

Community Services Department
Planning and Development
MASTER PLAN AMENDMENT
APPLICATION



Community Services Department
Planning and Development
1001 E Ninth St., Bldg A.
Reno, NV 89520

Telephone: 775.328.3600

WASHOE COUNTY MASTER PLAN AMENDMENT APPLICATION
SPANISH SPRINGS BUSINESS CENTER - NORTHERN ADDITION

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Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Development staff at 775.328.3600.

Project Information		Staff Assigned Case No.: _____	
Project Name: SPANISH SPRINGS BUSINESS CENTER - NORTHERN ADDITION			
Project Description: A Master Plan Amendment request to change the master plan category of APN 538-171-09 from Suburban Residential to Industrial in order to expand the Spanish Springs Business Center			
Project Address: Hawco Court, Spanish Springs, NV			
Project Area (acres or square feet): 60.151 acres			
Project Location (with point of reference to major cross streets AND area locator): The project is adjacent to Pyramid Highway (west side) north of the intersection of Pyramid Highway and Ingenuity Avenue.			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
538-171-09	60.151		
Section(s)/Township/Range: Section 14, T21N, R20E, MDM			
Indicate any previous Washoe County approvals associated with this application:			
Case No.(s). CP09-003 approved in 2009 to add 100 acres of industrial land			
Applicant Information (attach additional sheets if necessary)			
Property Owner:		Professional Consultant:	
Name: Mystic Mountain, LLC		Name: Robert M. Sader	
Address: 550 W. Plumb Lane, Suite B-505		Address: 8600 Technology Way, Suite 101	
Reno, NV	Zip: 89509	Reno, NV	Zip: 89521
Phone: 775-425-4425	Fax: 775-425-4425	Phone: 775-329-8310	Fax: 775-329-8591
Email: jesse@hawcoproperties.com		Email: rmsader@robertmsaderltd.com	
Cell: 775-560-6922	Other: n/a	Cell: n/a	Other: n/a
Contact Person: Jesse Haw		Contact Person: Robert M. Sader	
Applicant/Developer:		Other Persons to be Contacted:	
Name: SAME AS ABOVE		Name: n/a	
Address:		Address:	
	Zip:		Zip:
Phone:	Fax:	Phone:	Fax:
Email:		Email:	
Cell:	Other:	Cell:	Other:
Contact Person:		Contact Person:	
For Office Use Only			
Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

Master Plan Amendment 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 Master Plan amendments may be found in Article 820, Amendment of Master Plan.

The Washoe County Master Plan describes how the physical character of the County exists today and is planned for the future. The plan is adopted by the community and contains information, policies and a series of land use maps. The Master Plan provides the essential framework for creating a healthy community system and helps guide decisions about growth and development in the County. The following are general types of requests the County receives to amend the Master Plan. Please identify which type of amendment you are requesting:

<input checked="" type="checkbox"/> A request to change a master plan designation(s) from the adopted master plan and/or area plan maps From Suburban Residential to Industrial
<input type="checkbox"/> A request to add, amend, modify or delete any of the adopted policies found in the elements of the Master Plan
<input type="checkbox"/> A request to add, amend, modify or delete any of the adopted policies in the area plans
<input type="checkbox"/> A request to add, amend, modify or delete specific language found in the area plans
<input type="checkbox"/> Other (please identify):

Please complete this questionnaire to ensure consistent review of your request to amend the Washoe County Master Plan. Staff will review the application to determine if the amendment request is in conformance with the policies and language within the elements and area plans of the Master Plan or if the information provided supports a change to the plan. Please provide a brief explanation to all questions.

1. What is the Master Plan amendment being requested at this time?

This MPA request seeks to expand the Spanish Springs Business Center by changing the master plan category of APN 538-171-09, called in this application the Northern Addition, from Suburban Residential to Industrial. All land within the Spanish Springs Business Center is zoned industrial. The Northern Addition is currently zoned Low Density Suburban (1 home per acre).

c. What are the adopted land use designations of adjacent parcels?

North	Vacant land zoned LDS, partially owned by the applicant
South	Industrial
East	Pyramid Highway and LDS on the east side of the highway
West	Industrial

Continued - please see following page.

4. Describe the existing conditions and uses located at the site or in the vicinity (i.e. vacant land, roadways, buildings, etc.):

The Northern Addition is vacant land and surrounded on three sides by vacant land. The fourth side is Pyramid Highway. It is located within the Suburban Character Management Area ("SCMA"). The closest developed subdivision is Pebble Creek, located $\pm 1,200$ feet to the north. Vacant residential land immediately north of the property is subject to tentative maps. Existing industrial uses in Spanish Springs Business Center include the Sanmar distribution facility approximately 700 feet to the southwest and a personal storage facility less than 500 feet south. Ingenuity Drive via Hawco Court provides access to the Northern Addition from Pyramid Highway. These are existing county streets with all utilities. While Pyramid Highway is adjacent to the eastern boundary of the property, there will be no direct access and a 25-foot buffer strip along the highway.

5. Describe the natural resources associated with the site under consideration. Your description should include resource characteristics such as water bodies, vegetation, topography, minerals, soils and wildlife habitat.

It is a very flat piece of property (about 1% to 2% slope). There is light to moderate vegetation that covers the site with sagebrush and grasses. There is no known wildlife habitat associated with the property due to the lack of topography and vegetation. The Boneyard Flat Playa is located to the northwest. All surface water drainage will be conveyed by storm drains and ditches from the property, across a portion of the Spanish Springs Business Center to Boneyard Flat. There are no known mineral deposits on the site. Soils are consistent with the land in the vicinity on the valley floor. There are no water bodies, streams or wetlands on the property, nor is it in the 100-year flood plain.

MPA APPLICATION CONTINUED (Item #3c)

Project Name: Spanish Springs Business Center – Northern Addition

Applicant: Mystic Mountain, LLC

3.c. Continued: The compatibility ratings are based on comparisons found in the compatibility table of the Land Use and Transportation Element. The compatibility table does not take into consideration the fact that the Industrial land use designation within the Spanish Springs Area Plan is significantly less intensive than the Industrial designations found throughout the rest of the Washoe County, and no heavy industrial uses are allowed under the current area plan. The land use pattern in Spanish Springs west of Pyramid Highway adopted in 1999 and continued in 2004 when the area plan was approved anticipates residential subdivisions bordering the industrial land uses of the Spanish Springs Business Center on the north and south.

Approximately 1/4 mile to the north of the subject site is the developed portion Pebble Creek subdivision. In between Pebble Creek and the subject parcel is undeveloped property zoned for LDS residential uses and subject to tentative maps. If in the future this area is developed with residential units, there are standards within the Spanish Springs Area Plan that require buffering. Specifically, in Appendix B of the area plan, the standards for buffers, screens and setbacks are set forth for mitigation purposes in order to address compatibility of residential subdivisions with the proposed adjoining industrial land uses.

6. Describe whether any of the following natural resources or systems are related to the proposed amendment:

- a. Is property located in the 100-year floodplain? (If yes, please attach documentation of the extent of the floodplain and any proposed floodplain map revisions in compliance with Washoe County Development Code, Article 416, Flood Hazards, and consultation with the Washoe County Department of Public Works.)

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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Explanation:

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- b. Does property contain wetlands? (If yes, please attach a preliminary delineation map and describe the impact the proposal will have on the wetlands. Impacts to the wetlands may require a permit issued from the U.S. Army Corps of Engineers.)

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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Explanation:

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- c. Does property contain slopes or hillsides in excess of 15 percent and/or significant ridgelines? (If yes, please note the slope analysis requirements contained in Article 424, Hillside Development of the Washoe County Development Code.)

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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Explanation:

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- d. Does property contain geologic hazards such as active faults; hillside or mountainous areas; is subject to avalanches, landslides, or flash floods; is near a stream or riparian area such as the Truckee River, and/or an area of groundwater recharge?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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Explanation:

The property has no know geologic hazards.
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- e. Does property contain prime farmland; is within a wildfire hazard area, geothermal or mining area, and/or wildlife mitigation route?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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Explanation:

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7. Please describe whether any archaeological, historic, cultural, or scenic resources are in the vicinity or associated with the proposed amendment:

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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Explanation:

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8. Do you own sufficient water rights to accommodate the proposed amendment? (Amendment requests in some groundwater hydrographic basins [e.g. Cold Springs, Warm Springs, etc.] require proof of water rights be submitted with applications. Please provide copies of all water rights documents, including chain of title to the original water right holder.)

<input checked="" type="checkbox"/> Yes See attached letter	<input type="checkbox"/> No
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If yes, please identify the following quantities and documentation numbers relative to the water rights:

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

e. Please attach a copy(s) of the water rights title (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources):

See attached letter.

f. If the proposed amendment involves an intensification of land use, please identify how sufficient water rights will be available to serve the additional development.

Based on the water use per acre for LDS subdivisions in the unincorporated area of Spanish Springs compared to the water use per acre of developed industrial properties in Spanish Springs Business Center, water use will be less intense if this application is approved. If a high-water industrial development were to locate on the Northern Addition, the applicant has sufficient water rights available to meet any foreseeable need.
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9. Please describe the source and timing of the water facilities necessary to serve the amendment:

a. System Type:

<input type="checkbox"/> Individual wells		
<input type="checkbox"/> Private water	Provider:	
<input checked="" type="checkbox"/> Public water	Provider:	Truckee Meadows Water Authority

b. Available:

<input checked="" type="checkbox"/> Now	<input type="checkbox"/> 1-3 years	<input type="checkbox"/> 3-5 years	<input type="checkbox"/> 5+ years
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c. Washoe County Capital Improvements Program project?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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d. If a public facility is proposed and is currently not listed in the Washoe County Capital Improvements Program and not available, please describe the funding mechanism for ensuring availability of water service:

TMWA is the municipal water provider of community potable water service, since its 2015 merger with the county water system. Nonpotable (reclaimed) water for landscape irrigation and industrial processing, if any, is supplied by the Sparks effluent water system. Storage tanks, transmission lines and distribution water lines for potable and nonpotable water are built and existing for service to the Northern Addition. No CIP water improvements are required. Extensions of water, sewer and other utility lines in streets will be privately funded by industrial developers.
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10. What is the nature and timing of sewer services necessary to accommodate the proposed amendment?

a. System Type:

<input type="checkbox"/> Individual septic		
<input checked="" type="checkbox"/> Public system	Provider:	Washoe County

b. Available:

<input checked="" type="checkbox"/> Now	<input type="checkbox"/> 1-3 years	<input type="checkbox"/> 3-5 years	<input type="checkbox"/> 5+ years
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c. Washoe County Capital Improvements Program project?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

- d. If a public facility is proposed and is currently not listed in the Washoe County Capital Improvements Program and not available, please describe the funding mechanism for ensuring availability of sewer service. If a private system is proposed, please describe the system and the recommended location(s) for the proposed facility.

Washoe County is the municipal provider of community sewer service for this property. Sewer lines are built and in place in streets for extensions of service funded by industrial developers. A county sewer lift station is located on the north boundary of the property.

11. Please identify the street names and highways near the proposed amendment that will carry traffic to the regional freeway system.

A traffic study is included in this application. It identifies the names of the streets and intersections that will carry traffic flows for the proposed site. The regional street system will primarily include use of Pyramid Highway en route to McCarran Boulevard and the U.S. 395 and I-80 freeways. This amendment, by replacing a future residential subdivision designed to use Pebble Creek Drive with industrial land accessed by Ingenuity Avenue in the Spanish Springs Business Center, will reduce local traffic for Pebble Creek residents and reroute the traffic to and from the Northern Addition on existing streets not used by local residents. These local streets have sufficient capacity to accommodate the increase.

12. Will the proposed amendment impact existing or planned transportation systems? (If yes, a traffic report will be required. See attached Traffic Impact Report Guidelines.)

Yes Traffic report attached No

13. Community Services (provided and nearest facility):

a. Fire Station	TMFD station near La Posada and Pyramid Highway
b. Health Care Facility	Northern Nevada Medical Center/Renown Urgent Care
c. Elementary School	Alice Taylor Elementary School
d. Middle School	Shaw Middle School
e. High School	Spanish Springs High School
f. Parks	Sky Ranch Park, Gator Swamp Park, Eagle Canyon Park
g. Library	Spanish Springs Library
h. Citifare Bus Stop	None. RTC does not offer transit service to this area at this time.

14. Describe how the proposed amendment fosters, promotes or complies with the policies of the adopted area plans and elements of the Washoe County Master Plan:

a. Population Element:

This proposed amendment promotes Goal Three of the population element. Goal Three provides "plan for a balanced development pattern that includes employment and housing opportunities, public services and open spaces." This amendment will increase the amount of employment in the Spanish Springs Valley and better balance employment and housing opportunities. Public services already exist to the site. Open space areas are not affected.

b. Conservation Element:

A review of the goals and policies of the Conservation Element suggest little or no applicability. It can therefore be said that the proposed MPA to change land use from a residential subdivision to a portion of an industrial business center complies with Conservation Element goals and policies because it will not impact scenic resources, land resources, water resources or air resources as those goals and policies are stated in this element.

c. Housing Element:

The proposed amendment will not affect any specific Housing Element policies, except for the relationship of jobs created from this land use change and household formation as a result of job creation. Some of those houses will be located in the unincorporated area of Spanish Springs, which will foster Goal Seven to promote home ownership opportunities.

d. Land Use and Transportation Element:

Most LUT goals and policies are not applicable. For those that are applicable, this MPA promotes or complies with 3.1 (growth in the SCMA), 3.2 (enhance sufficient supply of developable industrial land), 3.5 (location supports regional form and pattern of Regional Plan Policy 1.3.3-industrial growth adjacent to existing industrial land in Spanish Springs), 6.1 (develop economic base), and 6.2 (promote business attraction).

e. Public Services and Facilities Element:

The proposed amendment will promote policies of the public services and facilities element to the extent that they are applicable. The basic policy framework for the public services and facilities plan of the Spanish Springs Area Plan is to provide for community water and sewer for those areas within the SCMA. The Northern Addition is located within the SCMA and public services exist in access streets. Utilities and street access will be extended into the property as development occurs by private funding.

f. Adopted area plan(s):

The Spanish Springs Area has four relevant sections of Article 216.
216.05 - no access on Pyramid Highway. No access is proposed.
216.10 - 25 ft. buffers along Pyramid Highway. The buffer will be incorporated into developers' site plans, subject to review by county staff.
216.45 - proof of sufficient water rights. See attached letter.
216.55 - evaluate Spanish Springs Water Detention Facility. The property drains to Boneyard Flat, not the NSSWDF.
Where applicable, this MPA complies with policies of the Spanish Springs Area Plan, including SS 1.3.g, SS 3.1, SS 3.5, SS 4.1, SS 5.1, SS 12.1.a, SS 12.2, SS 15.1, SS 15.2, SS 15.3 and SS 16.1.

15. If the area plan includes a Plan Maintenance component, address all policies and attach all studies and analysis required by the Plan Maintenance criteria.

SEE FOLLOWING PAGES.

MPA APPLICATION CONTINUED (Item #15)

Project Name: Spanish Springs Business Center – Northern Addition

Applicant: Mystic Mountain, LLC

SS 17.1 In order for the Washoe County Planning Commission to recommend the approval of ANY amendment to the Spanish Springs Area Plan, the following findings must be made:

- a. The amendment will further implement and preserve the Vision and Character Statement.

