68	5
384	J-3084	Zone-3 (Chocolate)	4,828.00	68	18
272	J-2133	Zone-2 (Central)	4,748.00	68	9
1460	J-6012	Zone 6 (Boundary)	5,146.00	68	1
327	J-3029	Zone-3 (Chocolate)	4,827.00	68	11
190	J-2020	Zone-2 (Central)	4,730.00	68	21
398	J-3098	Zone-3 (Chocolate)	4,826.00	69	1
1551	J-6055	Zone 6 (Boundary)	5,145.00	69	6
512	J-4040C	Zone-4 (Sidehill/Chimney)	4,963.00	69	6
500	J-4030C	Zone-4 (Sidehill/Chimney)	4,963.00	69	3

	J-4046C	Zone-4 (Sidehill/Chimney)	4,963.00	69	3
1313	J-5001	Zone 5 (West7th)	5,066.00	69	1
1547	J-6052	Zone 6 (Boundary)	5,144.00	69	9
1553	J-6053	Zone 6 (Boundary)	5,144.00	69	4
292	J-2127	Zone-2 (Central)	4,753.00	69	12
320	J-3023	Zone-3 (Chocolate)	4,825.00	69	11
1351	J-2152	Zone-2 (Central)	4,729.75	70	0
176	J-2027	Zone-2 (Central)	4,727.00	70	14
318	J-3021	Zone-3 (Chocolate)	4,826.00	70	5
309	J-3011	Zone-3 (Chocolate)	4,827.00	70	11
222	J-2071	Zone-2 (Central)	4,730.00	70	26
522	J-4053C	Zone-4 (Sidehill/Chimney)	4,961.00	70	7
501	J-4032C	Zone-4 (Sidehill/Chimney)	4,961.00	70	6
314	J-3016	Zone-3 (Chocolate)	4,826.00	70	7
169	J-2019	Zone-2 (Central)	4,727.00	70	19
591	J-6007	Zone 6 (Boundary)	5,142.51	70	10
235	J-2086	Zone-2 (Central)	4,731.00	70	12
224	J-2073	Zone-2 (Central)	4,729.00	70	13
249	J-2104	Zone-2 (Central)	4,730.00	70	12
294	J-2129	Zone-2 (Central)	4,750.00	71	10
326	J-3030	Zone-3 (Chocolate)	4,822.00	71	9
496	J-4023C	Zone-4 (Sidehill/Chimney)	4,959.00	71	5
520	J-4054C	Zone-4 (Sidehill/Chimney)	4,959.00	71	9
363	J-3069	Zone-3 (Chocolate)	4,821.00	71	9
481	J-4012S	Zone-4 (Sidehill/Chimney)	4,959.00	71	7
455	J-3164	Zone-3 (Chocolate)	4,820.00	71	11
230	J-2075	Zone-2 (Central)	4,727.00	71	30
255	J-2141	Zone-2 (Central)	4,728.00	71	18
1549	J-6054	Zone 6 (Boundary)	5,138.00	72	9
562	J-3184	Zone-3 (Chocolate)	4,816.70	72	9
1437	J-4108 School	Zone-4 (Sidehill/Chimney)	4,955.00	72	94
533	J-4065C	Zone-4 (Sidehill/Chimney)	4,955.00	72	17
289	J-2125	Zone-2 (Central)	4,746.00	72	10
254	J-2138	Zone-2 (Central)	4,726.00	72	15
313	J-3015	Zone-3 (Chocolate)	4,820.00	72	8
312	J-3014	Zone-3 (Chocolate)	4,820.00	72	3
397	J-3097	Zone-3 (Chocolate)	4,817.00	72	14
611	J-6009	Zone 6 (Boundary)	5,136.51	72	6
263	J-2136	Zone-2 (Central)	4,726.00	73	16
385	J-3085	Zone-3 (Chocolate)	4,816.00	73	18
248	J-2103	Zone-2 (Central)	4,724.00	73	28
319	J-3022	Zone-3 (Chocolate)	4,817.00	73	16
253	J-2139	Zone-2 (Central)	4,724.00	73	19
194	J-3018	Zone-3 (Chocolate)	4,818.00	73	11
477	J-4008S	Zone-4 (Sidehill/Chimney)	4,953.00	73	5
549	J-3182	Zone Exempt	4,817.00	73	0
149	J-2001	Zone-1 (Southern)	4,720.00	74	9
1559	J-6058	Zone 6 (Boundary)	5,134.00	74	14
510	J-4042C	Zone-4 (Sidehill/Chimney)	4,952.00	74	11
412	J-3112	Zone-3 (Chocolate)	4,814.00	74	9
236	J-2083	Zone-2 (Central)	4,722.00	74	14
346	J-3057	Zone-3 (Chocolate)	4,813.00	74	18
210	J-2056	Zone-2 (Central)	4,721.00	74	6
252	J-2120	Zone-2 (Central)	4,721.00	74	16
225	J-2074	Zone-2 (Central)	4,719.00	75	12
163	J-2013	Zone-2 (Central)	4,716.00	75	32
556	J-2148	Zone-2 (Central)	4,727.00	75	0
1458	J-6011	Zone 6 (Boundary)	5,131.00	75	9
364	J-3070	Zone-3 (Chocolate)	4,811.00	75	3
341	J-3043	Zone-3 (Chocolate)	4,811.00	75	9
340	J-3042	Zone-3 (Chocolate)	4,811.00	75	11
418	J-3154	Zone-3 (Chocolate)	4,810.00	75	5
396	J-3096	Zone-3 (Chocolate)	4,810.00	75	14
237	J-2082	Zone-2 (Central)	4,718.00	76	17
208	J-2054	Zone-2 (Central)	4,717.00	76	5
286	J-2112	Zone-2 (Central)	4,738.00	76	22
571	J-3194	Zone-3 (Chocolate)	4,807.00	76	5

	J-3193	Zone-3 (Chocolate)	4,807.00	76	5
411	J-3111	Zone-3 (Chocolate)	4,808.00	76	9
366	J-3072	Zone-3 (Chocolate)	4,807.00	77	4
365	J-3071	Zone-3 (Chocolate)	4,807.00	77	0
264	J-2137	Zone-2 (Central)	4,715.00	77	16
519	J-4055C	Zone-4 (Sidehill/Chimney)	4,944.00	77	5
410	J-3110	Zone-3 (Chocolate)	4,806.00	77	1
469	J-4022C	Zone-4 (Sidehill/Chimney)	4,943.00	78	3
151	J-2003	Zone-2 (Central)	4,710.00	78	5
150	J-2002	Zone-2 (Central)	4,710.00	78	11
478	J-4009S	Zone-4 (Sidehill/Chimney)	4,942.00	78	3
386	J-3086	Zone-3 (Chocolate)	4,804.00	78	18
592	J-6008	Zone 6 (Boundary)	5,123.20	78	12
218	J-2067	Zone-2 (Central)	4,708.00	78	20
417	J-3121	Zone-3 (Chocolate)	4,802.00	78	1
226	J-2078	Zone-2 (Central)	4,713.00	79	8
1582	J-2160 VV	Zone-2 (Central)	4,740.00	79	4
409	J-3109	Zone-3 (Chocolate)	4,801.00	80	7
1555	J-6056	Zone 6 (Boundary)	5,120.00	80	8
1557	J-6057	Zone 6 (Boundary)	5,120.00	80	11
325	J-3031	Zone-3 (Chocolate)	4,801.00	80	6
323	J-3027	Zone-3 (Chocolate)	4,801.00	80	16
273	J-2134	Zone-2 (Central)	4,720.00	80	13
502	J-4033C	Zone-4 (Sidehill/Chimney)	4,938.00	80	7
290	J-2123	Zone-2 (Central)	4,729.00	80	5
324	J-3028	Zone-3 (Chocolate)	4,800.00	80	1
221	J-2070	Zone-2 (Central)	4,706.00	80	13
229	J-2081	Zone-2 (Central)	4,710.00	80	12
408	J-3108	Zone-3 (Chocolate)	4,798.00	81	9
554	J-4080S	Zone-4 (Sidehill/Chimney)	4,935.00	81	0
553	J-4079S	Zone-4 (Sidehill/Chimney)	4,935.00	81	0
247	J-2102	Zone-2 (Central)	4,708.00	81	31
395	J-3095	Zone-3 (Chocolate)	4,797.00	81	10
220	J-2069	Zone-2 (Central)	4,703.00	81	10
167	J-2017	Zone-2 (Central)	4,700.00	82	13
310	J-3012	Zone-3 (Chocolate)	4,799.00	82	16
1321	J-Section 5.3.2	Zone 6 (Boundary)	4,704.00	82	0
152	J-2004	Zone-2 (Central)	4,700.00	82	5
612	J-6010	Zone 6 (Boundary)	5,115.09	82	5
217	J-2066	Zone-2 (Central)	4,701.00	82	13
227	J-2079	Zone-2 (Central)	4,706.00	82	9
207	J-2053	Zone-2 (Central)	4,703.00	82	8
261	J-2119	Zone-2 (Central)	4,705.00	82	18
298	J-2110	Zone-2 (Central)	4,699.00	83	11
209	J-2055	Zone-2 (Central)	4,701.00	83	5
555	J-4081S	Zone-4 (Sidehill/Chimney)	4,930.00	83	0
489	J-4020S	Zone-4 (Sidehill/Chimney)	4,930.00	83	3
168	J-2018	Zone-2 (Central)	4,696.00	83	24
388	J-3088	Zone-3 (Chocolate)	4,792.00	83	11
387	J-3087	Zone-3 (Chocolate)	4,792.00	83	7
407	J-3107	Zone-3 (Chocolate)	4,792.00	83	9
166	J-2016	Zone-2 (Central)	4,696.00	83	32
344	J-3045	Zone-3 (Chocolate)	4,792.00	83	10
270	J-2114	Zone-2 (Central)	4,713.00	83	20
493	J-4024C	Zone-4 (Sidehill/Chimney)	4,929.00	84	5
291	J-2113	Zone-2 (Central)	4,720.00	84	11
162	J-2012	Zone-2 (Central)	4,696.00	84	28
216	J-2065	Zone-2 (Central)	4,697.00	84	12
266	J-2117	Zone-2 (Central)	4,706.00	84	18
506	J-4038C	Zone-4 (Sidehill/Chimney)	4,928.00	84	9
368	J-3074	Zone-3 (Chocolate)	4,790.00	84	9
367	J-3073	Zone-3 (Chocolate)	4,790.00	84	13
1401	J-Tangberg	Zone-4 (Sidehill/Chimney)	4,928.00	84	0
265	J-2118	Zone-2 (Central)	4,703.00	84	34
219	J-2068	Zone-2 (Central)	4,696.00	84	6
480	J-4011S	Zone-4 (Sidehill/Chimney)	4,928.00	84	5
494	J-4025C	Zone-4 (Sidehill/Chimney)	4,927.00	84	2