The Vision and Character Statement is implemented and preserved by this amendment. The Statement, adopted in 2004, supports new suburban commercial and industrial uses which increase employment opportunities allowing valley residents to work closer to home and facilitating more efficient transportation patterns. The Statement designates the suburban core in the SCMA near Pyramid Highway, on the west side, where a mix of residential and nonresidential land uses are appropriate. The amendment promotes all these concepts.

- b. The amendment conforms to all applicable policies of the Spanish Springs Area Plan and the Washoe County Master Plan.

As stated in this application this amendment conforms to all applicable policies of the area plan and master plan.

- c. The amendment will not conflict with the public's health, safety or welfare.

This amendment does not conflict with the public's health, safety and welfare. Streets and utilities are already extended to the property in the area designated for future growth, the SCMA. This amendment is a logical extension of the existing Spanish Springs Business Center, which promotes public health, safety and welfare by providing employment opportunities closer to residential areas in the valley and reversing the predominant traffic commuting pattern.

SS.17.2 In order for the Washoe County Planning Commission to recommend approval of any amendment involving a change of land use, the following findings must be made:

- a. A feasibility study has been conducted, commissioned and paid for by the applicant, relative to municipal water, sewer, and storm water that clearly identifies the improvements likely to be required to support the intensification, and those improvements have been determined to be in substantial compliance with all applicable existing facilities and resource plans for Spanish Springs by the Department of Water Resources. The Department of Water Resources will establish and maintain the standards and methodologies for these feasibility studies.

The feasibility study is attached, describing existing facilities and future improvements, and making the findings required by SS 17.2.a.

SS. 17.2.b A traffic analysis has been conducted that clearly identifies the impact to the adopted level of service within the (unincorporated) Spanish Springs Hydrographic Basin and the improvements likely to be required to maintain/achieve the adopted levels of service. This finding may be waived by the Department of Public Works for projects that are determined to have minimal impacts. The Department of Public Works may request any information it deems necessary to make this determination.

Solaegui Engineers has prepared a traffic impact analysis, which is attached. The report outlines overall impacts, as well as any recommended improvements.

SS. 17.2.c. For commercial and industrial land use intensifications, the overall percentage of commercial and industrial regulatory zone acreage will not exceed 9.86 percent of the Suburban Character Management Area.

The cap on industrial acreage is in the process of being removed. The Washoe County Board of County Commissioners have approved a removal of this cap. The MPA will follow county consideration of this change and conformance review by the RPA.

SS.17.2.d. For residential land use intensifications, the potential increase in residential units will not exceed Washoe County's policy growth level for the Spanish Springs Area Plan, as established in Policy SS.1.2.

Not applicable. The MPA will decrease residential units.

SS.17.2.e. If the proposed intensification will result in a drop below the established policy level of service for transportation (as established by the Regional Transportation Commission and Washoe County) within the Spanish Springs Hydrographic Basin, the necessary improvements required to maintain the established level of service are scheduled in either the Washoe County Capital Improvements Program or Regional Transportation Improvement Program within three years of approval of the intensification. For impacts to regional roads, this finding may be waived by the Washoe County Planning Commission upon written request from the Regional Transportation Commission.

A traffic impact analysis is included in this report. The project will create some impacts. Specific recommendations are provided to ensure proper levels of service are maintained. The project will pay regional road impact fees at the time of building permit to further address project impacts.

SS.17.2.f. If roadways impacted by the proposed intensification are currently operating below adopted levels of service, the intensification will not require infrastructure improvements beyond those articulated in Washoe County and Regional transportation plan and the necessary improvements are scheduled for either the Washoe County Capital Improvements Program or Regional Transportation Improvement Program within three years of approval of the intensification.

The traffic impact analysis provides details of any planned improvements to the surrounding roadway network. The report provides recommendations

related to the intensification and discusses the timing of the subject improvements to be completed either by the developer or Washoe County/RTC.

- g. Washoe County will work to ensure that the long range plans of facilities providers for transportation, water resources, schools, and parks reflect the policy growth level established in Policy SS.1.2.

Not applicable. The request will not generate any additional population as discussed in Policy SS.1.2.

- h. If the proposed intensification results in existing facilities exceeding design capacity and comprises the Washoe County School District's ability to implement the neighborhood school philosophy for elementary facilities, then there must be a capital improvement plan or rezoning plan in place that would enable the District to absorb the additional enrollment. This finding may be waived by the Washoe County Planning Commission upon request of the Washoe County Board of Trustees.

Not applicable. The amendment request reduces the residential growth.

- i. Any existing development in the Spanish Springs planning area, the Sun Valley planning area, the Warm Springs planning area, or the City of Sparks, which is subject to the conditions of a special use permit will not experience undue hardship in the ability to continue to comply with the conditions of the special use permit or otherwise to continue operation of its permitted activities.

Not applicable. The amendment request does not involve a special use permit and it is not germane to this request.

Applicant Comments

This page can be used by the applicant to support the master plan amendment request and should address, at a minimum, how one or more of the findings for an amendment are satisfied. (Please refer to Article 820 of the Washoe County Development Code for the list of Findings.)

SEE FOLLOWING PAGES

ADDITIONAL COMMENTS

Comprehensive Plan Amendment Findings

Section 110.820.15 of the Washoe County Development Code specifies six (6) findings that the Planning Commission must consider in order to approve a Master Plan Amendment request. These findings are listed below and are addressed in **bold face** type. At least three (3) of the following findings must be made to approve an amendment, in circumstances when the sixth (6th) finding is inapplicable.

1. Consistency with Master Plan: The proposed amendment is in substantial compliance with the policies and action programs of the Master Plan.

The proposed amendment substantially complies with all applicable policies contained within the Spanish Springs Area Plan and the Master Plan as detailed in this amendment request. The proposed industrial land use is well suited for the project site and supported by Area Plan policies that address balancing employment and residential land uses, and their positive impact on reducing peak hour vehicle trips. The property is located within the SCMA, the future growth area of Spanish Springs and is served by existing streets and utilities.

2. Compatible Land Uses: The proposed amendment will provide for land uses compatible with (existing or planned) adjacent land uses, and will not adversely impact public health, safety, or welfare.

The surrounding uses are compatible for most of the surrounding conditions. To the west and south are existing industrial uses, with nearby Open Space (Boneyard Flat) which borders the Martin Marietta aggregate pit, a high intensity open mining operation. LDS residential land use is on the north property line, which is vacant land currently. The Northern Addition is about 1/4 mile from existing residential area, a single family subdivision. A portion of that vacant residential land is owned by the applicant. The design standards in Appendix B Business Park Design Guidelines of the Spanish Springs Area Plan will address and mitigate potential impacts. Those standards exceed minimum code requirements and address how future development relates to planned uses of adjacent parcels. Thoughtful and responsible land use planning is in place to ensure compatibility along that property line. Washoe County will review specific building permit applications and implement all of the requirements included in the business park design standards.

3. Response to Change Conditions: The proposed amendment responds to changed conditions of further studies that have occurred since the plan was adopted by the Board of County Commissioners, and the requested amendment represents a more desirable utilization of land.

Since this property was classified for LDS residential use in 1999, significant growth has occurred. Thousands of residents have moved into their new homes and the adjacent Spanish Springs Business Center has partially developed. As envisioned by the area plan Character Statement, new future employment opportunities are desirable and will result in a more efficient transportation commuting pattern. In 2014 the Truckee Meadows Regional Industrial Lands

Analysis, commissioned by the TMRPA, identified a severe lack of large parcel (20 acres in size or more) development-ready industrial land in Washoe County and recommended local jurisdictions identify and rezone property in this category. This amendment will add needed inventory of industrial land recommended by the study.

4. **Availability of Facilities:** There are or are planned to be adequate transportation, recreation, utility and other facilities to accommodate the uses and densities permitted by the proposed Master Plan designation.

Local streets and utilities within the adjacent industrial park are adequate to accommodate the industrial land use proposed. Water and sewer impacts are likely to be less than the residential subdivision land use being replaced. Local residents in Pebble Creek will experience a reduction of future traffic by routing access through the industrial park rather than on Pebble Creek Drive. Recreation facilities will also see a reduction in use by replacement of the residential subdivision

5. **Desired Pattern of Growth:** The proposed amendment will promote the desired pattern for the orderly physical growth of the County and guides development of the County based on projected population growth with the least amount of natural resource impairment and the efficient expenditure of funds for public services.

The proposed amendment is positive in supporting a logical growth pattern in the northern Spanish Springs Valley by providing more employment in an area already significantly developed with suburban residential land uses. There is no natural resource impairment since the property is not in the 100-year flood plain, has only high-desert vegetation with little elevation, and is currently planned for residential subdivision development. Public services, including community water and sewer, are already planned for the property and are not anticipated to be adversely impacted by industrial rather than residential development. No additional county funds for street or utility capital improvements are anticipated.

6. **Effect on a Military Installation:** The proposed amendment will not affect the location, purpose or mission of the military installation.

This finding is inapplicable. The amendment does not propose use by a military installation, nor is there a military installation located in Spanish Springs Valley.

Community Services Department
Planning and Development
REGULATORY ZONE AMENDMENT
APPLICATION



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1001 E Ninth St., Bldg A.
Reno, NV 89520

Telephone: 775.328.3600

WASHOE COUNTY REGULATORY ZONE AMENDMENT APPLICATION
SPANISH SPRINGS BUSINESS CENTER - NORTHERN ADDITION

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Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Development staff at 775.328.3600.

Project Information		Staff Assigned Case No.: _____	
Project Name: SPANISH SPRINGS BUSINESS CENTER - NORTHERN ADDITION			
Project Description: A Regulatory Zone Amendment request to change the zoning of APN 538-171-09 from Low Density Suburban to Industrial in order to expand the Spanish Springs Business Center.			
Project Address: Hawco Court, Spanish Springs, NV			
Project Area (acres or square feet): 60.151			
Project Location (with point of reference to major cross streets AND area locator): The project is adjacent to Pyramid Highway (west side) north of the intersection of Pyramid Highway and Ingenuity Avenue.			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
538-171-09	60.151 acre		
Section(s)/Township/Range:			
Indicate any previous Washoe County approvals associated with this application: Case No.(s).			
Applicant Information (attach additional sheets if necessary)			
Property Owner:		Professional Consultant:	
Name: Mystic Mountain, LLC		Name: Robert M. Sader	
Address: 550 W. Plumb Lane, Suite B-505		Address: 8600 Technology Way, Suite 101	
Reno, NV	Zip: 89509	Reno, NV	Zip: 89521
Phone: 775-425-4425	Fax: 775-425-4425	Phone: 775-329-8310	Fax: 775-329-8591
Email: jesse@hawcoproperties.com		Email: rmsader@robertmsaderltd.com	
Cell: 775-560-6922	Other: n/a	Cell: n/a	Other: n/a
Contact Person: Jesse Haw		Contact Person: Robert M. Sader	
Applicant/Developer:		Other Persons to be Contacted:	
Name: SAME AS ABOVE		Name: n/a	
Address:		Address:	
	Zip:		Zip:
Phone:	Fax:	Phone:	Fax:
Email:		Email:	
Cell:	Other:	Cell:	Other:
Contact Person:		Contact Person:	
For Office Use Only			
Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

Regulatory Zone Amendment 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 Regulatory Zone amendments may be found in Article 821, Amendment of Regulatory Zone.

Please complete this questionnaire to ensure consistent review of your request to amend the Washoe County Zoning Map. Please provide a brief explanation to all questions answered in the affirmative.

1. Please describe the Regulatory Zone amendment request:

This RZA request seeks to expand the Spanish Springs Business Center by changing the zoning category of APN 538-171-09, called in this application the Northern Addition, from Low Density Suburban to Industrial. All land within the Spanish Springs Business Center is zoned industrial.

2. List the Following information regarding the property subject to the Regulatory Zone Amendment.

- a. What is the location (address, assessor's parcel number or distance and direction from nearest intersection)?

The property is located on the west side of Pyramid Highway north of Ingenuity Avenue and south of Pebble Creek Drive, at the northeast edge of the existing Spanish Springs Business Center, an industrial park.

The intersection of Pyramid Highway and Ingenuity Avenue is approximately one-quarter mile to the south of the property. Access to the property is from Ingenuity Avenue via Hawco Court. There will be no access, other than emergency vehicle access, from Pebble Creek Drive. The legal description is attached.

b. Please list the following (attach additional sheet if necessary):

APN of Parcel	Master Plan Designation	Current Zoning	Existing Acres	Proposed Zoning	Proposed Acres
538-171-09	Suburban Res	LDS	60.151 acre	Industrial	60.151 acre

This application is filed with an MPA to change the master plan designation from Suburban Residential to Industrial.

c. What are the regulatory zone designations of adjacent parcels?

	Zoning	Use (residential, vacant, commercial, etc.)
North	LDS	VACANT, PARTIALLY OWNED BY APPLICANT
South	INDUSTRIAL	VACANT, OWNED BY AFFILIATE
East	PYRAMID HIGHWAY	VACANT LDS EAST OF HIGHWAY
West	INDUSTRIAL	VACANT, OWNED BY AFFILIATE

Continued - see following page

3. Describe the existing conditions and uses located at the site or in the vicinity (i.e. vacant land, roadways, easements, buildings, etc.):

The Northern Addition is vacant land and surrounded on three sides by vacant land. The fourth side is Pyramid Highway. It is located within the Suburban Character Management Area ("SCMA"). The closest developed subdivision is Pebble Creek, located ±1,200 feet to the north. Vacant residential land immediately north of the property is subject to tentative maps. Existing industrial uses in Spanish Springs Business Center include the Sanmar distribution facility approximately 700 feet to the southwest and a personal storage facility less than 500 feet south. Ingenuity Drive via Hawco Court provides access to the Northern Addition from Pyramid Highway. These are existing county streets with all utilities. While Pyramid Highway is adjacent to the eastern boundary of the property, there will be no direct access and a 25-foot buffer strip along the highway.

RZA APPLICATION CONTINUED (Item #2.c)

Project Name: Spanish Springs Business Center – Northern Addition

Applicant: Mystic Mountain, LLC

2.c Continued: The compatibility ratings are based on comparisons found in the compatibility table of the Land Use and Transportation Element. The compatibility table does not take into consideration the fact that the Industrial regulatory zone within the Spanish Springs Area Plan is significantly less intensive than the Industrial zoning found throughout the rest of the Washoe County, and no heavy industrial uses are allowed under the current regulatory zone in Spanish Springs. The land use pattern in Spanish Springs west of Pyramid Highway adopted in 1999 and continued in 2004 when the area plan was approved anticipates residential subdivisions bordering the industrial land uses of the Spanish Springs Business Center on the north and south.

Approximately 1/4 mile to the north of the subject site is the developed portion Pebble Creek subdivision. In between Pebble Creek and the subject parcel is undeveloped property zoned for LDS residential uses and subject to tentative maps. If in the future this area is developed with residential units, there are standards within the Spanish Springs Area Plan that require buffering. Specifically, in Appendix B of the area plan, the standards for buffers, screens and setbacks are set forth for mitigation purposes in order to address compatibility of residential subdivisions with the proposed adjoining industrial land uses.

4. Describe the natural resources associated with the site under consideration. Your description should include resource characteristics such as water bodies, vegetation, topography, minerals, soils and wildlife habitat.

It is a very flat piece of property (about 1% to 2% slope). There is light to moderate vegetation that covers the site with sagebrush and grasses. There is no known wildlife habitat associated with the property due to the lack of topography and vegetation. The Boneyard Flat Playa is located to the northwest. All surface water drainage will be conveyed by storm drains and ditches from the property, across a portion of the Spanish Springs Business Center to Boneyard Flat. There are no known mineral deposits on the site. Soils are consistent with the land in the vicinity on the valley floor. There are no water bodies, streams or wetlands on the property, nor is it in the 100-year flood plain.

5. Does the property contain development constraints such as floodplain or floodways, wetlands, slopes or hillsides in excess of 15%, geologic hazards such as active faults, significant hydrologic resources or major drainages or prime farmland?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

Explanation:

--

6. Please describe whether any archaeological, historic, cultural, or scenic resources are in the vicinity or associated with the proposed amendment:

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

Explanation:

--

7. Do you own sufficient water rights to accommodate the proposed amendment? (Amendment requests in some groundwater hydrographic basins [e.g. Cold Springs, Warm Springs, etc.] require proof of water rights be submitted with applications. Please provide copies of all water rights documents, including chain of title to the original water right holder.)

<input checked="" type="checkbox"/> Yes See attached letter	<input type="checkbox"/> No
---	-----------------------------

If yes, please identify the following quantities and documentation numbers relative to the water rights:

a. Permit #	See attached letter	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):

See attached letter.

- f. If the proposed amendment involves an intensification of land use, please identify how sufficient water rights will be available to serve the additional development.

Based on the water use per acre for LDS subdivisions in the unincorporated area of Spanish Springs compared to the water use per acre of developed industrial properties in Spanish Springs Business Center, water use will be less intense if this application is approved. If a high-water industrial development were to locate on the Northern Addition, the applicant has sufficient water rights available to meet any foreseeable need.
--

8. Please describe the source and timing of the water facilities necessary to serve the amendment:

a. System Type:

<input type="checkbox"/> Individual wells		
<input type="checkbox"/> Private water	Provider:	
<input checked="" type="checkbox"/> Public water	Provider:	

b. Available:

<input checked="" type="checkbox"/> Now	<input type="checkbox"/> 1-3 years	<input type="checkbox"/> 3-5 years	<input type="checkbox"/> 5+ years
---	------------------------------------	------------------------------------	-----------------------------------

c. Is this part of a Washoe County Capital Improvements Program project?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

d. If a public facility is proposed and is currently not listed in the Washoe County Capital Improvements Program and not available, please describe the funding mechanism for ensuring availability of water service:

TMWA is the municipal water provider of community potable water service, since its 2015 merger with the county water system. Nonpotable (reclaimed) water for landscape irrigation and industrial processing, if any, is supplied by the Sparks effluent water system. Storage tanks, transmission lines and distribution water lines for potable and nonpotable water are built and existing for service to the Northern Addition. No CIP water improvements are required. Extensions of water, sewer and other utility lines in streets will be privately funded by industrial developers.
--

9. What is the nature and timing of sewer services necessary to accommodate the proposed amendment?

a. System Type:

<input type="checkbox"/> Individual septic		
<input checked="" type="checkbox"/> Public system	Provider:	

b. Available:

<input checked="" type="checkbox"/> Now	<input type="checkbox"/> 1-3 years	<input type="checkbox"/> 3-5 years	<input type="checkbox"/> 5+ years
---	------------------------------------	------------------------------------	-----------------------------------

c. Is this part of a Washoe County Capital Improvements Program project?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

- d. If a public facility is proposed and is currently not listed in the Washoe County Capital Improvements Program and not available, please describe the funding mechanism for ensuring availability of sewer service. If a private system is proposed, please describe the system and the recommended location(s) for the proposed facility.

Washoe County is the municipal provider of community sewer service for this property. Sewer lines are built and in place in streets for extensions of service funded by industrial developers. A county sewer lift station is located on the north boundary of the property.

10. Please identify the street names and highways near the proposed amendment that will carry traffic to the regional freeway system.

A traffic study is included in this application. It identifies the names of the streets and intersections that will carry traffic flows for the proposed site. The regional street system will primarily include use of Pyramid Highway en route to McCarran Boulevard and the U.S. 395 and I-80 freeways. This amendment, by replacing a future residential subdivision designed to use Pebble Creek Drive with industrial land accessed by Ingenuity Avenue in the Spanish Springs Business Center, will reduce local traffic for Pebble Creek residents and reroute the traffic to and from the Northern Addition on existing streets not used by local residents. These local streets have sufficient capacity to accommodate the increase.

11. Will the proposed amendment impact existing or planned transportation systems? (If yes, a traffic report will be required. See attached Traffic Impact Report Guidelines.)

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
---	-----------------------------

12. Community Services (provided and nearest facility):

a. Fire Station	TMFD station near La Posada and Pyramid Highway
b. Health Care Facility	Northern Nevada Medical Center/Renown Urgent Care
c. Elementary School	Alice Taylor Elementary School
d. Middle School	Shaw Middle School
e. High School	Spanish Springs High School
f. Parks	Sky Ranch Park, Gator Swamp Park, Eagle Canyon Park
g. Library	Spanish Springs Library
h. Citifare Bus Stop	None. RTC does not offer transit service to this area at this time.

Projects of Regional Significance Information – for Regulatory Zone Amendments

Nevada Revised Statutes 278.026 defines "Projects of Regional Significance." Regulatory Zone amendment requests for properties within the jurisdiction of the Truckee Meadows Regional Planning Commission (TMRPC) must respond to the following questions. A "Yes" answer to any of the following questions may result in the application being referred first to the Truckee Meadows Regional Planning Agency for submission as a project of regional significance. Applicants should consult with County or Regional Planning staff if uncertain about the meaning or applicability of these questions.

1. Will the full development potential of the Regulatory Zone amendment increase employment by not less than 938 employees?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

2. Will the full development potential of the Regulatory Zone amendment increase housing by 625 or more units?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

3. Will the full development potential of the Regulatory Zone amendment increase hotel accommodations by 625 or more rooms?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

4. Will the full development potential of the Regulatory Zone amendment increase sewage by 187,500 gallons or more per day?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

5. Will the full development potential of the Regulatory Zone amendment increase water usage by 625 acre-feet or more per year?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

6. Will the full development potential of the Regulatory Zone amendment increase traffic by 6,250 or more average daily trips?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

7. Will the full development potential of the Regulatory Zone amendment increase the student population from kindergarten to 12th grade by 325 students or more?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

Applicant Comments

This page can be used by the applicant to support the regulatory zone amendment request and should address, at a minimum, how one or more of the findings for an amendment are satisfied. (Please refer to Article 821 of the Washoe County Development Code for the list of Findings.)

A large, empty rectangular box with a thin black border, intended for the applicant to provide comments. The box is currently blank.

ADDITIONAL COMMENTS

Regulatory Zone Amendment Findings

Section 110.821.15(d) of the Washoe County Development Code specifies seven (7) findings that the Planning Commission must consider in order to approve a Regulatory Zone Amendment request. These findings are listed below and are addressed in **bold face** type.

1. Consistency with Master Plan and Regulatory Zone Map: The proposed amendment is in substantial compliance with the policies and action programs of the Master Plan and Regulatory Zone map.

The proposed amendment substantially complies with all applicable policies contained within the Spanish Springs Area Plan and the Master Plan as detailed in this amendment request. The proposed industrial land use is well suited for the project site and supported by Area Plan policies that address balancing employment and residential land uses, and their positive impact on reducing peak hour vehicle trips. The property is located within the SCMA, the future growth area of Spanish Springs and is served by existing streets and utilities.

2. Compatible Land Uses: The proposed amendment will provide for land uses compatible with (existing or planned) adjacent land uses, and will not adversely impact public health, safety, or welfare.

The surrounding uses are compatible for most of the surrounding conditions. To the west and south are existing industrial uses, with nearby Open Space (Boneyard Flat) which borders the Martin Marietta aggregate pit, a high intensity open mining operation. LDS residential land use is on the north property line, which is vacant land currently. The Northern Addition is about 1/4 mile from existing residential area, a single family subdivision. A portion of that vacant residential land is owned by the applicant. The design standards in Appendix B Business Park Design Guidelines of the Spanish Springs Area Plan will address and mitigate potential impacts. Those standards exceed minimum code requirements and address how future development relates to planned uses of adjacent parcels. Thoughtful and responsible land use planning is in place to ensure compatibility along that property line. Washoe County will review specific building permit applications and implement all of the requirements included in the business park design standards.

3. Response to Change Conditions: The proposed amendment responds to changed conditions of further studies that have occurred since the plan was adopted by the Board of County Commissioners, and the requested amendment represents a more desirable utilization of land.

Since this property was classified for LDS residential use in 1999, significant growth has occurred. Thousands of residents have moved into their new homes and the adjacent Spanish Springs Business Center has partially developed. As envisioned by the area plan Character Statement, new future employment opportunities are desirable and will result in a more efficient transportation commuting pattern. In 2014 the Truckee Meadows Regional Industrial Lands

Analysis, commissioned by the TMRPA, identified a severe lack of large parcel (20 acres in size or more) development-ready industrial land in Washoe County and recommended local jurisdictions identify and rezone property in this category. This amendment will add needed inventory of industrial land recommended by the study.

4. Availability of Facilities: There are or are planned to be adequate transportation, recreation, utility and other facilities to accommodate the uses and densities permitted by the proposed amendment.

Local streets and utilities within the adjacent industrial park are adequate to accommodate the industrial land use proposed. Water and sewer impacts are likely to be less than the residential subdivision land use being replaced. Local residents in Pebble Creek will experience a reduction of future traffic by routing access through the industrial park rather than on Pebble Creek Drive. Recreation facilities will also see a reduction in use by replacement of the residential subdivision

5. Desired Pattern of Growth: The proposed amendment will promote the desired pattern for the orderly physical growth of the County and guides development of the County based on projected population growth with the least amount of natural resource impairment and the efficient expenditure of funds for public services.

The proposed amendment is positive in supporting a logical growth pattern in the northern Spanish Springs Valley by providing more employment in an area already significantly developed with suburban residential land uses. There is no natural resource impairment since the property is not in the 100-year flood plain, has only high-desert vegetation with little elevation, and is currently planned for residential subdivision development. Public services, including community water and sewer, are already planned for the property and are not anticipated to be adversely impacted by industrial rather than residential development. No additional county funds for street or utility capital improvements are anticipated.

6. No Adverse Effects: The proposed amendment will not adversely affect the implementation of the policies and action programs of the Washoe County Master Plan.

A review of the policies and action programs of the Washoe County Master Plan indicates this amendment will not adversely affect their implementation.

7. Effect on a Military Installation: The proposed amendment will not affect the location, purpose or mission of the military installation.

This finding is inapplicable. The amendment does not propose use by a military installation, nor is there a military installation located in Spanish Springs Valley.

Washoe County Treasurer
 Tammi Davis

Bill Detail

[Back to Account Detail](#)

[Change of Address](#)

[Print this Page](#)

Pay By Check

AMOUNT ABOVE WILL POPULATE
 AFTER PAYMENT TYPE IS SELECTED

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).

Please mail your request to: Washoe
 County Treasurer
 P O Box 30039
 Reno, NV 89520-3039

Or fax your request to:
 (775) 328-2500

Or [click here](#) to submit online form

Washoe County Parcel Information		
Parcel ID	Status	Last Update
53817109	Active	9/8/2015 2:11:54 AM
Current Owner: MYSTIC MOUNTAIN LLC 144 GREENRIDGE DR RENO, NV 89509		SITUS: 0 PYRAMID WAY WASHOE COUNTY NV
Taxing District 4000	Geo CD:	
Legal Description		
Block SubdivisionName _UNSPECIFIED Township 21 Range 20 Lot 2 Section 14		

Installments						
Period	Due Date	Tax Year	Tax	Penalty/Fee	Interest	Total Due
INST 1	8/17/2015	2015	\$0.00	\$0.00	\$0.00	\$0.00
INST 2	10/5/2015	2015	\$1,274.70	\$0.00	\$0.00	\$1,274.70
INST 3	1/4/2016	2015	\$1,274.70	\$0.00	\$0.00	\$1,274.70
INST 4	3/7/2016	2015	\$1,274.69	\$0.00	\$0.00	\$1,274.69
Total Due:			\$3,824.09	\$0.00	\$0.00	\$3,824.09

Tax Detail			
	Gross Tax	Credit	Net Tax
<u>State of Nevada</u>	\$357.90	(\$90.39)	\$267.51
<u>Truckee Meadows Fire Dist</u>	\$1,136.86	(\$287.11)	\$849.75
<u>Washoe County</u>	\$2,929.92	(\$739.95)	\$2,189.97
<u>Washoe County Sc</u>	\$2,396.88	(\$605.32)	\$1,791.56
Total Tax	\$6,821.56	(\$1,722.77)	\$5,098.79

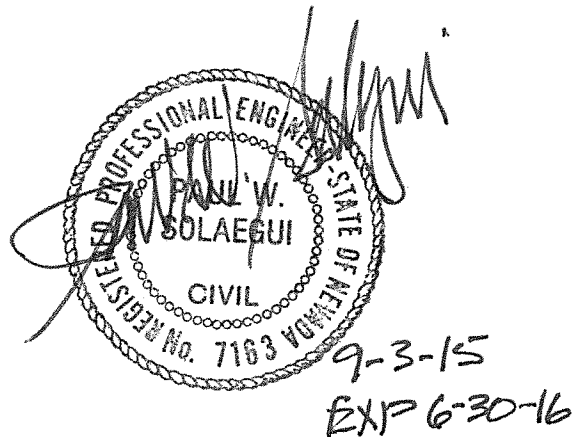
Payment History				
Tax Year	Bill Number	Receipt Number	Amount Paid	Last Paid
2015	353024	U15.9886	\$1,274.70	8/26/2015

The Washoe County Treasurer's Office makes every effort to produce and publish the most current and accurate information possible. No warranties, expressed or implied, are provided for the data herein, its use, or its interpretation. If you have any questions, please contact us at (775) 328-2510 or tax@washoecounty.nv

This site is best viewed using Google Chrome, Internet Explorer 11, Mozilla Firefox or Safari.

NORTHERN ADDITION INDUSTRIAL
TRAFFIC STUDY

SEPTEMBER, 2015



Prepared by:
Solaegui Engineers, Ltd.
715 H Street
Sparks, Nevada 89431
(775) 358-1004

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NORTHERN ADDITION INDUSTRIAL TRAFFIC STUDY

EXECUTIVE SUMMARY

The proposed Northern Addition Industrial development is located in Washoe County, Nevada. The project site is located west of Pyramid Highway, south of Pebble Creek Drive, and north of Ingenuity Avenue. The project site is currently undeveloped land. The purpose of this study is to address the project's impact upon the adjacent street network. The Pyramid Highway intersections with Calle De La Plata and Ingenuity Avenue have been identified for AM and PM peak hour capacity analysis for the existing, existing plus project, 2025 base, and 2025 base plus project scenarios.

The proposed Northern Addition Industrial development will include the construction of a high-cube warehouse building containing 1,000,000 square feet of gross floor area. The project is anticipated to generate 1,680 average daily trips with 110 trips occurring during the AM peak hour and 120 trips occurring during the PM peak hour.

Traffic generated by the proposed Northern Addition Industrial development will have some impact on the adjacent street network. The following recommendations are made to mitigate project traffic impacts.