	J-3106	Zone-3 (Chocolate)	4,789.00	85	17
228	J-2080	Zone-2 (Central)	4,701.00	85	14
267	J-2116	Zone-2 (Central)	4,707.00	85	7
269	J-2115	Zone-2 (Central)	4,707.00	85	9
492	J-4037C	Zone-4 (Sidehill/Chimney)	4,925.00	85	1
206	J-2052	Zone-2 (Central)	4,696.00	85	9
405	J-3105	Zone-3 (Chocolate)	4,787.00	85	6
311	J-3013	Zone-3 (Chocolate)	4,790.00	85	8
1580	J-2161 VV	Zone-2 (Central)	4,725.00	86	10
299	J-2109	Zone-2 (Central)	4,693.00	86	9
587	J-6001	Zone 6 (Boundary)	5,106.13	86	0
530	J-4062C	Zone-4 (Sidehill/Chimney)	4,923.00	86	23
507	J-4039C	Zone-4 (Sidehill/Chimney)	4,923.00	86	5
390	J-3090	Zone-3 (Chocolate)	4,785.00	86	4
389	J-3089	Zone-3 (Chocolate)	4,785.00	86	0
394	J-3094	Zone-3 (Chocolate)	4,784.00	87	9
345	J-3047	Zone-3 (Chocolate)	4,784.00	87	6
491	J-4036C	Zone-4 (Sidehill/Chimney)	4,921.00	87	3
426	J-3129	Zone-3 (Chocolate)	4,781.00	88	8
404	J-3104	Zone-3 (Chocolate)	4,781.00	88	12
403	J-3103	Zone-3 (Chocolate)	4,781.00	88	5
438	J-3141	Zone-3 (Chocolate)	4,780.00	88	7
450	J-3155	Zone-3 (Chocolate)	4,779.00	88	7
1567	J-2158	Zone-2 (Central)	4,718.00	89	0
1584	J-2159 VV	Zone-2 (Central)	4,718.00	89	6
300	J-2108	Zone-2 (Central)	4,693.00	89	7
531	J-4063C	Zone-4 (Sidehill/Chimney)	4,917.00	89	17
369	J-3075	Zone-3 (Chocolate)	4,779.00	89	22
503	J-4035C	Zone-4 (Sidehill/Chimney)	4,917.00	89	2
524	J-4056C	Zone-4 (Sidehill/Chimney)	4,917.00	89	9
197	J-2061	Zone-2 (Central)	4,687.00	89	14
285	J-2111	Zone-2 (Central)	4,710.00	89	15
425	J-3128	Zone-3 (Chocolate)	4,777.00	89	10
420	J-3123	Zone-3 (Chocolate)	4,777.00	89	14
547	J-3177	Zone-3 (Chocolate)	4,780.00	89	0
548	J-3178	Zone-3 (Chocolate)	4,780.00	89	0
532	J-4064C	Zone-4 (Sidehill/Chimney)	4,915.00	90	0
1431	J-4107 School	Zone-4 (Sidehill/Chimney)	4,915.00	90	0
1409	J-4106 School	Zone-4 (Sidehill/Chimney)	4,915.00	90	0
198	J-2060	Zone-2 (Central)	4,685.00	90	13
1578	J-2162 VV	Zone-2 (Central)	4,715.00	90	10
504	J-4034C	Zone-4 (Sidehill/Chimney)	4,914.00	90	11
393	J-3093	Zone-3 (Chocolate)	4,776.00	90	5
424	J-3127	Zone-3 (Chocolate)	4,775.00	90	9
335	J-3039	Zone Exempt	4,776.00	90	11
413	J-3113	Zone-3 (Chocolate)	4,774.00	91	3
392	J-3091	Zone-3 (Chocolate)	4,774.00	91	2
391	J-3092	Zone-3 (Chocolate)	4,774.00	91	0
423	J-3126	Zone-3 (Chocolate)	4,773.00	91	18
421	J-3124	Zone-3 (Chocolate)	4,773.00	91	19
199	J-2059	Zone-2 (Central)	4,682.00	91	11
246	J-2101	Zone-2 (Central)	4,693.00	91	28
508	J-4045C	Zone-4 (Sidehill/Chimney)	4,911.00	91	5
509	J-4044C	Zone-4 (Sidehill/Chimney)	4,911.00	91	13
422	J-3125	Zone-3 (Chocolate)	4,772.00	91	14
245	J-2097	Zone-2 (Central)	4,692.00	92	9
536	J-4068C	Zone-4 (Sidehill/Chimney)	4,910.00	92	18
529	J-4061C	Zone-4 (Sidehill/Chimney)	4,910.00	92	20
200	J-2058	Zone-2 (Central)	4,681.00	92	8
215	J-2062	Zone-2 (Central)	4,681.00	92	3
441	J-3145	Zone-3 (Chocolate)	4,771.00	92	3
448	J-3148	Zone-3 (Chocolate)	4,771.00	92	5
274	J-3157	Zone-3 (Chocolate)	4,770.00	92	0
451	J-3156	Zone-3 (Chocolate)	4,770.00	92	1
439	J-3142	Zone-3 (Chocolate)	4,770.00	93	0
440	J-3143	Zone-3 (Chocolate)	4,770.00	93	1
442	J-3146	Zone-3 (Chocolate)	4,770.00	93	7

	J-3147	Zone-3 (Chocolate)	4,770.00	93	0
479	J-4010S	Zone-4 (Sidehill/Chimney)	4,908.00	93	6
1588	J-2164 VV	Zone-2 (Central)	4,708.00	93	8
297	J-2107	Zone-2 (Central)	4,683.00	93	22
558	J-2149	Zone-2 (Central)	4,683.00	93	0
161	J-2011	Zone-2 (Central)	4,675.00	93	85
431	J-3134	Zone-3 (Chocolate)	4,768.00	93	14
542	J-4074C	Zone-4 (Sidehill/Chimney)	4,906.00	93	7
428	J-3131	Zone-3 (Chocolate)	4,766.00	94	26
430	J-3133	Zone-3 (Chocolate)	4,766.00	94	18
432	J-3135	Zone-3 (Chocolate)	4,766.00	94	30
437	J-3140	Zone-3 (Chocolate)	4,766.00	94	20
463	J-3144	Zone-3 (Chocolate)	4,766.00	94	3
427	J-3130	Zone-3 (Chocolate)	4,765.00	94	9
370	J-3076	Zone-3 (Chocolate)	4,765.00	95	8
540	J-4072C	Zone-4 (Sidehill/Chimney)	4,902.00	95	0
212	J-2064	Zone-2 (Central)	4,678.00	95	11
211	J-2063	Zone-2 (Central)	4,674.00	95	11
278	J-2096	Zone-2 (Central)	4,687.00	96	19
414	J-3114	Zone-3 (Chocolate)	4,763.00	96	17
433	J-3136	Zone-3 (Chocolate)	4,762.00	96	6
561	J-3183	Zone-3 (Chocolate)	4,762.00	96	6
201	J-2057	Zone-2 (Central)	4,672.00	96	13
153	J-2005	Zone-2 (Central)	4,667.00	96	7
337	J-3041	Zone-3 (Chocolate)	4,763.00	96	17
336	J-3040	Zone Exempt	4,763.00	96	0
527	J-4059C	Zone-4 (Sidehill/Chimney)	4,900.00	96	16
495	J-4026C	Zone-4 (Sidehill/Chimney)	4,900.00	96	0
490	J-4021S	Zone-4 (Sidehill/Chimney)	4,900.00	96	1
205	J-2051	Zone-2 (Central)	4,671.00	96	9
214	J-2050	Zone-2 (Central)	4,671.00	96	8
279	J-2098	Zone-2 (Central)	4,700.00	96	4
280	J-2099	Zone-2 (Central)	4,700.00	96	14
474	J-4005S	Zone-4 (Sidehill/Chimney)	4,899.00	97	3
475	J-4006S	Zone-4 (Sidehill/Chimney)	4,899.00	97	1
445	J-3151	Zone-3 (Chocolate)	4,760.00	97	18
436	J-3139	Zone-3 (Chocolate)	4,760.00	97	19
429	J-3132	Zone-3 (Chocolate)	4,759.00	97	20
434	J-3137	Zone-3 (Chocolate)	4,759.00	97	28
1569	J-2163 VV	Zone-2 (Central)	4,698.00	97	9
155	J-2006	Zone-2 (Central)	4,664.00	97	8
195	J-2044	Zone-2 (Central)	4,667.00	97	21
528	J-4060C	Zone-4 (Sidehill/Chimney)	4,897.00	97	4
525	J-4057C	Zone-4 (Sidehill/Chimney)	4,897.00	97	16
301	J-3077	Zone-3 (Chocolate)	4,759.00	97	1
485	J-4016S	Zone-4 (Sidehill/Chimney)	4,897.00	97	5
473	J-4004S	Zone-4 (Sidehill/Chimney)	4,897.00	97	9
484	J-4015S	Zone-4 (Sidehill/Chimney)	4,897.00	97	3
444	J-3150	Zone-3 (Chocolate)	4,758.00	97	16
443	J-3149	Zone-3 (Chocolate)	4,758.00	97	34
541	J-4073C	Zone-4 (Sidehill/Chimney)	4,896.00	98	5
158	J-2009	Zone-2 (Central)	4,664.00	98	3
447	J-3153	Zone-3 (Chocolate)	4,755.00	99	16
446	J-3152	Zone-3 (Chocolate)	4,755.00	99	21
435	J-3138	Zone-3 (Chocolate)	4,755.00	99	20
276	J-2094	Zone-2 (Central)	4,681.00	99	7
202	J-2046	Zone-2 (Central)	4,664.00	99	7
213	J-2049	Zone-2 (Central)	4,664.00	99	9
1573	J-2165 VV	Zone-2 (Central)	4,694.00	99	7
472	J-4003S	Zone-4 (Sidehill/Chimney)	4,893.00	99	5
544	J-4078C	Zone-4 (Sidehill/Chimney)	4,892.00	100	10
539	J-4071C	Zone-4 (Sidehill/Chimney)	4,892.00	100	2
534	J-4066C	Zone-4 (Sidehill/Chimney)	4,892.00	100	7
203	J-2047	Zone-2 (Central)	4,662.00	100	13
157	J-2008	Zone-2 (Central)	4,659.00	100	7
580	J-4086S	Zone-4 (Sidehill/Chimney)	4,890.00	100	5
470	J-4001S	Zone-4 (Sidehill/Chimney)	4,890.00	100	3

	J-4007S	Zone-4 (Sidehill/Chimney)	4,890.00	101	3
419	J-3122	Zone-3 (Chocolate)	4,751.00	101	0
538	J-4070C	Zone-4 (Sidehill/Chimney)	4,889.00	101	4
277	J-2095	Zone-2 (Central)	4,681.00	101	11
159	J-2010	Zone-2 (Central)	4,655.00	102	7
550	J-3181	Zone Exempt	4,750.00	102	0
275	J-3115	Zone-3 (Chocolate)	4,748.00	102	5
487	J-4018	Zone-4 (Sidehill/Chimney)	4,885.00	103	5
486	J-4017S	Zone-4 (Sidehill/Chimney)	4,885.00	103	5
204	J-2048	Zone-2 (Central)	4,654.00	103	7
526	J-4058C	Zone-4 (Sidehill/Chimney)	4,884.00	103	4
1308	J-6045	Zone Exempt	5,066.00	103	0
154	J-2007	Zone-2 (Central)	4,649.00	104	55
196	J-2045	Zone-2 (Central)	4,651.00	104	3
1380	J-2157	Zone-2 (Central)	4,681.00	105	0
543	J-4075C	Zone-4 (Sidehill/Chimney)	4,879.00	105	7
471	J-4002S	Zone-4 (Sidehill/Chimney)	4,877.00	106	9
281	J-2100	Zone-2 (Central)	4,681.00	107	3
1331	J-4019	Zone-4 (Sidehill/Chimney)	4,875.00	107	0
535	J-4067C	Zone-4 (Sidehill/Chimney)	4,873.00	108	14
537	J-4069C	Zone-4 (Sidehill/Chimney)	4,871.00	109	13
156	J-3007	Zone-3 (Chocolate)	4,720.00	115	16
545	J-4076C	Zone-4 (Sidehill/Chimney)	4,851.00	117	7
546	J-4077C	Zone-4 (Sidehill/Chimney)	4,851.00	117	11
284	J-3120	Zone Exempt	4,700.00	120	0
334	J-3038	Zone Exempt	4,692.00	125	13
282	J-3117	Zone Exempt	4,681.00	128	3
415	J-3118	Zone Exempt	4,681.00	128	3
416	J-3119	Zone Exempt	4,681.00	129	3
283	J-3116	Zone Exempt	4,675.00	130	0
333	J-3037	Zone Exempt	4,662.00	138	5
160	J-3006	Zone Exempt	4,662.00	138	9
305	J-3004	Zone Exempt	4,660.00	139	0
306	J-3005	Zone Exempt	4,660.00	139	3
302	J-3035	Zone Exempt	4,648.00	144	0
303	J-3001	Zone Exempt	4,648.00	144	0
304	J-3002	Zone Exempt	4,648.00	144	0
458	J-3172	Zone Exempt	4,648.00	144	0
459	J-3175	Zone Exempt	4,648.00	144	0
460	J-3174	Zone Exempt	4,648.00	144	0
126	J-3003	Zone Exempt	4,645.00	146	0
332	J-3036	Zone Exempt	4,645.00	146	0
586	J-6046	Zone Exempt	4,900.00	175	0

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Zero Demand (Static)

Scenario Summary Report
Scenario: Existing SVGID System

Scenario Summary

ID	64
Label	Existing SVGID System
Notes	
Active Topology	Base-Active Topology
Physical	Existing System
Demand	6432 Zero Demand
Initial Settings	Existing System Pumps OFF Tanks at HWL
Operational	Base
Age	Base-Age Alternative
Constituent	Base-Constituent
Trace	Base-Trace Alternative
Fire Flow	All Nodes
Energy Cost	Base-Energy Cost
Transient	Base Transient
Pressure Dependent Demand	Base Pressure Dependent Demand
Failure History	Base Failure History
SCADA	Base SCADA
User Data Extensions	Base-User Data
Steady State/EPS Solver Calculation Options	Proposed SVGID System
Transient Solver Calculation Options	Base Calculation Options

Hydraulic Summary

Time Analysis Type	Steady State	Use simple controls during steady state?	True
Friction Method	Hazen-Williams	Is EPS Snapshot?	False
Accuracy	0.001	Start Time	12:00:00 AM
Trials	40	Calculation Type	Fire Flow

Scenario: Existing SVGID System
Current Time Step: 0.000 h
FlexTable: Tank Table

Label	Zone	Elevation (Base) (ft)	Elevation (Minimum) (ft)	Elevation (Initial) (ft)	Elevation (Maximum) (ft)	Diameter (ft)	Volume Full (Calculated) (gal)	Flow (Out net) (gpm) *	Hydraulic Grade (ft)
Eastside	Zone-1-2-3	4,963.00	4,963.00	4,992.92	4,992.92	90.00	1,423,863.12	2	4,992.92
Chocolate	Zone-1-2-3	4,964.25	4,964.25	4,992.92	4,992.92	74.00	922,386.13	1	4,992.92
Klondike	Zone-1-2-3	4,968.00	4,968.00	4,992.92	4,992.92	107.00	1,676,243.96	1	4,992.92
Juniper Terr. Tank	Zone-1-2-3	4,952.29	4,952.29	4,974.94	4,974.94	60.00	479,062.68	0	4,974.94
Sidehill	Zone-4 (Sidehill/Chimney)	5,104.00	5,104.00	5,134.41	5,134.41	40.00	285,863.06	0	5,134.41
Chimney 1	Zone-4 (Sidehill/Chimney)	5,104.00	5,104.00	5,135.09	5,135.09	40.00	292,255.26	0	5,135.09
Westside Tank	Zone-3 (Chocolate)	4,961.90	4,961.90	4,992.92	4,992.92	90.00	1,476,211.03	2	4,992.92
Boundary Tank	Zone 6 (Boundary)	5,279.50	5,279.50	5,315.50	5,315.50	80.00	1,353,642.89	0	5,315.50
Chimney 2	Zone-4 (Sidehill/Chimney)	5,104.00	5,104.00	5,135.09	5,135.09	75.00	1,027,459.90	0	5,135.09

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* minimum demand required to keep PRV's functional to keep model from crashing.