It is recommended that any required signing, striping or traffic control improvements comply with Nevada Department of Transportation and Washoe County requirements.

It is recommended that project access from Ingenuity Avenue to the project site be designed per Washoe County standards.

INTRODUCTION

STUDY AREA

The proposed Northern Addition Industrial development is located in Washoe County, Nevada. The project site is located west of Pyramid Highway, south of Pebble Creek Drive, and north of Ingenuity Avenue. Figure 1 shows the approximate location of the project site. The purpose of this study is to address the project's impact upon the adjacent street network. The Pyramid Highway intersections with Calle De La Plata and Ingenuity Avenue have been identified for AM and PM peak hour capacity analysis for the existing, existing plus project, 2025 base, and 2025 base plus project scenarios.

EXISTING AND PROPOSED LAND USES

The project site is currently undeveloped land. Adjacent land generally includes the Pebble Creek subdivision to the north, industrial development to the south, scattered residential dwelling units to the east across Pyramid Highway, and undeveloped land to the west. The proposed Northern Addition Industrial development will include the construction of a high-cube warehouse building containing 1,000,000 square feet of gross floor area.

EXISTING AND PROPOSED ROADWAYS AND INTERSECTIONS

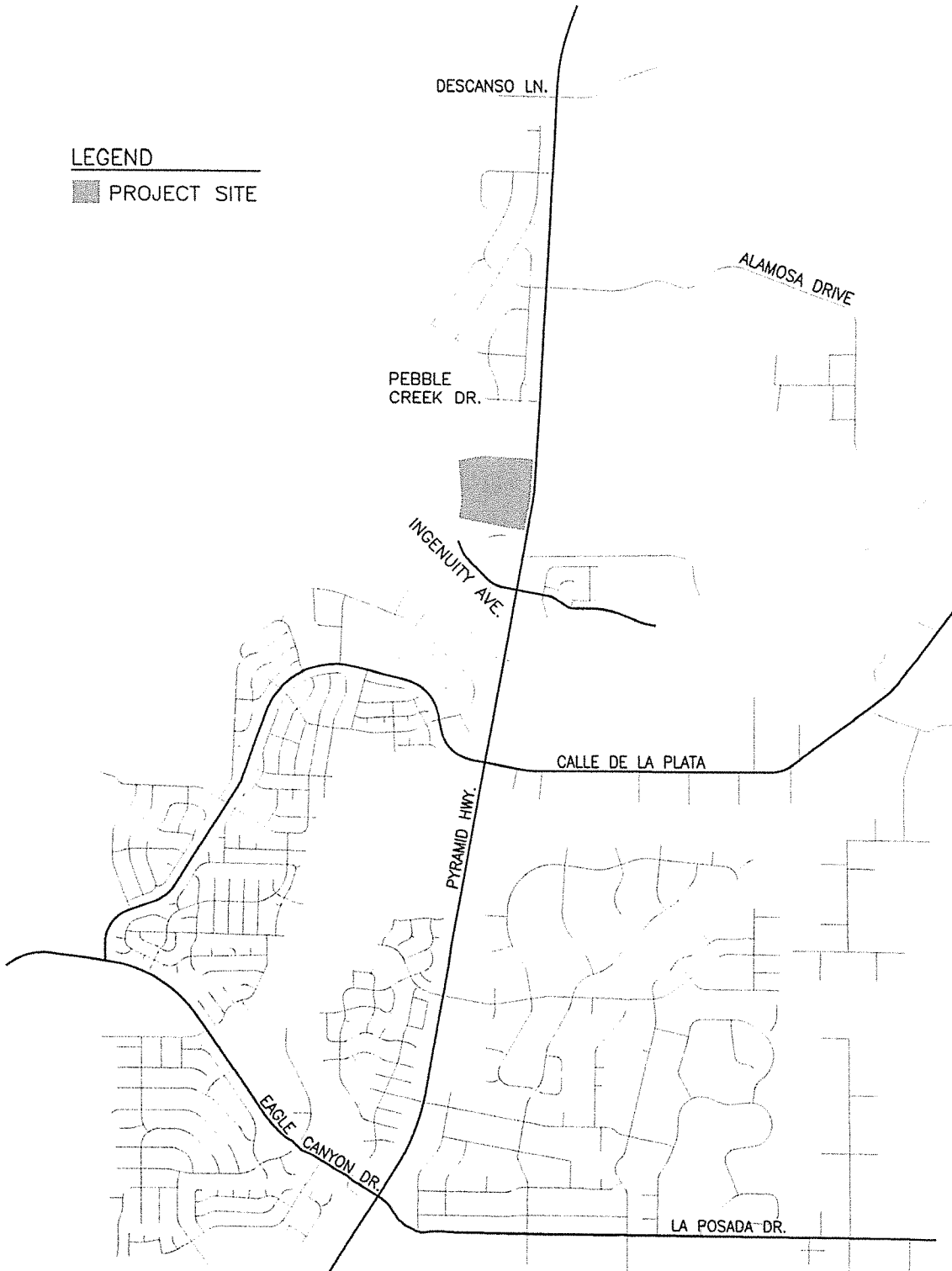
Pyramid Highway is a two-lane roadway with one through lane in each direction in the vicinity of the site. The speed limit is posted for 55 miles per hour between Egyptian Drive and Calle De La Plata and 65 miles per hour north of Sha Neva Road. Roadway improvements generally include striped white edgelines and graded shoulders on both sides of the roadway and a striped yellow centerline with striped left turn pockets at intersections.

Calle De La Plata is a four-lane roadway with two through lanes in each direction west of Pyramid Highway and a two-lane roadway with one through lane in each direction east of Pyramid Highway. The speed limit is posted for 40 miles per hour west of Pyramid Highway and 50 miles per hour east of Pyramid Highway. Roadway improvements on the four-lane section include curb, gutter, sidewalk and bike lanes on both sides of the street with a raised, landscaped center median. Roadway improvements on the two-lane section include striped white edgelines and graded shoulders on both sides of the roadway and a striped yellow centerline.

Ingenuity Avenue is a two lane roadway with one lane in each direction east and west of Pyramid Highway. The speed limit is posted for 35 miles per hour west of Pyramid Highway and 25 miles per hour east of Pyramid Highway. Roadway improvements include curb, gutter, and sidewalk on both sides of the street except for the north side of the street west of Pyramid Highway which has only curb and gutter. A short section of raised center median exists on the east section.

LEGEND

■ PROJECT SITE



NORTHERN ADDITION INDUSTRIAL
VICINITY MAP
FIGURE 1

The Pyramid Highway/Calle De La Plata intersection is an unsignalized four-leg intersection with stop sign control at the east and west approaches. The north and south approaches each contain one left turn lane and a shared through-right turn lane. The west approach contains a shared left turn-through lane and one right turn lane with width for a future through lane. The east approach contains one shared left turn-through-right turn lane.

The Pyramid Highway/Ingenuity Avenue intersection is an unsignalized four-leg intersection with stop sign control at the east and west approaches. The north and south approaches each contain one, left turn lane, one through lane, and one right turn lane. The east approach contains one left turn lane and one shared through-right turn lane. The west approach contains one wide lane from which the left turn, through, and right turn movements are made. The Pyramid Highway/Ingenuity Avenue intersection will provide access to the project.

TRIP GENERATION

In order to assess the magnitude of traffic impacts of the proposed project on the key intersections, trip generation rates and peak hours had to be determined. Trip generation rates were obtained from the Ninth Edition of *ITE Trip Generation* (2012) for Land Use 152 “High-Cube Warehouse/ Distribution Center”. The proposed project will include the construction of a warehouse building containing approximately 1,000,000 square feet of gross floor area.

Trips generated by the project were calculated for the peak hours occurring between 7:00 AM and 9:00 AM and 4:00 PM and 6:00 PM, which correspond to the peak hours of adjacent street traffic. Table 1 shows a summary of the average daily traffic (ADT) volume and peak hour volumes generated by the proposed development.

LAND USE	ADT	AM PEAK HOUR			PM PEAK HOUR		
		IN	OUT	TOTAL	IN	OUT	TOTAL
High-Cube Warehouse (1,000,000 S.F.)	1,680	76	34	110	37	83	120

The proposed Northern Addition Industrial development is anticipated to generate 1,680 average daily trips with a total of 110 trips occurring during the AM peak hour and a total of 120 trips occurring during the PM peak hour.

TRIP DISTRIBUTION AND ASSIGNMENT

The distribution of the project traffic to the key intersections was based on existing peak hour traffic patterns and the locations of attractions and productions in the area. Figure 2 shows the anticipated trip distribution. The peak hour trips shown in Table 1 were subsequently assigned to the key intersections based on the trip distribution. Figure 3 shows the trip assignment at the key intersections for the AM and PM peak hours.

EXISTING AND PROJECTED TRAFFIC VOLUMES

Figure 4 shows the existing AM and PM peak hour turning movement volumes at the key intersections. The existing AM and PM peak hour turning movement volumes at the two key intersections were obtained from traffic counts taken in April of 2014 with supplemental counts taken in July and August of 2015.

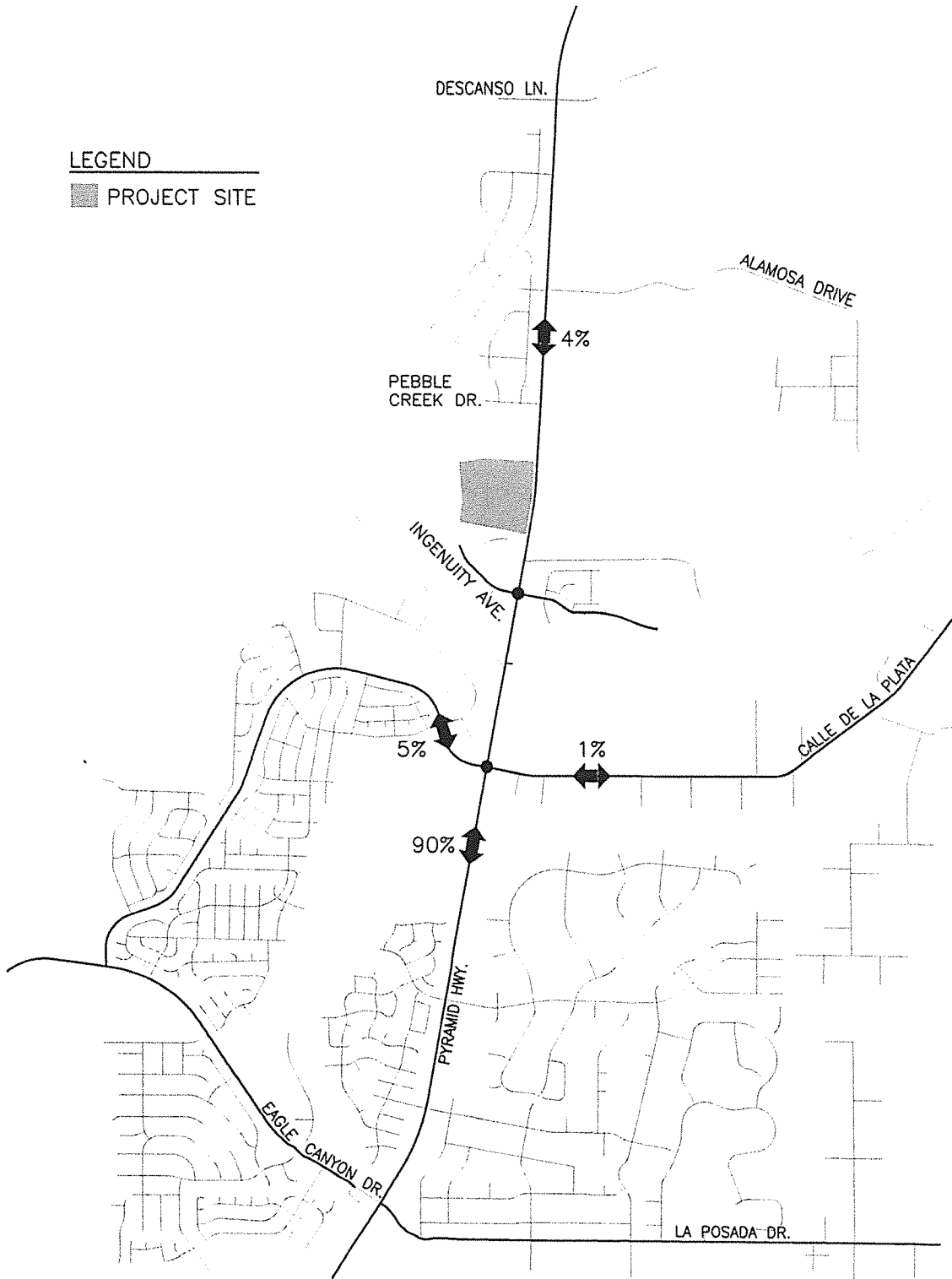
Figure 5 shows the existing plus project AM and PM peak hour traffic volumes at the key intersections. The existing plus project traffic volumes were obtained by adding the trip assignment volumes shown on Figure 3 to the existing turning movement volumes shown on Figure 4.

Figure 6 shows the 2025 base turning movement volumes at the key intersections during the AM and PM peak hours. The 2025 base turning movement volumes were estimated by applying a 1.0% average annual growth rate to the existing traffic volumes. The growth rate was derived from ten-year historic traffic count data obtained from the Nevada Department of Transportation's (NDOT) Annual Traffic Report for count station 0312270 on Pyramid Highway north of Calle De La Plata.