Scenario: Existing SVGID System
Current Time Step: 0.000 h
FlexTable: Junction Table

ID	Label	Zone	Elevation (ft)	Pressure (psi)	Demand (gpm)
127	J-1001	Zone-1 (Southern)	4,639.00	55	0
131	J-1002	Zone-1 (Southern)	4,662.00	45	0
132	J-1003	Zone-1 (Southern)	4,649.00	51	0
128	J-1004	Zone-1 (Southern)	4,662.00	45	0
133	J-1005	Zone-1 (Southern)	4,653.00	49	0
129	J-1006	Zone-1 (Southern)	4,664.00	45	0
130	J-1007	Zone-1 (Southern)	4,661.00	46	0
134	J-1008	Zone-1 (Southern)	4,635.00	57	0
135	J-1009	Zone-1 (Southern)	4,621.00	63	0
139	J-1010	Zone-1 (Southern)	4,618.00	64	0
136	J-1011	Zone-1 (Southern)	4,625.00	61	0
138	J-1012	Zone-1 (Southern)	4,619.00	64	0
137	J-1013	Zone-1 (Southern)	4,625.00	61	0
140	J-1014	Zone-1 (Southern)	4,658.00	47	0
141	J-1015	Zone-1 (Southern)	4,665.00	44	0
142	J-1016	Zone-1 (Southern)	4,636.00	57	0
143	J-1017	Zone-1 (Southern)	4,639.00	55	0
144	J-1018	Zone-1 (Southern)	4,651.00	50	0
145	J-1019	Zone-1 (Southern)	4,653.00	49	0
146	J-1020	Zone-1 (Southern)	4,653.00	49	0
148	J-1021	Zone-1 (Southern)	4,662.00	45	0
147	J-1022	Zone-1 (Southern)	4,659.00	47	0
149	J-2001	Zone-1 (Southern)	4,720.00	74	0
150	J-2002	Zone-2 (Central)	4,710.00	78	0
151	J-2003	Zone-2 (Central)	4,710.00	78	0
152	J-2004	Zone-2 (Central)	4,700.00	82	0
153	J-2005	Zone-2 (Central)	4,667.00	97	0
155	J-2006	Zone-2 (Central)	4,664.00	98	0
154	J-2007	Zone-2 (Central)	4,649.00	104	0
157	J-2008	Zone-2 (Central)	4,659.00	117	0
158	J-2009	Zone-2 (Central)	4,664.00	115	0
159	J-2010	Zone-2 (Central)	4,655.00	119	0
161	J-2011	Zone-2 (Central)	4,675.00	110	0
162	J-2012	Zone-2 (Central)	4,696.00	101	0
163	J-2013	Zone-2 (Central)	4,716.00	93	0
164	J-2014	Zone-2 (Central)	4,745.00	80	0
165	J-2015	Zone-2 (Central)	4,776.00	67	0
166	J-2016	Zone-2 (Central)	4,696.00	101	0
167	J-2017	Zone-2 (Central)	4,700.00	100	0
168	J-2018	Zone-2 (Central)	4,696.00	101	0
169	J-2019	Zone-2 (Central)	4,727.00	88	0
190	J-2020	Zone-2 (Central)	4,730.00	87	0
170	J-2021	Zone-2 (Central)	4,737.00	84	0
175	J-2022	Zone-2 (Central)	4,773.00	68	0
171	J-2023	Zone-2 (Central)	4,740.00	82	0
172	J-2024	Zone-2 (Central)	4,747.00	79	0
174	J-2025	Zone-2 (Central)	4,806.00	54	0
173	J-2026	Zone-2 (Central)	4,744.00	81	0
176	J-2027	Zone-2 (Central)	4,727.00	88	0
179	J-2028	Zone-2 (Central)	4,732.00	86	0
177	J-2029	Zone-2 (Central)	4,747.00	79	0
178	J-2030	Zone-2 (Central)	4,762.00	73	0
180	J-2031	Zone-2 (Central)	4,741.00	82	0
191	J-2032	Zone-2 (Central)	4,740.00	82	0
181	J-2033	Zone-2 (Central)	4,745.00	80	0
182	J-2034	Zone-2 (Central)	4,753.00	77	0
183	J-2035	Zone-2 (Central)	4,763.00	72	0

186	J-2036	Zone-2 (Central)	4,751.00	78	0
192	J-2037	Zone-2 (Central)	4,735.00	84	0
184	J-2038	Zone-2 (Central)	4,758.00	75	0
187	J-2039	Zone-2 (Central)	4,760.00	74	0
188	J-2040	Zone-2 (Central)	4,779.00	65	0
189	J-2041	Zone-2 (Central)	4,790.00	61	0
185	J-2042	Zone-2 (Central)	4,797.00	58	0
193	J-2043	Zone-2 (Central)	4,810.00	52	0
195	J-2044	Zone-2 (Central)	4,667.00	114	0
196	J-2045	Zone-2 (Central)	4,651.00	121	0
202	J-2046	Zone-2 (Central)	4,664.00	115	0
203	J-2047	Zone-2 (Central)	4,662.00	116	0
204	J-2048	Zone-2 (Central)	4,654.00	120	0
213	J-2049	Zone-2 (Central)	4,664.00	115	0
214	J-2050	Zone-2 (Central)	4,671.00	112	0
205	J-2051	Zone-2 (Central)	4,671.00	112	0
206	J-2052	Zone-2 (Central)	4,696.00	101	0
207	J-2053	Zone-2 (Central)	4,703.00	98	0
208	J-2054	Zone-2 (Central)	4,717.00	92	0
209	J-2055	Zone-2 (Central)	4,701.00	99	0
210	J-2056	Zone-2 (Central)	4,721.00	91	0
201	J-2057	Zone-2 (Central)	4,672.00	112	0
200	J-2058	Zone-2 (Central)	4,681.00	108	0
199	J-2059	Zone-2 (Central)	4,682.00	107	0
198	J-2060	Zone-2 (Central)	4,685.00	106	0
197	J-2061	Zone-2 (Central)	4,687.00	105	0
215	J-2062	Zone-2 (Central)	4,681.00	108	0
211	J-2063	Zone-2 (Central)	4,674.00	111	0
212	J-2064	Zone-2 (Central)	4,678.00	109	0
216	J-2065	Zone-2 (Central)	4,697.00	101	0
217	J-2066	Zone-2 (Central)	4,701.00	99	0
218	J-2067	Zone-2 (Central)	4,708.00	96	0
219	J-2068	Zone-2 (Central)	4,696.00	101	0
220	J-2069	Zone-2 (Central)	4,703.00	98	0
221	J-2070	Zone-2 (Central)	4,706.00	97	0
222	J-2071	Zone-2 (Central)	4,730.00	87	0
223	J-2072	Zone-2 (Central)	4,737.00	84	0
224	J-2073	Zone-2 (Central)	4,729.00	87	0
225	J-2074	Zone-2 (Central)	4,719.00	91	0
230	J-2075	Zone-2 (Central)	4,727.00	88	0
231	J-2076	Zone-2 (Central)	4,746.00	80	0
232	J-2077	Zone-2 (Central)	4,750.00	78	0
226	J-2078	Zone-2 (Central)	4,713.00	94	0
227	J-2079	Zone-2 (Central)	4,706.00	97	0
228	J-2080	Zone-2 (Central)	4,701.00	99	0
229	J-2081	Zone-2 (Central)	4,710.00	95	0
237	J-2082	Zone-2 (Central)	4,718.00	92	0
236	J-2083	Zone-2 (Central)	4,722.00	90	0
233	J-2084	Zone-2 (Central)	4,740.00	82	0
234	J-2085	Zone-2 (Central)	4,736.00	84	0
235	J-2086	Zone-2 (Central)	4,731.00	86	0
238	J-2087	Zone-2 (Central)	4,770.00	69	0
239	J-2088	Zone-2 (Central)	4,770.00	69	0
240	J-2089	Zone-2 (Central)	4,784.00	63	0
241	J-2090	Zone-2 (Central)	4,777.00	66	0
244	J-2091	Zone-2 (Central)	4,743.00	81	0
242	J-2092	Zone-2 (Central)	4,759.00	74	0
243	J-2093	Zone-2 (Central)	4,759.00	74	0
276	J-2094	Zone-2 (Central)	4,681.00	108	0
277	J-2095	Zone-2 (Central)	4,681.00	108	0
278	J-2096	Zone-2 (Central)	4,687.00	105	0
245	J-2097	Zone-2 (Central)	4,692.00	103	0
279	J-2098	Zone-2 (Central)	4,700.00	100	0
280	J-2099	Zone-2 (Central)	4,700.00	100	0
281	J-2100	Zone-2 (Central)	4,681.00	108	0
246	J-2101	Zone-2 (Central)	4,693.00	103	0
247	J-2102	Zone-2 (Central)	4,708.00	96	0

	J-2103	Zone-2 (Central)	4,724.00	89	0
249	J-2104	Zone-2 (Central)	4,730.00	87	0
251	J-2105	Zone-2 (Central)	4,752.00	77	0
250	J-2106	Zone-2 (Central)	4,760.00	74	0
297	J-2107	Zone-2 (Central)	4,683.00	107	0
300	J-2108	Zone-2 (Central)	4,693.00	103	0
299	J-2109	Zone-2 (Central)	4,693.00	103	0
298	J-2110	Zone-2 (Central)	4,699.00	100	0
285	J-2111	Zone-2 (Central)	4,710.00	95	0
286	J-2112	Zone-2 (Central)	4,738.00	83	0
291	J-2113	Zone-2 (Central)	4,720.00	91	0
270	J-2114	Zone-2 (Central)	4,713.00	94	0
269	J-2115	Zone-2 (Central)	4,707.00	97	0
267	J-2116	Zone-2 (Central)	4,707.00	97	0
266	J-2117	Zone-2 (Central)	4,706.00	97	0
265	J-2118	Zone-2 (Central)	4,703.00	98	0
261	J-2119	Zone-2 (Central)	4,705.00	97	0
252	J-2120	Zone-2 (Central)	4,721.00	91	0
257	J-2121	Zone-2 (Central)	4,748.00	79	0
256	J-2122	Zone-2 (Central)	4,750.00	78	0
290	J-2123	Zone-2 (Central)	4,729.00	87	0
287	J-2124	Zone-2 (Central)	4,760.00	74	0
289	J-2125	Zone-2 (Central)	4,746.00	80	0
288	J-2126	Zone-2 (Central)	4,763.00	72	0
292	J-2127	Zone-2 (Central)	4,753.00	77	0
293	J-2128	Zone-2 (Central)	4,770.00	69	0
294	J-2129	Zone-2 (Central)	4,750.00	78	0
295	J-2130	Zone-2 (Central)	4,780.00	65	0
296	J-2131	Zone-2 (Central)	4,790.00	61	0
271	J-2132	Zone-2 (Central)	4,758.00	75	0
272	J-2133	Zone-2 (Central)	4,748.00	79	0
273	J-2134	Zone-2 (Central)	4,720.00	91	0
268	J-2135	Zone-2 (Central)	4,748.00	79	0
263	J-2136	Zone-2 (Central)	4,726.00	88	0
264	J-2137	Zone-2 (Central)	4,715.00	93	0
254	J-2138	Zone-2 (Central)	4,726.00	88	0
253	J-2139	Zone-2 (Central)	4,724.00	89	0
262	J-2140	Zone-2 (Central)	4,743.00	81	0
255	J-2141	Zone-2 (Central)	4,728.00	88	0
259	J-2142	Zone-2 (Central)	4,747.00	79	0
258	J-2143	Zone-2 (Central)	4,745.00	80	0
260	J-2144	Zone-2 (Central)	4,760.00	74	0
339	J-2145	Zone-2 (Central)	4,763.00	72	0
338	J-2146	Zone-2 (Central)	4,763.00	72	0
552	J-2147	Zone-2 (Central)	4,751.00	78	0
556	J-2148	Zone-2 (Central)	4,727.00	88	0
558	J-2149	Zone-2 (Central)	4,683.00	107	0
560	J-2150	Zone-2 (Central)	4,785.00	63	0
557	J-2151	Zone-2 (Central)	4,810.00	52	0
1351	J-2152	Zone-2 (Central)	4,729.75	70	0
559	J-2153	Zone-2 (Central)	4,756.00	75	0
581	J-2154	Zone-2 (Central)	4,755.00	76	0
582	J-2155	Zone-2 (Central)	4,760.00	74	0
1327	J-2156	Zone-2 (Central)	4,745.00	80	0
1380	J-2157	Zone-2 (Central)	4,681.00	108	0
1567	J-2158	Zone-2 (Central)	4,718.00	92	0
1584	J-2159 VV	Zone-2 (Central)	4,718.00	92	0
1582	J-2160 VV	Zone-2 (Central)	4,740.00	82	0
1580	J-2161 VV	Zone-2 (Central)	4,725.00	89	0
1578	J-2162 VV	Zone-2 (Central)	4,715.00	93	0
1569	J-2163 VV	Zone-2 (Central)	4,698.00	100	0
1588	J-2164 VV	Zone-2 (Central)	4,708.00	96	0
1573	J-2165 VV	Zone-2 (Central)	4,694.00	102 *	0
303	J-3001	Zone Exempt	4,648.00	149	0
304	J-3002	Zone Exempt	4,648.00	149	0
126	J-3003	Zone Exempt	4,645.00	151	0
305	J-3004	Zone Exempt	4,660.00	144	0

Valle Vista

* require PRV on service line for surface elevations < 4700 ft.

	J-3005	Zone Exempt	4,660.00	144	0
160	J-3006	Zone Exempt	4,662.00	143	0
156	J-3007	Zone-3 (Chocolate)	4,720.00	118	0
307	J-3008	Zone-3 (Chocolate)	4,840.00	66	0
308	J-3010	Zone-3 (Chocolate)	4,860.00	58	0
309	J-3011	Zone-3 (Chocolate)	4,827.00	72	0
310	J-3012	Zone-3 (Chocolate)	4,799.00	84	0
311	J-3013	Zone-3 (Chocolate)	4,790.00	88	0
312	J-3014	Zone-3 (Chocolate)	4,820.00	75	0
313	J-3015	Zone-3 (Chocolate)	4,820.00	75	0
314	J-3016	Zone-3 (Chocolate)	4,826.00	72	0
315	J-3017	Zone-3 (Chocolate)	4,835.00	68	0
194	J-3018	Zone-3 (Chocolate)	4,818.00	76	0
316	J-3019	Zone-3 (Chocolate)	4,835.00	68	0
317	J-3020	Zone-3 (Chocolate)	4,840.00	66	0
318	J-3021	Zone-3 (Chocolate)	4,826.00	72	0
319	J-3022	Zone-3 (Chocolate)	4,817.00	76	0
320	J-3023	Zone-3 (Chocolate)	4,825.00	73	0
321	J-3024	Zone-3 (Chocolate)	4,833.00	69	0
322	J-3025	Zone-3 (Chocolate)	4,833.00	69	0
328	J-3026	Zone Exempt	4,892.00	44	0
323	J-3027	Zone-3 (Chocolate)	4,801.00	83	0
324	J-3028	Zone-3 (Chocolate)	4,800.00	83	0
327	J-3029	Zone-3 (Chocolate)	4,827.00	72	0
326	J-3030	Zone-3 (Chocolate)	4,822.00	74	0
325	J-3031	Zone-3 (Chocolate)	4,801.00	83	0
329	J-3032	Zone-3 (Chocolate)	4,834.00	69	0
330	J-3033	Zone-3 (Chocolate)	4,862.00	57	0
331	J-3034	Zone-3 (Chocolate)	4,882.00	48	0
302	J-3035	Zone Exempt	4,648.00	149	0
332	J-3036	Zone Exempt	4,645.00	151	0
333	J-3037	Zone Exempt	4,662.00	143	0
334	J-3038	Zone Exempt	4,692.00	130	0
335	J-3039	Zone Exempt	4,776.00	94	0
336	J-3040	Zone Exempt	4,763.00	99	0
337	J-3041	Zone-3 (Chocolate)	4,763.00	99	0
340	J-3042	Zone-3 (Chocolate)	4,811.00	79	0
341	J-3043	Zone-3 (Chocolate)	4,811.00	79	0
342	J-3044	Zone-3 (Chocolate)	4,836.00	68	0
344	J-3045	Zone-3 (Chocolate)	4,792.00	87	0
343	J-3046	Zone-3 (Chocolate)	4,834.00	69	0
345	J-3047	Zone-3 (Chocolate)	4,784.00	90	0
347	J-3048	Zone-3 (Chocolate)	4,848.00	63	0
348	J-3049	Zone-3 (Chocolate)	4,863.00	56	0
349	J-3050	Zone-3 (Chocolate)	4,882.00	48	0
350	J-3051	Zone Exempt	4,909.00	36	0
351	J-3052	Zone Exempt	4,925.00	29	0
371	J-3053	Zone Exempt	4,925.00	29	0
372	J-3054	Zone Exempt	4,921.00	31	0
373	J-3055	Zone Exempt	4,950.00	19	0
374	J-3056	Zone Exempt	4,943.00	22	0
346	J-3057	Zone-3 (Chocolate)	4,813.00	78	0
352	J-3058	Zone-3 (Chocolate)	4,834.00	69	0
353	J-3059	Zone-3 (Chocolate)	4,853.00	61	0
354	J-3060	Zone-3 (Chocolate)	4,863.00	56	0
355	J-3061	Zone-3 (Chocolate)	4,863.00	56	0
356	J-3062	Zone-3 (Chocolate)	4,881.00	48	0
357	J-3063	Zone-3 (Chocolate)	4,877.00	50	0
358	J-3064	Zone-3 (Chocolate)	4,875.00	51	0
359	J-3065	Zone-3 (Chocolate)	4,888.00	45	0
360	J-3066	Zone-3 (Chocolate)	4,863.00	56	0
362	J-3067	Zone-3 (Chocolate)	4,843.00	65	0
361	J-3068	Zone-3 (Chocolate)	4,847.00	63	0
363	J-3069	Zone-3 (Chocolate)	4,821.00	74	0
364	J-3070	Zone-3 (Chocolate)	4,811.00	79	0
365	J-3071	Zone-3 (Chocolate)	4,807.00	80	0
366	J-3072	Zone-3 (Chocolate)	4,807.00	80	0