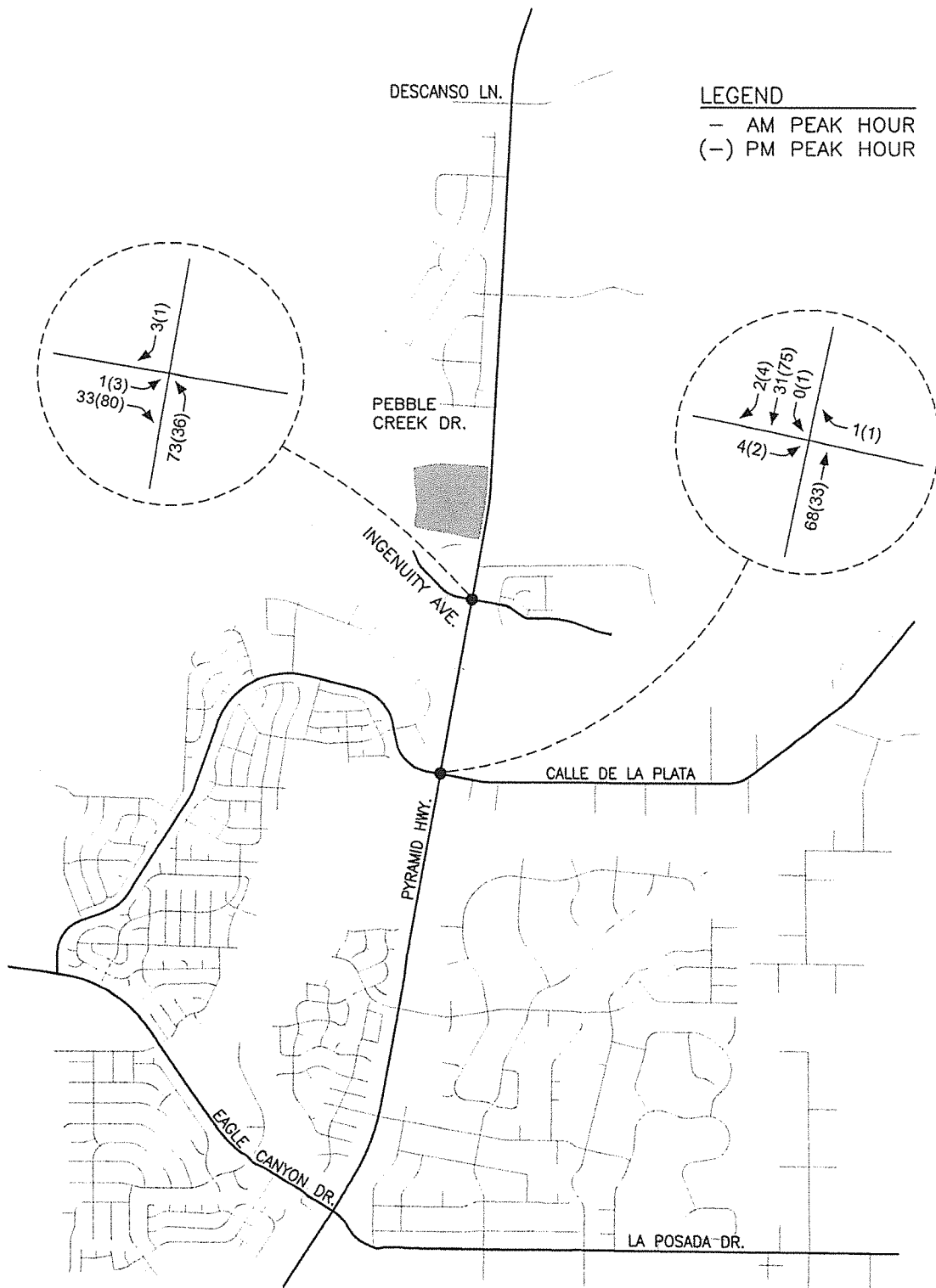
Figure 7 shows the 2025 base plus project turning movement volumes at the key intersections. These turning movement volumes were obtained by adding the trip assignment volumes shown on Figure 3 to the 2025 base turning movement volumes shown on Figure 6.