	J-3073	Zone-3 (Chocolate)	4,790.00	88	0
368	J-3074	Zone-3 (Chocolate)	4,790.00	88	0
369	J-3075	Zone-3 (Chocolate)	4,779.00	93	0
370	J-3076	Zone-3 (Chocolate)	4,765.00	99	0
301	J-3077	Zone-3 (Chocolate)	4,759.00	101	0
375	J-3078	Zone Exempt	4,887.00	46	0
379	J-3079	Zone-3 (Chocolate)	4,876.00	51	0
380	J-3080	Zone-3 (Chocolate)	4,869.00	54	0
381	J-3081	Zone-3 (Chocolate)	4,860.00	58	0
382	J-3082	Zone-3 (Chocolate)	4,848.00	63	0
383	J-3083	Zone-3 (Chocolate)	4,838.00	67	0
384	J-3084	Zone-3 (Chocolate)	4,828.00	71	0
385	J-3085	Zone-3 (Chocolate)	4,816.00	77	0
386	J-3086	Zone-3 (Chocolate)	4,804.00	82	0
387	J-3087	Zone-3 (Chocolate)	4,792.00	87	0
388	J-3088	Zone-3 (Chocolate)	4,792.00	87	0
389	J-3089	Zone-3 (Chocolate)	4,785.00	90	0
390	J-3090	Zone-3 (Chocolate)	4,785.00	90	0
392	J-3091	Zone-3 (Chocolate)	4,774.00	95	0
391	J-3092	Zone-3 (Chocolate)	4,774.00	95	0
393	J-3093	Zone-3 (Chocolate)	4,776.00	94	0
394	J-3094	Zone-3 (Chocolate)	4,784.00	90	0
395	J-3095	Zone-3 (Chocolate)	4,797.00	85	0
396	J-3096	Zone-3 (Chocolate)	4,810.00	79	0
397	J-3097	Zone-3 (Chocolate)	4,817.00	76	0
398	J-3098	Zone-3 (Chocolate)	4,826.00	72	0
399	J-3099	Zone-3 (Chocolate)	4,839.00	67	0
400	J-3100	Zone-3 (Chocolate)	4,848.00	63	0
401	J-3101	Zone-3 (Chocolate)	4,858.00	58	0
402	J-3102	Zone-3 (Chocolate)	4,867.00	54	0
403	J-3103	Zone-3 (Chocolate)	4,781.00	92	0
404	J-3104	Zone-3 (Chocolate)	4,781.00	92	0
405	J-3105	Zone-3 (Chocolate)	4,787.00	89	0
406	J-3106	Zone-3 (Chocolate)	4,789.00	88	0
407	J-3107	Zone-3 (Chocolate)	4,792.00	87	0
408	J-3108	Zone-3 (Chocolate)	4,798.00	84	0
409	J-3109	Zone-3 (Chocolate)	4,801.00	83	0
410	J-3110	Zone-3 (Chocolate)	4,806.00	81	0
411	J-3111	Zone-3 (Chocolate)	4,808.00	80	0
412	J-3112	Zone-3 (Chocolate)	4,814.00	77	0
413	J-3113	Zone-3 (Chocolate)	4,774.00	95	0
414	J-3114	Zone-3 (Chocolate)	4,763.00	99	0
275	J-3115	Zone-3 (Chocolate)	4,748.00	106	0
283	J-3116	Zone Exempt	4,675.00	138	0
282	J-3117	Zone Exempt	4,681.00	135	0
415	J-3118	Zone Exempt	4,681.00	135	0
416	J-3119	Zone Exempt	4,681.00	135	0
284	J-3120	Zone Exempt	4,700.00	127	0
417	J-3121	Zone-3 (Chocolate)	4,802.00	83	0
419	J-3122	Zone-3 (Chocolate)	4,751.00	105	0
420	J-3123	Zone-3 (Chocolate)	4,777.00	93	0
421	J-3124	Zone-3 (Chocolate)	4,773.00	95	0
422	J-3125	Zone-3 (Chocolate)	4,772.00	96	0
423	J-3126	Zone-3 (Chocolate)	4,773.00	95	0
424	J-3127	Zone-3 (Chocolate)	4,775.00	94	0
425	J-3128	Zone-3 (Chocolate)	4,777.00	93	0
426	J-3129	Zone-3 (Chocolate)	4,781.00	92	0
427	J-3130	Zone-3 (Chocolate)	4,765.00	99	0
428	J-3131	Zone-3 (Chocolate)	4,766.00	98	0
429	J-3132	Zone-3 (Chocolate)	4,759.00	101	0
430	J-3133	Zone-3 (Chocolate)	4,766.00	98	0
431	J-3134	Zone-3 (Chocolate)	4,768.00	97	0
432	J-3135	Zone-3 (Chocolate)	4,766.00	98	0
433	J-3136	Zone-3 (Chocolate)	4,762.00	100	0
434	J-3137	Zone-3 (Chocolate)	4,759.00	101	0
435	J-3138	Zone-3 (Chocolate)	4,755.00	103	0
436	J-3139	Zone-3 (Chocolate)	4,760.00	101	0

	J-3140	Zone-3 (Chocolate)	4,766.00	98	0
438	J-3141	Zone-3 (Chocolate)	4,780.00	92	0
439	J-3142	Zone-3 (Chocolate)	4,770.00	96	0
440	J-3143	Zone-3 (Chocolate)	4,770.00	96	0
463	J-3144	Zone-3 (Chocolate)	4,766.00	98	0
441	J-3145	Zone-3 (Chocolate)	4,771.00	96	0
442	J-3146	Zone-3 (Chocolate)	4,770.00	96	0
449	J-3147	Zone-3 (Chocolate)	4,770.00	96	0
448	J-3148	Zone-3 (Chocolate)	4,771.00	96	0
443	J-3149	Zone-3 (Chocolate)	4,758.00	102	0
444	J-3150	Zone-3 (Chocolate)	4,758.00	102	0
445	J-3151	Zone-3 (Chocolate)	4,760.00	101	0
446	J-3152	Zone-3 (Chocolate)	4,755.00	103	0
447	J-3153	Zone-3 (Chocolate)	4,755.00	103	0
418	J-3154	Zone-3 (Chocolate)	4,810.00	79	0
450	J-3155	Zone-3 (Chocolate)	4,779.00	93	0
451	J-3156	Zone-3 (Chocolate)	4,770.00	96	0
274	J-3157	Zone-3 (Chocolate)	4,770.00	96	0
376	J-3158	Zone Exempt	4,880.00	49	0
377	J-3159	Zone-3 (Chocolate)	4,861.00	57	0
378	J-3160	Zone-3 (Chocolate)	4,869.00	54	0
452	J-3161	Zone-3 (Chocolate)	4,840.00	66	0
453	J-3162	Zone-3 (Chocolate)	4,834.00	69	0
454	J-3163	Zone-3 (Chocolate)	4,843.00	65	0
455	J-3164	Zone-3 (Chocolate)	4,820.00	75	0
456	J-3165	Zone-3 (Chocolate)	4,882.00	48	0
466	J-3167	Zone-3 (Chocolate)	4,848.00	63	0
464	J-3168	Zone-3 (Chocolate)	4,870.00	53	0
465	J-3169	Zone-3 (Chocolate)	4,843.00	65	0
467	J-3170	Zone-3 (Chocolate)	4,870.00	53	0
468	J-3171	Zone Exempt	4,949.00	19	0
458	J-3172	Zone Exempt	4,648.00	149	0
461	J-3173	Zone Exempt	4,648.00	40	0
460	J-3174	Zone Exempt	4,648.00	149	0
459	J-3175	Zone Exempt	4,648.00	149	0
462	J-3176	Zone Exempt	4,648.00	40	0
547	J-3177	Zone-3 (Chocolate)	4,780.00	92	0
548	J-3178	Zone-3 (Chocolate)	4,780.00	92	0
583	J-3180	Zone-3 (Chocolate)	4,835.00	68	0
550	J-3181	Zone Exempt	4,750.00	105	0
549	J-3182	Zone Exempt	4,817.00	76	0
561	J-3183	Zone-3 (Chocolate)	4,762.00	100	0
562	J-3184	Zone-3 (Chocolate)	4,816.70	76	0
563	J-3185	Zone-3 (Chocolate)	4,842.90	65	0
564	J-3186	Zone-3 (Chocolate)	4,868.30	54	0
569	J-3191	Zone-3 (Chocolate)	4,844.00	64	0
570	J-3192	Zone-3 (Chocolate)	4,828.00	71	0
572	J-3193	Zone-3 (Chocolate)	4,807.00	80	0
571	J-3194	Zone-3 (Chocolate)	4,807.00	80	0
573	J-3195	Zone-3 (Chocolate)	4,828.00	71	0
584	J-3198	Zone Exempt	4,900.00	40	0
585	J-3199	Zone Exempt	4,900.00	40	0
1368	J-3200	Zone-3 (Chocolate)	4,875.00	51	0
1370	J-3201	Zone-3 (Chocolate)	4,863.00	56	0
470	J-4001S	Zone-4 (Sidehill/Chimney)	4,890.00	106	0
471	J-4002S	Zone-4 (Sidehill/Chimney)	4,877.00	112	0
472	J-4003S	Zone-4 (Sidehill/Chimney)	4,893.00	105	0
473	J-4004S	Zone-4 (Sidehill/Chimney)	4,897.00	103	0
474	J-4005S	Zone-4 (Sidehill/Chimney)	4,899.00	102	0
475	J-4006S	Zone-4 (Sidehill/Chimney)	4,899.00	102	0
476	J-4007S	Zone-4 (Sidehill/Chimney)	4,890.00	106	0
477	J-4008S	Zone-4 (Sidehill/Chimney)	4,953.00	79	0
478	J-4009S	Zone-4 (Sidehill/Chimney)	4,942.00	84	0
479	J-4010S	Zone-4 (Sidehill/Chimney)	4,908.00	98	0
480	J-4011S	Zone-4 (Sidehill/Chimney)	4,928.00	90	0
481	J-4012S	Zone-4 (Sidehill/Chimney)	4,959.00	76	0
482	J-4013S	Zone-4 (Sidehill/Chimney)	5,002.00	58	0