LEGEND

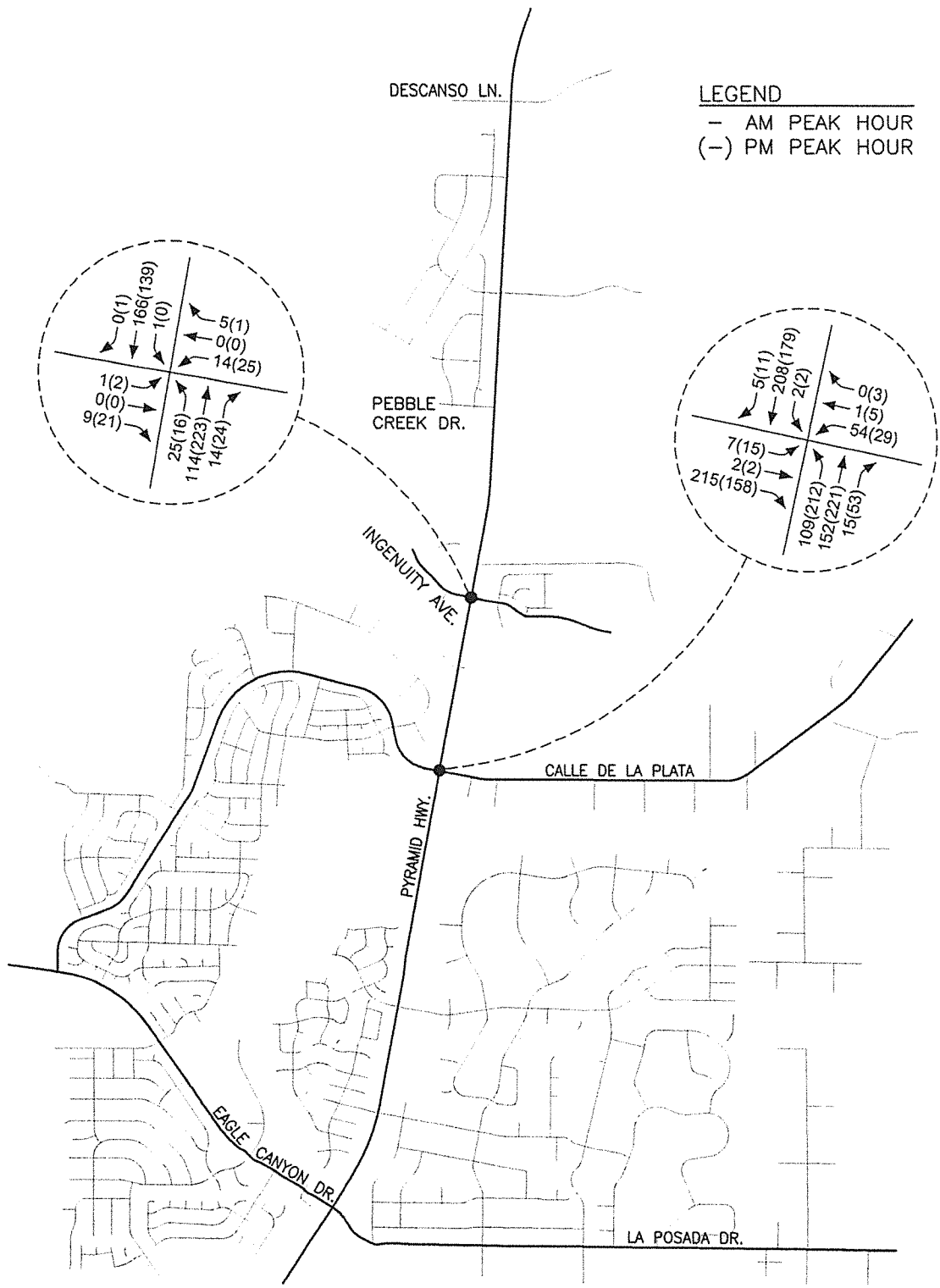
■ PROJECT SITE



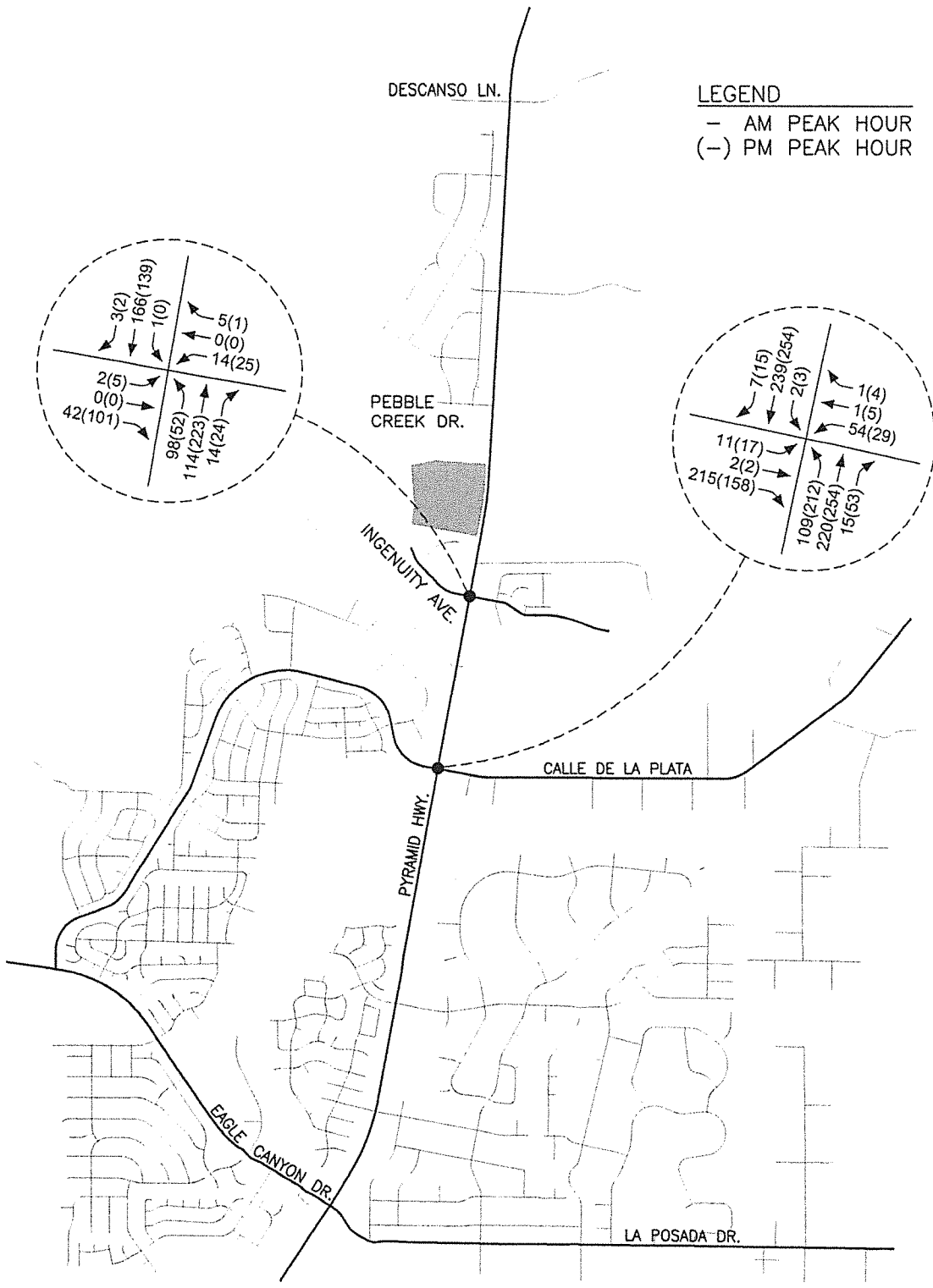
NORTHERN ADDITION INDUSTRIAL
TRIP DISTRIBUTION
FIGURE 2



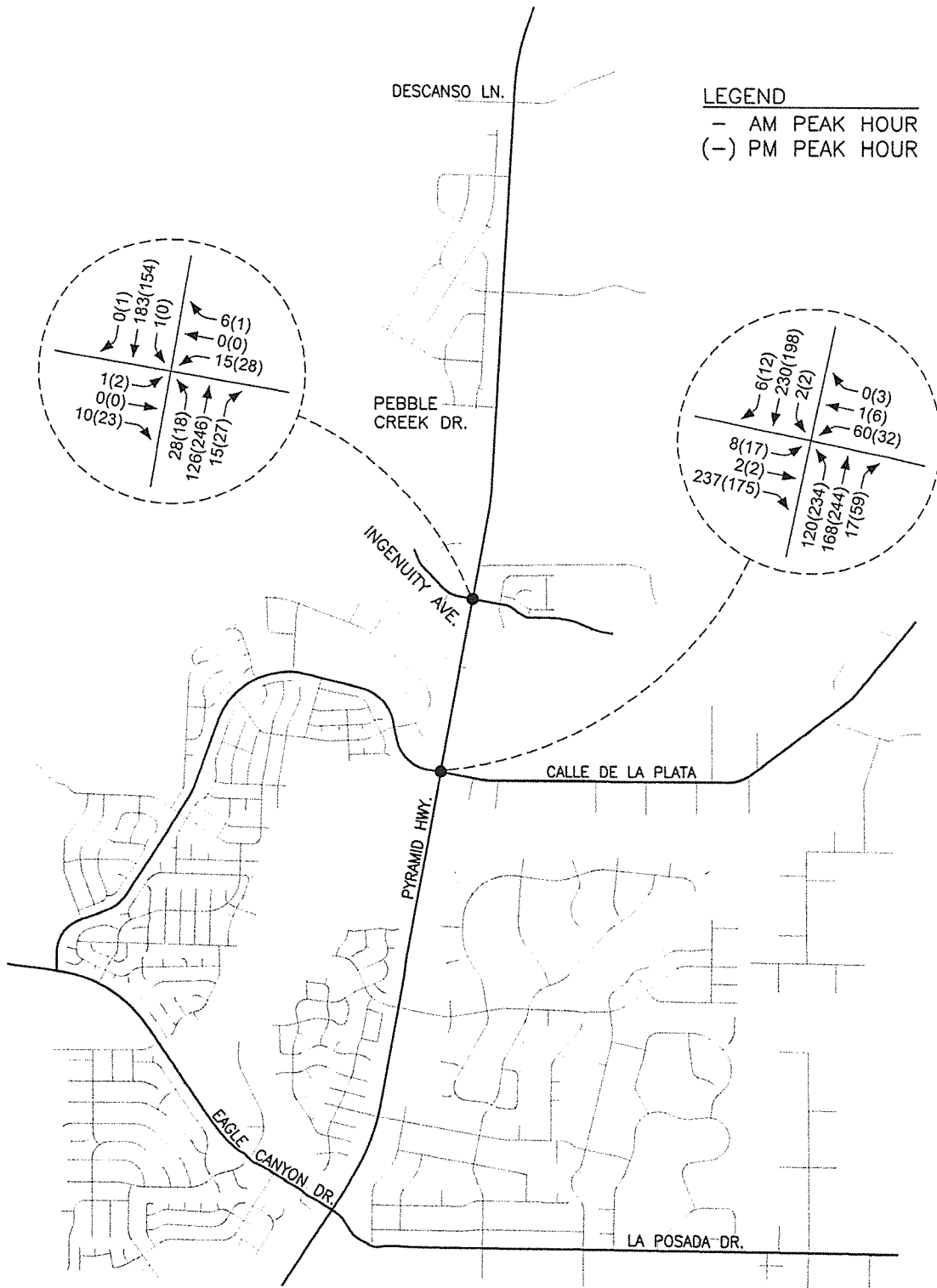
NORTHERN ADDITION INDUSTRIAL
TRIP ASSIGNMENT
FIGURE 3



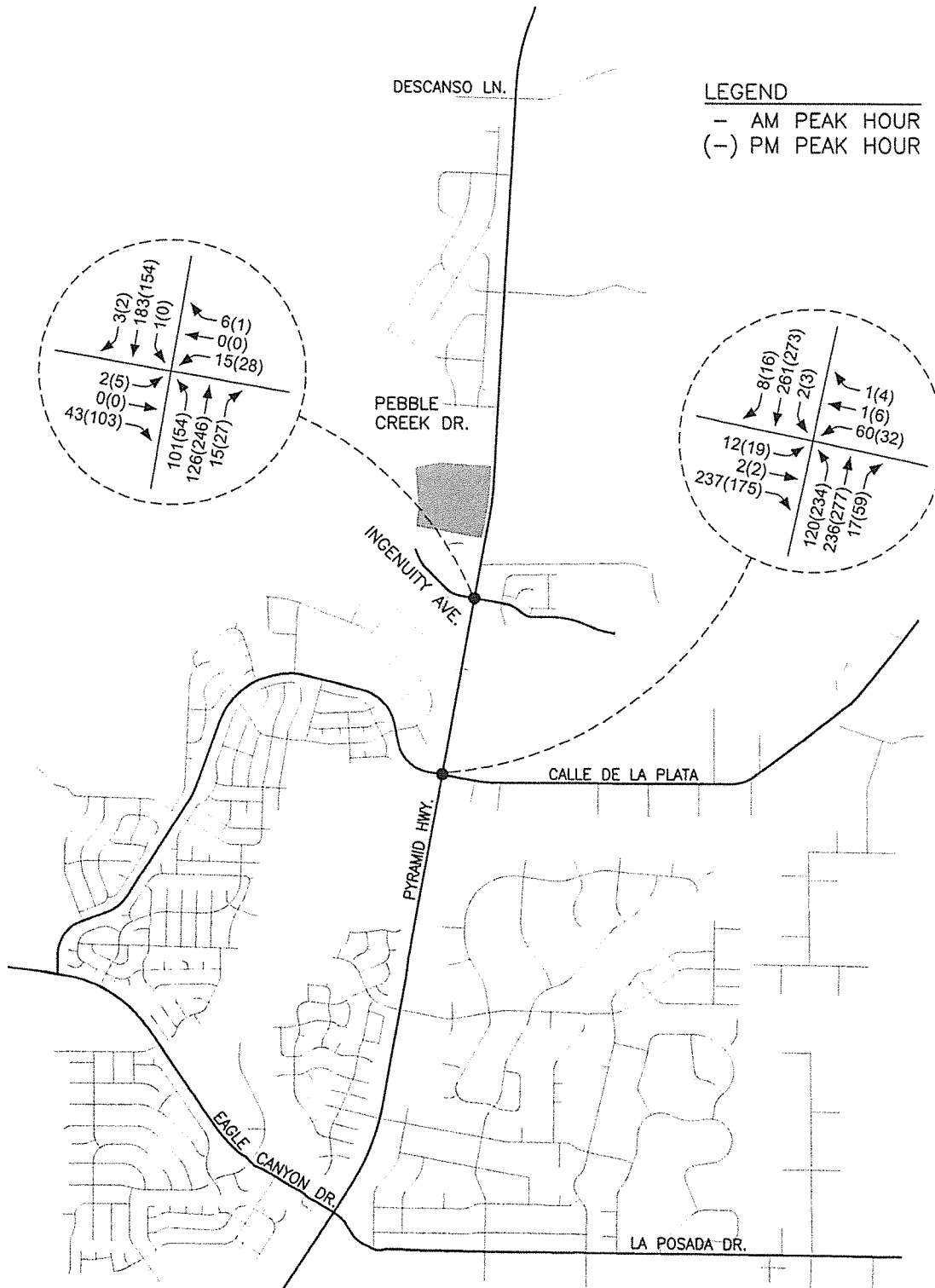
NORTHERN ADDITION INDUSTRIAL
 EXISTING TURNING MOVEMENT VOLUMES
 FIGURE 4



NORTHERN ADDITION INDUSTRIAL
 EXISTING + PROJECT TURNING MOVEMENT VOLUMES
 FIGURE 5



NORTHERN ADDITION INDUSTRIAL
 2025 BASE TURNING MOVEMENT VOLUMES
 FIGURE 6



NORTHERN ADDITION INDUSTRIAL
 2025 BASE + PROJECT TURNING MOVEMENT VOLUMES
 FIGURE 7

INTERSECTION CAPACITY ANALYSIS

The key intersections were analyzed for capacity based on procedures presented in the 2010 *Highway Capacity Manual (HCM)*, prepared by the Transportation Research Board, for unsignalized intersections using the latest version of the Highway Capacity computer software.

The result of capacity analysis is a level of service (LOS) rating for each unsignalized intersection minor movement. Level of service is a qualitative measure of traffic operating conditions where a letter grade “A” through “F”, corresponding to progressively worsening traffic operation, is assigned to the minor movement.

The *Highway Capacity Manual* defines level of service for stop controlled intersections in terms of computed or measured control delay for each minor movement. Level of service is not defined for the intersection as a whole. The level of service criteria for unsignalized intersections is shown in Table 2.

LEVEL OF SERVICE	DELAY RANGE (SEC/VEH)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50

Table 3 shows a summary of the level of service and delay results for the existing, existing plus project, 2025 base, and 2025 base plus project. The capacity worksheets are included in the Appendix.

INTERSECTION	EXISTING		EXISTING + PROJECT		2025 BASE		2025 BASE + PROJECT	
	AM	PM	AM	PM	AM	PM	AM	PM
Pyramid Highway and Calle De La Plata								
NB Left	A7.9	A8.1	A8.0	A8.4	A8.0	A8.3	A8.1	A8.6
SB Left	A7.6	A7.8	A7.7	A7.9	A7.6	A7.9	A7.8	A8.0
WB Left-Thru-Right	D26.0	D31.0	D31.5	E38.7	D33.3	E40.0	E42.5	F52.6
EB Left-Thru	B14.9	C22.8	C16.9	D27.2	C16.1	D26.5	C18.4	D32.7
EB Right	B11.1	B10.3	B11.4	B11.0	B11.6	B10.6	B12.0	B11.4

TABLE 3 (CONTINUED)
INTERSECTION LEVEL OF SERVICE AND DELAY RESULTS

INTERSECTION	EXISTING		EXISTING + PROJECT		2025 BASE		2025 BASE + PROJECT	
	AM	PM	AM	PM	AM	PM	AM	PM
Pyramid Highway and Ingenuity								
NB Left	A7.6	A7.5	A7.8	A7.6	A7.7	A7.6	A7.8	A7.7
SB Left	A7.5	A7.8	A7.5	A7.8	A7.5	A7.8	A7.5	A7.8
WB Left	B11.3	B12.3	B14.0	B15.0	B11.7	B12.9	B14.6	C15.9
WB Thru-Right	A8.9	A9.5	A8.9	A9.5	A9.0	A9.6	A9.0	A9.6
EB Left-Thru-Right	A9.4	A9.3	A9.5	A9.7	A9.5	A9.4	A9.6	A9.8

Pyramid Highway/Calle De La Plata

The Pyramid Highway/Calle De La Plata intersection was analyzed as an unsignalized four-leg intersection with stop sign control at the east and west approaches for all scenarios. The minor movements currently operate at LOS D or better during the AM and PM peak hours. For the existing plus project volumes the minor movements operate at LOS D or better except for the shared left turn-through-right turn movement at the east approach which operates at LOS E during the PM peak hour. For the 2025 base volumes the intersection minor movements are anticipated to operate at LOS D or better except for the shared left turn-through-right turn movement at the east approach which operates at LOS E during the PM peak hour. For the 2025 base plus project volumes the shared left turn-through-right turn movement at the east approach operates at LOS E during the AM peak hour and LOS F during the PM peak hour. The intersection was analyzed with the existing approach lanes.

Traffic signal warrant 3 per the *Manual on Uniform Traffic Control Devices* (2009) was subsequently reviewed at the Pyramid Highway/Calle De La Plata intersection due to the poor LOS operation for some minor movements. It should be noted that peak hour warrant 3 should be applied only in unusual cases such as office complexes, manufacturing plants, industrial complexes, or other high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time. The *Manual on Uniform Traffic Control Devices* has eight additional warrants that should be evaluated when considering the need for the installation of a signal. Traffic signal warrant 3 appears to be met for the 2025 base plus project volumes based on the full approach volume at the west leg. The warrant is not met if the right turn volume at the west leg is deducted from the approach volume. The installation of a traffic signal at the Pyramid Highway/Calle De La Plata intersection is anticipated to provide acceptable level of service operation.

Pyramid Highway/Ingenuity Avenue

The Pyramid Highway/Ingenuity Avenue intersection was analyzed as an unsignalized four-leg intersection with stop sign control at the east and west approaches for all scenarios. The intersection minor movements currently operate at LOS B or better during the AM and PM peak hours. For the 2025 base volumes the intersection minor movements are anticipated to operate at LOS B or better during the AM and PM peak hours. For the 2025 base plus project volumes the intersection minor movements are anticipated to operate at LOS C or better during the AM and PM peak hours. The intersection was analyzed with the existing approach lanes for all scenarios.

Left turn storage requirements were reviewed at the south approach of the Pyramid Highway/Ingenuity Avenue intersection based on the NDOT criteria of providing 3 minutes of storage during the peak hour. A minimum of 125 feet of storage is calculated for the 2025 base plus project volumes. The left turn lane should also contain a minimum of 365 feet of deceleration length based on NDOT's access management standards for a total lane length of 490 feet. The existing left turn pocket contains approximately 510 feet of left turn storage which will serve project traffic demands.

SITE PLAN REVIEW

A copy of the preliminary site plan for the Northern Addition Industrial development is included in this submittal. Project access is anticipated to be provided from a roadway connection from Ingenuity Avenue. All project traffic will utilize Pyramid Highway, Ingenuity Avenue, and this roadway connection for site access. It is recommended that project access from Ingenuity Avenue to the project site be designed per Washoe County standards.

REVERSE COMMUTE BENEFITS

The reverse commute benefits of industrial/warehouse development in north Spanish Springs was reviewed. The existing industrial/warehouse development in north Spanish Springs is generally off Pyramid Highway between Calle De La Plata and Pebble Creek Drive. Existing Pyramid Highway peak hour traffic volumes obtained at the intersections of Calle De La Plata and Pebble Creek Drive indicate that existing Pyramid Highway peak hour traffic volumes at Pebble Creek Drive are very directional. The predominate direction is southbound in the morning peak hour. In the evening peak hour the northbound direction is larger. This imbalance results in inefficient roadway capacity utilization. Balanced traffic flow produces better lane capacity utilization and traffic signal timing efficiencies. Existing Pyramid Highway peak hour traffic volumes are less directional south of Calle De La Plata than near Pebble Creek Drive.

Table 4 shows the existing Pyramid Highway peak hour directional distribution on Pyramid Highway at the two locations.

TABLE 4 EXISTING PYRAMID HIGHWAY PEAK HOUR DIRECTIONAL DISTRIBUTION				
LOCATION	AM PEAK HOUR		PM PEAK HOUR	
	SOUTHBOUND	NORTHBOUND	SOUTHBOUND	NORTHBOUND
South of Pebble Creek	67%	33%	37%	63%
South of Calle De La Plata	65%	35%	41%	59%

As indicated in Table 4, the Pyramid Highway peak hour directional distribution balance is improved south of Calle De La Plata as compared with south of Pebble Creek Drive. In our opinion the existing industrial/warehouse traffic produces that improvement. The PM peak hour balance is best south of Calle De La Plata. Improvement in the PM peak hour directional distribution is significant because that time period yields the highest traffic volumes of the day.

To illustrate the differences in peak hour directional distribution for the residential and industrial land uses trip generation data was evaluated. Peak hour trip distribution is based on the Ninth Edition of *ITE Trip Generation* (2012) for Land Uses 210: Single Family Residential and 120: High-Cube Warehouse. Table 5 shows directional distribution by land use for the alternate land uses.

TABLE 5 ALTERNATE LAND USE DIRECTIONAL DISTRIBUTION				
LOCATION	AM PEAK HOUR		PM PEAK HOUR	
	ENTERING	DEPARTING	ENTERING	DEPARTING
Single Family Residential	25%	75%	63%	37%
High-Cube Warehouse	69%	31%	31%	69%

As indicated in Table 5, the residential directional distribution is roughly opposite that of the high-cube warehouse land use. The alternate directional patterns are well established.

In summary, roadway operational benefits are realized when balanced directional distribution is achieved. Pyramid Highway operates with a fairly large directional imbalance. The existing industrial/warehouse development in north Spanish Spring is shown to enhance directional balance. Allowing some additional warehouse land use will further enhance the directional balance while additional residential development will add to the existing imbalance.

RECOMMENDATIONS

Traffic generated by the proposed Northern Addition Industrial development will have some impact on the adjacent street network. The following recommendations are made to mitigate project traffic impacts.

It is recommended that any required signing, striping or traffic control improvements comply with Nevada Department of Transportation and Washoe County requirements.

It is recommended that project access from Ingenuity Avenue to the project site be designed per Washoe County standards.

APPENDIX

Trip Generation Summary - Alternative 1

Project: New Project
 Alternative: Alternative 1

Open Date: 8/21/2015
 Analysis Date: 8/21/2015

ITE	Land Use	Average Daily Trips			AM Peak Hour of Adjacent Street Traffic			PM Peak Hour of Adjacent Street Traffic		
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
152	HCWAREHOUSE 1 1000 Gross Floor Area 1000 SF	840	840	1680	76	34	110	37	83	120
Unadjusted Volume		0	0	0	0	0	0	0	0	0
Internal Capture Trips		0	0	0	0	0	0	0	0	0
Pass-By Trips		0	0	0	0	0	0	0	0	0
Volume Added to Adjacent Streets		0	0	0	0	0	0	0	0	0

Total AM Peak Hour Internal Capture = 0 Percent

Total PM Peak Hour Internal Capture = 0 Percent

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 7/31/2015
 Analysis Time Period: AM Peak Hour
 Intersection: Pyramid & Calle De La Plata
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: Existing
 Project ID:
 East/West Street: Calle De La Plata
 North/South Street: Pyramid Highway
 Intersection Orientation: NS
 Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		109	152	15	2	208	5	
Peak-Hour Factor, PHF		0.95	0.95	0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR		114	160	15	2	218	5	
Percent Heavy Vehicles		2	--	--	2	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L		TR
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound			Eastbound			
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		54	1	0	7	2	215	
Peak Hour Factor, PHF		0.95	0.95	0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR		56	1	0	7	2	226	
Percent Heavy Vehicles		2	2	2	2	2	2	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				No	/		/	
Lanes		0	1	0		0	1	1
Configuration		LTR				LT	R	

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LT	R	
v (vph)	114	2		57		9	226	
C(m) (vph)	1346	1401		228		371	820	
v/c	0.08	0.00		0.25		0.02	0.28	
95% queue length	0.28	0.00		0.96		0.07	1.12	
Control Delay	7.9	7.6		26.0		14.9	11.1	
LOS	A	A		D		B	B	
Approach Delay				26.0			11.2	
Approach LOS				D			B	

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 7/31/2015
 Analysis Time Period: PM Peak Hour
 Intersection: Pyramid & Calle De La Plata
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: Existing
 Project ID:
 East/West Street: Calle De La Plata
 North/South Street: Pyramid Highway
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		212	221	53	2	179	11	
Peak-Hour Factor, PHF		0.95	0.95	0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR		223	232	55	2	188	11	
Percent Heavy Vehicles		2	--	--	2	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		29	5	3	15	2	158
Peak Hour Factor, PHF		0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR		30	5	3	15	2	166
Percent Heavy Vehicles		2	2	2	2	2	2
Percent Grade (%)		0			0		
Flared Approach: Exists?/Storage		No			/		
Lanes		0	1	0	0	1	1
Configuration		LTR			LT R		

Delay, Queue Length, and Level of Service

Approach Movement	NB		SB			Westbound			Eastbound		
	1	4	7	8	9	10	11	12			
Lane Config	L	L		LTR		LT		R			
v (vph)	223	2		38		17		166			
C(m) (vph)	1373	1275		176		219		847			
v/c	0.16	0.00		0.22		0.08		0.20			
95% queue length	0.58	0.00		0.79		0.25		0.73			
Control Delay	8.1	7.8		31.0		22.8		10.3			
LOS	A	A		D		C		B			
Approach Delay				31.0				11.4			
Approach LOS				D				B			