	J-4014S	Zone Exempt	5,100.00	15	0
484	J-4015S	Zone-4 (Sidehill/Chimney)	4,897.00	103	0
485	J-4016S	Zone-4 (Sidehill/Chimney)	4,897.00	103	0
486	J-4017S	Zone-4 (Sidehill/Chimney)	4,885.00	108	0
487	J-4018	Zone-4 (Sidehill/Chimney)	4,885.00	108	0
1331	J-4019	Zone-4 (Sidehill/Chimney)	4,875.00	113	0
489	J-4020S	Zone-4 (Sidehill/Chimney)	4,930.00	89	0
490	J-4021S	Zone-4 (Sidehill/Chimney)	4,900.00	102	0
469	J-4022C	Zone-4 (Sidehill/Chimney)	4,943.00	83	0
496	J-4023C	Zone-4 (Sidehill/Chimney)	4,959.00	76	0
493	J-4024C	Zone-4 (Sidehill/Chimney)	4,929.00	89	0
494	J-4025C	Zone-4 (Sidehill/Chimney)	4,927.00	90	0
495	J-4026C	Zone-4 (Sidehill/Chimney)	4,900.00	102	0
497	J-4027C	Zone-4 (Sidehill/Chimney)	4,971.00	71	0
498	J-4028C	Zone-4 (Sidehill/Chimney)	4,999.00	59	0
499	J-4029C	Zone-4 (Sidehill/Chimney)	4,966.00	73	0
500	J-4030C	Zone-4 (Sidehill/Chimney)	4,963.00	74	0
505	J-4031C	Zone-4 (Sidehill/Chimney)	4,980.00	67	0
501	J-4032C	Zone-4 (Sidehill/Chimney)	4,961.00	75	0
502	J-4033C	Zone-4 (Sidehill/Chimney)	4,938.00	85	0
504	J-4034C	Zone-4 (Sidehill/Chimney)	4,914.00	96	0
503	J-4035C	Zone-4 (Sidehill/Chimney)	4,917.00	94	0
491	J-4036C	Zone-4 (Sidehill/Chimney)	4,921.00	93	0
492	J-4037C	Zone-4 (Sidehill/Chimney)	4,925.00	91	0
506	J-4038C	Zone-4 (Sidehill/Chimney)	4,928.00	90	0
507	J-4039C	Zone-4 (Sidehill/Chimney)	4,923.00	92	0
512	J-4040C	Zone-4 (Sidehill/Chimney)	4,963.00	74	0
513	J-4041C	Zone-4 (Sidehill/Chimney)	4,975.00	69	0
510	J-4042C	Zone-4 (Sidehill/Chimney)	4,952.00	79	0
511	J-4043C	Zone-4 (Sidehill/Chimney)	4,987.00	64	0
509	J-4044C	Zone-4 (Sidehill/Chimney)	4,911.00	97	0
508	J-4045C	Zone-4 (Sidehill/Chimney)	4,911.00	97	0
514	J-4046C	Zone-4 (Sidehill/Chimney)	4,963.00	74	0
515	J-4047C	Zone-4 (Sidehill/Chimney)	4,968.00	72	0
516	J-4048C	Zone-4 (Sidehill/Chimney)	5,004.00	57	0
517	J-4049C	Zone Exempt	5,010.00	54	0
518	J-4050C	Zone Exempt	5,100.00	15	0
523	J-4051C	Zone-4 (Sidehill/Chimney)	5,011.00	54	0
521	J-4052C	Zone-4 (Sidehill/Chimney)	4,993.00	61	0
522	J-4053C	Zone-4 (Sidehill/Chimney)	4,961.00	75	0
520	J-4054C	Zone-4 (Sidehill/Chimney)	4,959.00	76	0
519	J-4055C	Zone-4 (Sidehill/Chimney)	4,944.00	83	0
524	J-4056C	Zone-4 (Sidehill/Chimney)	4,917.00	94	0
525	J-4057C	Zone-4 (Sidehill/Chimney)	4,897.00	103	0
526	J-4058C	Zone-4 (Sidehill/Chimney)	4,884.00	109	0
527	J-4059C	Zone-4 (Sidehill/Chimney)	4,900.00	102	0
528	J-4060C	Zone-4 (Sidehill/Chimney)	4,897.00	103	0
529	J-4061C	Zone-4 (Sidehill/Chimney)	4,910.00	97	0
530	J-4062C	Zone-4 (Sidehill/Chimney)	4,923.00	92	0
531	J-4063C	Zone-4 (Sidehill/Chimney)	4,917.00	94	0
532	J-4064C	Zone-4 (Sidehill/Chimney)	4,915.00	95	0
533	J-4065C	Zone-4 (Sidehill/Chimney)	4,955.00	78	0
534	J-4066C	Zone-4 (Sidehill/Chimney)	4,892.00	105	0
535	J-4067C	Zone-4 (Sidehill/Chimney)	4,873.00	113	0
536	J-4068C	Zone-4 (Sidehill/Chimney)	4,910.00	97	0
537	J-4069C	Zone-4 (Sidehill/Chimney)	4,871.00	114	0
538	J-4070C	Zone-4 (Sidehill/Chimney)	4,889.00	106	0
539	J-4071C	Zone-4 (Sidehill/Chimney)	4,892.00	105	0
540	J-4072C	Zone-4 (Sidehill/Chimney)	4,902.00	101	0
541	J-4073C	Zone-4 (Sidehill/Chimney)	4,896.00	103	0
542	J-4074C	Zone-4 (Sidehill/Chimney)	4,906.00	99	0
543	J-4075C	Zone-4 (Sidehill/Chimney)	4,879.00	111	0
545	J-4076C	Zone-4 (Sidehill/Chimney)	4,851.00	123	0
546	J-4077C	Zone-4 (Sidehill/Chimney)	4,851.00	123	0
544	J-4078C	Zone-4 (Sidehill/Chimney)	4,892.00	105	0
553	J-4079S	Zone-4 (Sidehill/Chimney)	4,935.00	87	0
554	J-4080S	Zone-4 (Sidehill/Chimney)	4,935.00	87	0