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 7/31/2015
 Analysis Time Period: AM Peak Hour
 Intersection: Pyramid & Calle De La Plata
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: Existing + Project
 Project ID:
 East/West Street: Calle De La Plata
 North/South Street: Pyramid Highway
 Intersection Orientation: NS
 Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		109	220	15	2	239	7	
Peak-Hour Factor, PHF		0.95	0.95	0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR		114	231	15	2	251	7	
Percent Heavy Vehicles		2	--	--	2	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		54	1	1	11	2	215	
Peak Hour Factor, PHF		0.95	0.95	0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR		56	1	1	11	2	226	
Percent Heavy Vehicles		2	2	2	2	2	2	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage		No		No	/	/		
Lanes		0	1	0		0	1	
Configuration		LTR				LT	R	

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LT		R
v (vph)	114	2		58		13		226
C(m) (vph)	1307	1320		193		316		785
v/c	0.09	0.00		0.30		0.04		0.29
95% queue length	0.29	0.00		1.20		0.13		1.19
Control Delay	8.0	7.7		31.5		16.9		11.4
LOS	A	A		D		C		B
Approach Delay				31.5				11.7
Approach LOS				D				B

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 7/31/2015
 Analysis Time Period: PM Peak Hour
 Intersection: Pyramid & Calle De La Plata
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: Existing + Project
 Project ID:
 East/West Street: Calle De La Plata
 North/South Street: Pyramid Highway
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Northbound				Southbound		
	1 L	2 T	3 R	4 L	5 T	6 R	
Volume	212	254	53	3	254	15	
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR	223	267	55	3	267	15	
Percent Heavy Vehicles	2	--	--	2	--	--	
Median Type/Storage	Undivided			/			
RT Channelized?							
Lanes Configuration	1 L	1 T	0 R		1 L	1 T	0 R
Upstream Signal?	No				No		

Minor Street: Approach Movement	Westbound			Eastbound			
	7 L	8 T	9 R	10 L	11 T	12 R	
Volume	29	5	4	17	2	158	
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR	30	5	4	17	2	166	
Percent Heavy Vehicles	2	2	2	2	2	2	
Percent Grade (%)	0				0		
Flared Approach: Exists?/Storage			No	/			
Lanes Configuration	0	1	0		0	1	1
	LTR				LT	R	

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
	1 L	4 L	7 L	8 LTR	9 L	10 L	11 LT	12 R
v (vph)	223	3		39		19		166
C(m) (vph)	1280	1238		145		181		765
v/c	0.17	0.00		0.27		0.10		0.22
95% queue length	0.63	0.01		1.02		0.35		0.82
Control Delay	8.4	7.9		38.7		27.2		11.0
LOS	A	A		E		D		B
Approach Delay				38.7				12.7
Approach LOS				E				B

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 7/31/2015
 Analysis Time Period: AM Peak Hour
 Intersection: Pyramid & Calle De La Plata
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: 2025 Base
 Project ID:
 East/West Street: Calle De La Plata
 North/South Street: Pyramid Highway
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	

Volume	120	168	17	2	230	6
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	126	176	17	2	242	6
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	1	1	0	1	1	0
Configuration	L	TR		L	TR	
Upstream Signal?	No			No		

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R

Volume	60	1	0	8	2	237
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	63	1	0	8	2	249
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0				0	
Flared Approach: Exists?/Storage			No	/		
Lanes	0	1	0	0	1	1
Configuration	LTR			LT	R	

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L	LTR	LTR	LT	LT	R	

v (vph)	126	2	64	10	249
C(m) (vph)	1318	1380	190	333	794
v/c	0.10	0.00	0.34	0.03	0.31
95% queue length	0.32	0.00	1.40	0.09	1.34
Control Delay	8.0	7.6	33.3	16.1	11.6
LOS	A	A	D	C	B
Approach Delay			33.3	11.8	
Approach LOS			D	B	

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 7/31/2015
 Analysis Time Period: PM Peak Hour
 Intersection: Pyramid & Calle De La Plata
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: 2025 Base
 Project ID:
 East/West Street: Calle De La Plata
 North/South Street: Pyramid Highway
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Northbound				Southbound		
	1	2	3	4	5	6	
	L	T	R	L	T	R	

Volume	234	244	59	2	198	12
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	246	256	62	2	208	12
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	1	1	0		1	1
Configuration	L		TR		L	TR
Upstream Signal?	No				No	

Minor Street: Approach Movement	Westbound			Eastbound		
	7	8	9	10	11	12
	L	T	R	L	T	R

Volume	32	6	3	17	2	175
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	33	6	3	17	2	184
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0				0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	1	0		0	1
Configuration	LTR				LT	R

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Lane Config	L	L		LTR		LT		R

v (vph)	246	2		42		19		184
C(m) (vph)	1349	1242		144		186		826
v/c	0.18	0.00		0.29		0.10		0.22
95% queue length	0.67	0.00		1.13		0.34		0.85
Control Delay	8.3	7.9		40.0		26.5		10.6
LOS	A	A		E		D		B
Approach Delay				40.0				12.1
Approach LOS				E				B

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 7/31/2015
 Analysis Time Period: AM Peak Hour
 Intersection: Pyramid & Calle De La Plata
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: 2025 Base + Project
 Project ID:
 East/West Street: Calle De La Plata
 North/South Street: Pyramid Highway
 Intersection Orientation: NS Study period (hrs): 0.25

Major Street:	Approach Movement	Vehicle Volumes and Adjustments					
		Northbound			Southbound		
		1	2	3	4	5	6
		L	T	R	L	T	R
Volume		120	236	17	2	261	8
Peak-Hour Factor, PHF		0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR		126	248	17	2	274	8
Percent Heavy Vehicles		2	--	--	2	--	--
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	1	0		1	1
Configuration		L		TR		L	TR
Upstream Signal?		No				No	

Minor Street:	Approach Movement	Vehicle Volumes and Adjustments					
		Westbound			Eastbound		
		7	8	9	10	11	12
		L	T	R	L	T	R
Volume		60	1	1	12	2	237
Peak Hour Factor, PHF		0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR		63	1	1	12	2	249
Percent Heavy Vehicles		2	2	2	2	2	2
Percent Grade (%)		0				0	
Flared Approach: Exists?/Storage		No			/		
Lanes		0	1	0		0	1
Configuration		LTR				LT	R

Approach Movement	Delay, Queue Length, and Level of Service							
	NB	SB	Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Lane Config	L	L		LTR		LT		R
v (vph)	126	2		65		14		249
C(m) (vph)	1280	1299		159		283		761
v/c	0.10	0.00		0.41		0.05		0.33
95% queue length	0.33	0.00		1.80		0.16		1.43
Control Delay	8.1	7.8		42.5		18.4		12.0
LOS	A	A		E		C		B
Approach Delay				42.5				12.4
Approach LOS				E				B

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 7/31/2015
 Analysis Time Period: PM Peak Hour
 Intersection: Pyramid & Calle De La Plata
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: 2025 Base + Project
 Project ID:
 East/West Street: Calle De La Plata
 North/South Street: Pyramid Highway
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R		4 L	5 T	6 R
Volume		234	277	59		3	273	16
Peak-Hour Factor, PHF		0.95	0.95	0.95		0.95	0.95	0.95
Hourly Flow Rate, HFR		246	291	62		3	287	16
Percent Heavy Vehicles		2	--	--		2	--	--
Median Type/Storage		Undivided			/			
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L		TR
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R		10 L	11 T	12 R
Volume		32	6	4		19	2	175
Peak Hour Factor, PHF		0.95	0.95	0.95		0.95	0.95	0.95
Hourly Flow Rate, HFR		33	6	4		20	2	184
Percent Heavy Vehicles		2	2	2		2	2	2
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage		No			/	/		
Lanes		0	1	0		0	1	1
Configuration		LTR				LT		R

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound				Eastbound		
			4	7	8		9	10	11
Lane Config	L	L		LTR		LT		R	
v (vph)	246	3		43		22		184	
C(m) (vph)	1258	1206		117		152		744	
v/c	0.20	0.00		0.37		0.14		0.25	
95% queue length	0.73	0.01		1.50		0.49		0.97	
Control Delay	8.6	8.0		52.6		32.7		11.4	
LOS	A	A		F		D		B	
Approach Delay				52.6				13.7	
Approach LOS				F				B	

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 8/21/2015
 Analysis Time Period: AM Peak Hour
 Intersection: Pyramid & Ingenuity
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: Existing
 Project ID:
 East/West Street: Ingenuity Avenue
 North/South Street: Pyramid Highway
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Northbound				Southbound		
	1 L	2 T	3 R	4 L	5 T	6 R	
Volume	25	114	14	1	166	0	
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR	26	120	14	1	174	0	
Percent Heavy Vehicles	2	--	--	2	--	--	
Median Type/Storage	Undivided			/			
RT Channelized?				No	No		
Lanes	1	1	1		1	1	
Configuration	L	T	R		L	T	
Upstream Signal?	No				No		

Minor Street: Approach Movement	Westbound			Eastbound		
	7 L	8 T	9 R	10 L	11 T	12 R
Volume	14	0	5	1	0	9
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	14	0	5	1	0	9
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0				0	
Flared Approach: Exists?/Storage			No	/		Yes /50
Lanes	1	1	0		0	1
Configuration	L		TR			LTR

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound		Eastbound		
	1	4	7	8	9	10	11 12
Lane Config	L	L	L		TR		LTR
v (vph)	26	1	14		5		10
C(m) (vph)	1403	1451	588		931		966
v/c	0.02	0.00	0.02		0.01		0.01
95% queue length	0.06	0.00	0.07		0.02		0.03
Control Delay	7.6	7.5	11.3		8.9		9.4
LOS	A	A	B		A		A
Approach Delay				10.6			9.4
Approach LOS				B			A

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 8/21/2015
 Analysis Time Period: PM Peak Hour
 Intersection: Pyramid & Ingenuity
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: Existing
 Project ID:
 East/West Street: Ingenuity Avenue
 North/South Street: Pyramid Highway
 Intersection Orientation: NS

Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound			Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R

Volume	16	223	24	0	139	1
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	16	234	25	0	146	1
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?				No	No	
Lanes	1	1	1		1	1
Configuration	L	T	R		L	T
Upstream Signal?	No				No	

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R

Volume	25	0	1	2	0	21
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	26	0	1	2	0	22
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0				0	
Flared Approach: Exists?/Storage			No	/	Yes /50	
Lanes	1	1	0		0	1
Configuration	L		TR		LTR	

Delay, Queue Length, and Level of Service

Approach Movement	NB 1 L	SB 4 L	Westbound			Eastbound		
			7 L	8 TR	9 L	10 L	11 L	12 R

v (vph)	16	0	26	1	24
C(m) (vph)	1435	1306	522	805	983
v/c	0.01	0.00	0.05	0.00	0.02
95% queue length	0.03	0.00	0.16	0.00	0.08
Control Delay	7.5	7.8	12.3	9.5	9.3
LOS	A	A	B	A	A
Approach Delay				12.2	9.3
Approach LOS				B	A

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 8/21/2015
 Analysis Time Period: AM Peak Hour
 Intersection: Pyramid & Ingenuity
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: Existing + Project
 Project ID:
 East/West Street: Ingenuity Avenue
 North/South Street: Pyramid Highway
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Northbound				Southbound		
	1 L	2 T	3 R	4 L	5 T	6 R	
Volume	98	114	14	1	166	3	
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR	103	120	14	1	174	3	
Percent Heavy Vehicles	2	--	--	2	--	--	
Median Type/Storage	Undivided			/			
RT Channelized?				No	No		
Lanes	1	1	1		1	1	
Configuration	L	T	R		L	T	
Upstream Signal?	No				No		

Minor Street: Approach Movement	Westbound			Eastbound		
	7 L	8 T	9 R	10 L	11 T	12 R
Volume	14	0	5	2	0	42
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	14	0	5	2	0	44
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0				0	
Flared Approach: Exists?/Storage			No	/		Yes /50
Lanes	1	1	0		0	1
Configuration	L		TR		LTR	

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound		Eastbound		
	1	4	7	8	9	10	11 12
Lane Config	L	L	L		TR		LTR
v (vph)	103	1	14		5		46
C(m) (vph)	1399	1451	414		931		908
v/c	0.07	0.00	0.03		0.01		0.05
95% queue length	0.24	0.00	0.10		0.02		0.16
Control Delay	7.8	7.5	14.0		8.9		9.5
LOS	A	A	B		A		A
Approach Delay				12.7			
Approach LOS				B			

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 8/21/2015
 Analysis Time Period: PM Peak Hour
 Intersection: Pyramid & Ingenuity
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: Existing + Project
 Project ID:
 East/West Street: Ingenuity Avenue
 North/South Street: Pyramid Highway
 Intersection Orientation: NS

Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Northbound				Southbound		
	1 L	2 T	3 R	4 L	5 T	6 R	
Volume	52	223	24	0	139	2	
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR	54	234	25	0	146	2	
Percent Heavy Vehicles	2	--	--	2	--	--	
Median Type/Storage	Undivided			/			
RT Channelized?				No	No		
Lanes	1	1	1		1	1	
Configuration	L	T	R		L	T	
Upstream Signal?	No				No		

Minor Street: Approach Movement	Westbound			Eastbound		
	7 L	8 T	9 R	10 L	11 T	12 R
Volume	25	0	1	5	0	101
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	26	0	1	5	0	106
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0				0	
Flared Approach: Exists?/Storage			No	/		Yes /50
Lanes	1	1	0	0	1	0
Configuration	L		TR		LTR	

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Lane Config	L	L	L		TR		LTR	
v (vph)	54	0	26		1		111	
C(m) (vph)	1434	1306	386		805		944	
v/c	0.04	0.00	0.07		0.00		0.12	
95% queue length	0.12	0.00	0.22		0.00		0.40	
Control Delay	7.6	7.8	15.0-		9.5		9.7	
LOS	A	A	B		A		A	
Approach Delay				14.8			9.7	
Approach LOS				B			A	

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 8/21/2015
 Analysis Time Period: AM Peak Hour
 Intersection: Pyramid & Ingenuity
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: 2025 Base
 Project ID:
 East/West Street: Ingenuity Avenue
 North/South Street: Pyramid Highway
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound			Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		28	126	15	1	183	0
Peak-Hour Factor, PHF		0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR		29	132	15	1	192	0
Percent Heavy Vehicles		2	--	--	2	--	--
Median Type/Storage		Undivided			/		
RT Channelized?					No	No	
Lanes		1	1	1	1	1	1
Configuration		L	T	R	L	T	R
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		15	0	6	1	0	10
Peak Hour Factor, PHF		0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR		15	0	6	1	0	10
Percent Heavy Vehicles		2	2	2	2	2	2
Percent Grade (%)		0			0		
Flared Approach: Exists?/Storage		1			No	/	Yes /50
Lanes		1	1	0	0	1	0
Configuration		L		TR		LTR	

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound		Eastbound			
	1 L	4 L	7 L	8	9 TR	10	11 LTR	12
v (vph)	29	1	15		6		11	
C(m) (vph)	1381	1435	554		917		935	
v/c	0.02	0.00	0.03		0.01		0.01	
95% queue length	0.06	0.00	0.08		0.02		0.04	
Control Delay	7.7	7.5	11.7		9.0		9.5	
LOS	A	A	B		A		A	
Approach Delay				10.9			9.5	
Approach LOS				B			A	