	J-4081S	Zone-4 (Sidehill/Chimney)	4,930.00	89	0
578	J-4085S	Zone-4 (Sidehill/Chimney)	4,983.00	66	0
580	J-4086S	Zone-4 (Sidehill/Chimney)	4,890.00	106	0
619	J-4087C	Zone Exempt	5,100.00	15	0
1409	J-4106 School	Zone-4 (Sidehill/Chimney)	4,915.00	95	0
1431	J-4107 School	Zone-4 (Sidehill/Chimney)	4,915.00	95	0
1437	J-4108 School	Zone-4 (Sidehill/Chimney)	4,955.00	78	0
1313	J-5001	Zone 5 (West7th)	5,066.00	69	0
587	J-6001	Zone 6 (Boundary)	5,106.13	91	0
589	J-6002	Zone 6 (Boundary)	5,154.57	70	0
608	J-6003	Zone 6 (Boundary)	5,179.37	59	0
590	J-6004	Zone 6 (Boundary)	5,152.08	71	0
609	J-6005	Zone 6 (Boundary)	5,155.32	69	0
610	J-6006	Zone 6 (Boundary)	5,168.84	63	0
591	J-6007	Zone 6 (Boundary)	5,142.51	75	0
592	J-6008	Zone 6 (Boundary)	5,123.20	83	0
611	J-6009	Zone 6 (Boundary)	5,136.51	77	0
612	J-6010	Zone 6 (Boundary)	5,115.09	87	0
1458	J-6011	Zone 6 (Boundary)	5,131.00	80	0
1460	J-6012	Zone 6 (Boundary)	5,146.00	73	0
1481	J-6024	Zone 6 (Boundary)	5,190.00	54	0
1483	J-6028	Zone 6 (Boundary)	5,174.00	61	0
1485	J-6029	Zone 6 (Boundary)	5,148.00	72	0
1487	J-6030	Zone 6 (Boundary)	5,152.00	71	0
1505	J-6031	Zone 6 (Boundary)	5,160.00	67	0
1490	J-6032	Zone 6 (Boundary)	5,154.00	70	0
588	J-6034	Zone Exempt	5,194.00	53	0
1308	J-6045	Zone Exempt	5,066.00	108	0
586	J-6046	Zone Exempt	4,900.00	180	0
1536	J-6047	Zone 6 (Boundary)	5,200.00	50	0
1538	J-6048	Zone 6 (Boundary)	5,210.00	46	0
1540	J-6049	Zone 6 (Boundary)	5,212.00	45	0
1542	J-6050	Zone 6 (Boundary)	5,164.00	66	0
1544	J-6051	Zone 6 (Boundary)	5,178.00	59	0
1547	J-6052	Zone 6 (Boundary)	5,144.00	74	0
1553	J-6053	Zone 6 (Boundary)	5,144.00	74	0
1549	J-6054	Zone 6 (Boundary)	5,138.00	77	0
1551	J-6055	Zone 6 (Boundary)	5,145.00	74	0
1555	J-6056	Zone 6 (Boundary)	5,120.00	85	0
1557	J-6057	Zone 6 (Boundary)	5,120.00	85	0
1559	J-6058	Zone 6 (Boundary)	5,134.00	79	0
1321	J-Section 5.3.2	Zone 6 (Boundary)	4,704.00	98	0
1401	J-Tangberg	Zone-4 (Sidehill/Chimney)	4,928.00	90	0

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Valle Vista Manufactured Home Subdivision

Wastewater Capacity Study

February, 2018

Sandra Ainsworth, Chairperson
Susan Severt, Vice Chairman
Garth Elliott, Treasurer
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SHAW ENGINEERING

VALLE VISTA
MANUFACTURED HOME SUBDIVISION

WASTEWATER CAPACITY STUDY

February, 2018

SHAW
ENGINEERING

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Reno, Nevada 89503
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1.0 Introduction

The purpose of this Report is to evaluate the ability of the Sun Valley General Improvement District (SVGID) to supply wastewater service to the Valle Vista Manufactured Home Subdivision (hereinafter referred to as the "Development") and to identify any improvements required.

The Development is consists of 75 lots each containing a manufactured home. The Development layout and location is approximately shown in Figure 1.

2.0 Wastewater Treatment and Conveyance Evaluation

2.1 Givens and General Assumptions

Most of the existing wastewater system information was obtained from the *SVGID Wastewater System Master Plan*, dated August, 2011 that was prepared by Shaw Engineering (WWMP).

As identified in the WWMP, the following flows were utilized in this Report;

Annual Average Day Flow	186 Gallons per Day/Equivalent Residential Unit (GPD/ERU)
Peak Month Average Day Flow	201 GPD/ERU
8" Peak Hour Factor	3.0
10" and 12" Peak Hour Factors	2.5
15" and above Peak Hour Factor	2.25
d/D	75%

SVGID's current existing and planned future ERU's are summarized below;

Existing	6,491	
Active Will Serves		
Ladera Phase 1	105	
Planned Future Will Serves		
Middle School	126	
Ladera Phase 2	100	
Ladera Phase 3	151	
Valle Vista	75	
Total	7,048	ERU's

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The wastewater collection system was modelled utilizing Haestaed Methods SewerCAD v5.5 hydraulic modeling software. This hydraulic model was developed by Shaw Engineering for the WWMP.

2.1 Collection System Capacity

The Developments point of connection to the existing collection system is just upstream of the manhole located at the intersection of 4th and Lupin. The WWMP has previously identified the existing 12 inch collection main between 4th/Lupin and Leon/Gepford as being overcapacity and requiring replacement with a 15 inch main. The design of this 15 inch main is currently underway with construction to be started in June/July, 2018. This improvement is shown in Figure 2.

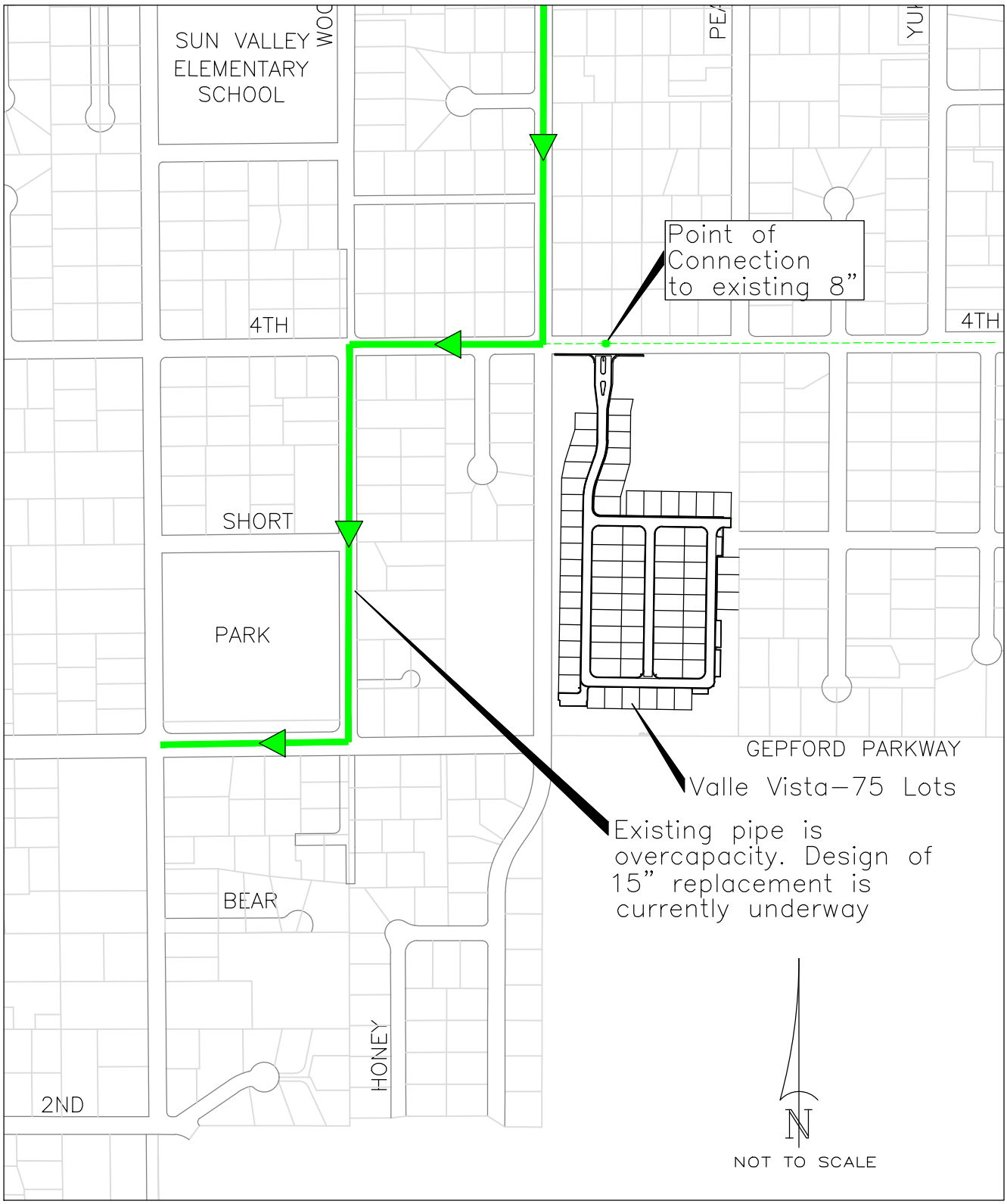
When construction of the 15 inch replacement main is complete, ***SVGID will have the collection system capacity available to serve the Development.***

2.2 SVGID Interceptor Capacity

The interceptor begins at SVGID Flow Meter Station #1 located at Prosser and travels all the way to the intersection of Sparks Boulevard and Baring Way where it then discharges into the City of Sparks Spanish Springs Interceptor that then travels to TMWRF. The SVGID Interceptor has capacity of approximately 3.2 MGD which equates to approximately 7,650 ERU's. ***SVGID has the interceptor capacity available to serve the Development.***

2.3 Treatment Capacity at TMWRF

SVGID has 1.62 MGD of treatment capacity available at the Truckee Meadows Water Reclamation Facility (TMWRF). Capacity at TMWRF is based upon a peak month flow. At 201 GPD/ERU, SVGID has the ability to provide treatment capacity equivalent to 8,060 ERU's. ***SVGID has the treatment capacity available to serve the Development.***



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