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 8/21/2015
 Analysis Time Period: PM Peak Hour
 Intersection: Pyramid & Ingenuity
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: 2025 Base
 Project ID:
 East/West Street: Ingenuity Avenue
 North/South Street: Pyramid Highway
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Northbound				Southbound		
	1 L	2 T	3 R	4 L	5 T	6 R	
Volume	18	246	27	0	154	1	
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR	18	258	28	0	162	1	
Percent Heavy Vehicles	2	--	--	2	--	--	
Median Type/Storage	Undivided			/			
RT Channelized?				No	No		
Lanes	1	1	1		1	1	
Configuration	L	T	R		L	R	
Upstream Signal?	No				No		

Minor Street: Approach Movement	Westbound			Eastbound			
	7 L	8 T	9 R	10 L	11 T	12 R	
Volume	28	0	1	2	0	23	
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR	29	0	1	2	0	24	
Percent Heavy Vehicles	2	2	2	2	2	2	
Percent Grade (%)	0				0		
Flared Approach: Exists?/Storage			No	/		Yes /50	
Lanes	1	1	0		0	1	
Configuration	L		TR		LTR		

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	NB	SB	Westbound			Eastbound		
	1 L	4 L	7 L	8	9 TR	10 	11 LTR	12
v (vph)	18	0	29		1		26	
C(m) (vph)	1416	1276	487		781		957	
v/c	0.01	0.00	0.06		0.00		0.03	
95% queue length	0.04	0.00	0.19		0.00		0.08	
Control Delay	7.6	7.8	12.9		9.6		9.4	
LOS	A	A	B		A		A	
Approach Delay				12.8			9.4	
Approach LOS				B			A	

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 8/21/2015
 Analysis Time Period: AM Peak Hour
 Intersection: Pyramid & Ingenuity
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: 2025 Base + Project
 Project ID:
 East/West Street: Ingenuity Avenue
 North/South Street: Pyramid Highway
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Northbound				Southbound		
	1 L	2 T	3 R	4 L	5 T	6 R	
Volume	101	126	15	1	183	3	
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR	106	132	15	1	192	3	
Percent Heavy Vehicles	2	--	--	2	--	--	
Median Type/Storage	Undivided			/			
RT Channelized?				No	No		
Lanes	1	1	1		1	1	
Configuration	L	T	R		L	R	
Upstream Signal?	No				No		

Minor Street: Approach Movement	Westbound				Eastbound		
	7 L	8 T	9 R	10 L	11 T	12 R	
Volume	15	0	6	2	0	43	
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly Flow Rate, HFR	15	0	6	2	0	45	
Percent Heavy Vehicles	2	2	2	2	2	2	
Percent Grade (%)	0				0		
Flared Approach: Exists?/Storage			No	/	Yes /50		
Lanes	1	1	0		0	0	
Configuration	L		TR		LTR		

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	NB	SB	Westbound		Eastbound		
	1 L	4 L	7 L	8	9 TR	10 	11 LTR
v (vph)	106	1	15		6		47
C(m) (vph)	1378	1435	390		917		888
v/c	0.08	0.00	0.04		0.01		0.05
95% queue length	0.25	0.00	0.12		0.02		0.17
Control Delay	7.8	7.5	14.6		9.0		9.6
LOS	A	A	B		A		A
Approach Delay				13.0			9.6
Approach LOS				B			A

TWO-WAY STOP CONTROL SUMMARY

Analyst: MSH
 Agency/Co.: Solaegui Engineers
 Date Performed: 8/21/2015
 Analysis Time Period: PM Peak Hour
 Intersection: Pyramid & Ingenuity
 Jurisdiction: Washoe County
 Units: U. S. Customary
 Analysis Year: 2025 Base + Project
 Project ID:
 East/West Street: Ingenuity Avenue
 North/South Street: Pyramid Highway
 Intersection Orientation: NS
 Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound			Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		54	246	27	0	154	2
Peak-Hour Factor, PHF		0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR		56	258	28	0	162	2
Percent Heavy Vehicles		2	--	--	2	--	--
Median Type/Storage		Undivided			/		
RT Channelized?		No				No	
Lanes		1	1	1	1	1	1
Configuration		L	T	R	L	T	R
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		28	0	1	5	0	103
Peak Hour Factor, PHF		0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR		29	0	1	5	0	108
Percent Heavy Vehicles		2	2	2	2	2	2
Percent Grade (%)		0			0		
Flared Approach: Exists?/Storage		No			/	Yes /50	
Lanes		1	1	0	0	1	0
Configuration		L		TR		LTR	

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound		Eastbound			
	1 L	4 L	7 L	8	9 TR	10 L	11 L	12 R
Lane Config	L	L	L		TR		LTR	
v (vph)	56	0	29		1		113	
C(m) (vph)	1414	1276	358		781		924	
v/c	0.04	0.00	0.08		0.00		0.12	
95% queue length	0.12	0.00	0.26		0.00		0.42	
Control Delay	7.7	7.8	15.9		9.6		9.8	
LOS	A	A	C		A		A	
Approach Delay				15.7			9.8	
Approach LOS				C			A	



VACANT
PLANNED
RESIDENTIAL
(83 LOTS)

BONEYARD FLAT
OPEN SPACE

VACANT
PLANNED
RESIDENTIAL
(34 LOTS)

WAY

SITE
LOCATION
APN 538-171-09

SPANISH SPRINGS BUSINESS CENTER

INGENUITY
AVENUE

ISIDOR
COURT

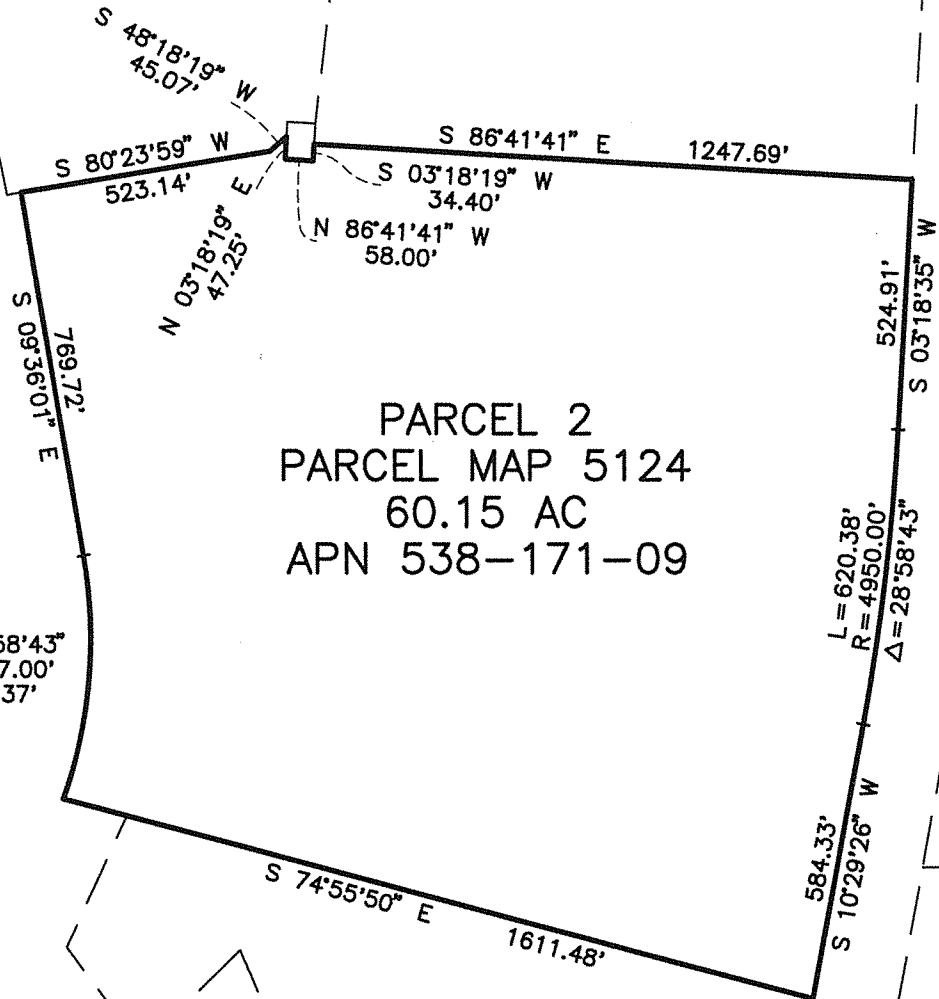
NEVA
ROAD

PYRAMID

WEST CALLE
DE LA PLATA

SCALE: 1" = 1200'

VICINITY MAP
SPANISH SPRINGS BUSINESS CENTER



PARCEL 2
 PARCEL MAP 5124
 60.15 AC
 APN 538-171-09

$\Delta = 28^{\circ}58'43''$
 $R = 1017.00'$
 $L = 514.37'$

WAY

PYRAMID

HAWCO COURT

INGENUITY AVENUE

SCALE: 1" = 400'

MAP
 FOR MASTER PLAN AMENDMENT

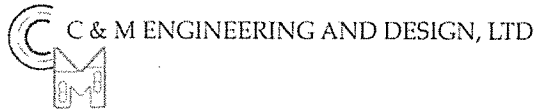
DESCRIPTION

All that certain real property situate in the County of Washoe, State of Nevada, being a portion of the S1/2 of Section 14, T.21N., R.20E., M.D.M.; more particularly described as follows:

APN 538-171-09:

Parcel 2 of the 2nd Parcel Map for Spanish Springs Associates Limited Partnership and Mystic Mountain, LLC, as shown on the plat thereof, recorded on April 15, 2014 as Parcel Map 5124, File No. 4344409, Official Records of Washoe County, Nevada.

Containing 60.15 acres, more or less.



September 1, 2015

Jesse Haw / Bob Sader
Mystic Mountain LLC
550 W. Plumb Lane, Suite B., #505
Reno, Nevada 89509

**RE: FEASIBILITY REPORT FOR “NORTHERN ADDITION’S” WATER, SEWER, EFFLUENT, AND
ESFR SYSTEMS AT PROPOSED RE-ZONED PROPERTY – 60.151 ACRES (APN 538-171-09)**

Dear Jesse and Bob,

As requested, C & M Engineering and Design has analyzed the water systems including domestic water, reclaimed water, and ESFR and sewer system capacities in relationship to potentially re-zoning the existing 60.151 acres of LDS (low density suburban) land that is located in the southern portion of Mystic Mountain into I (industrial) land. These 60.151 acres of LDS land were approved via the tentative map process for 58 residential lots. See the attached vicinity map. This tentative map for Mystic Mountain is presently expired. The original developer did not proceed with final design due to slow economic times and lack of need of residential sites. Hawco Development Company had C & M Engineering and Design analyze this area along with the 100-acre Western Addition adjacent to Boneyard Flat and other land regarding a land use change application to I (formerly NC/I) in January 2008 (Case No.CP09-003). Many of the findings of that analysis titled “Feasibility Report for Water and Sewer Systems at Proposed Re-Zoned Property – North Portion of Spanish Springs Area Plan” are referenced in this feasibility report. On September 11, 2009, the Regional Planning Commission approved the amendment of the Spanish Springs Area Plan to include the 100-acres adjacent to the Boneyard Flat with a zoning of I (formerly NC/I).

DOMESTIC WATER

TMWA, Truckee Meadows Water Authority, in 2015 became the water purveyor for this proposed re-zoned area. Prior to the merger, Washoe County Department of Water Resources (WCDWR) was the water purveyor for this proposed re-zoned area. In November 2007, ECO:LOGIC issued the Spanish Springs Water System Facility Plan report which analyzed the water distribution system in the Spanish Springs area. This report updated the 2004 Spanish Springs Water Facility Plan and included water demand forecasts for the anticipated development found in the Spanish Springs Area Plan. The report indicates the County could provide sufficient capacity for the maximum-day demand (MDD) and fire flows for the current water system and future development. Using the Demand Factors by Usage Type as noted in this report within Table 7.6, the LDS Zoning for the 60.151 acres computes a MDD allocation of 114.29 gpm. See calculations in the attachments. The proposed area re-zoned to I computes a MDD allocation of 72.18 gpm. This would create a reduction of planned demand of 42.11 gpm. The average-day demand (ADD) for the current LDS zoning is 42.11 gpm compared to 42.11 gpm for proposed I zoning since the same demand factor is used for both usages. Therefore sufficient water system capacity (i.e. water mains, pumps, tanks) is or should be in place since the allocation is less than was anticipated. Due to Health Department Regulations, looping of the existing systems including Pebble Creek and the Spanish Springs Business Park may be necessary. Based upon historical data, the existing business park uses about 0.33 acre-feet per acre on the average for domestic use water rights dedication. Based upon the proposed re-zoned acreage of 60.151 acres, approximately 19.8 acre-feet are needed for the proposed re-zoning. The owner should have adequate water to serve this re-zoning. These estimated water demands do not include water for irrigation for industrial uses.

IRRIGATION WATER

City of Sparks (COS) delivers the irrigation water from the City of Sparks effluent system. Hawco currently has an agreement titled “Master Service Agreement for Treated Effluent between City of Sparks and Spanish Springs Associates Limited Partnership”. Per the Master Agreement, HAWCO has 411 acres of NC/I area, 70 acres of NC/O, and 15 acres of GC. The proposed re-zoned area was not within the service area. However based upon historical data, the NC/I (now titled I) development has over 240 ac-ft/year excess reservation based upon C & M Engineering’s “Evaluation of Treated Effluent for Hawco Properties” dated November 30, 2010. Therefore the COS should allow the

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re-zoned area to become a part of the Master Agreement. If the City's system can deliver the same flows and pressures as has been done for the currently constructed portion of the Business Center, the model (as prepared with C & M Engineering's Feasibility study for the North Portion of the Spanish Springs Area Plan) indicates that the expansion of the reclaimed water system into the re-zoned land can deliver adequate irrigation to the future re-zoned property. See the Reclaimed Water model with the attachments following this letter.

FIRE SYSTEM

The current developed area of the Business Center receives fire water through its ESFR system from the Desert Springs Tank #3. This tank stores 960,000 gallons for fire suppression (or 4,000 gpm for a 4 hour duration). This existing ESFR distribution system could be expanded into the proposed re-zoned area and would operate off of the existing pump house. The model as prepared with C & M Engineering's Feasibility Study for the North Portion of the Spanish Springs Area Plan shows that 75 psi, the required minimum pressure for many ESFR Sprinkler Systems, can be delivered. The Fire System model, which is with the attachments following this letter, shows pressures over 75 psi could be delivered with the expansion.

SANITARY SEWER

The re-zoned area will be served by a gravity sewer system that drains to the existing Pebble Creek – North Spanish Springs Lift Station. The Pebble Creek – North Spanish Springs Lift Station and Force Main run west of the proposed re-zoned area. The lift station was sized for the full build-out of the northern portion of the Spanish Springs Area Plan. Based upon approved conservative DWR numbers, the lift stations wet well capacity was designed to convey sewer flows for up to 2,204 Equivalent Residential Units (ERU) from the northern portion of the Spanish Springs Area Plan. Existing and tentatively approved ERU's served by the lift station total 2,025 ERU and include Pebble Creek, Shadow Ridge, Donovan Commercial, Spanish Springs Business Center, Western Addition (100 acres), Pebble Creek Estates, and Harris Ranch. Due to the economy downturn some of these residential projects have stopped and tentative maps have expired. The southern portion of Mystic Mountain is where the re-zoned area is to be located. A tabulation of ERU's that drain to the lift station is within the attachments. Based upon these tabulations, the existing Spanish Springs Lift Station has the capacity to provide service to the proposed re-zoned project and the existing approved projects as listed on the attached tabulation.

STORM WATER

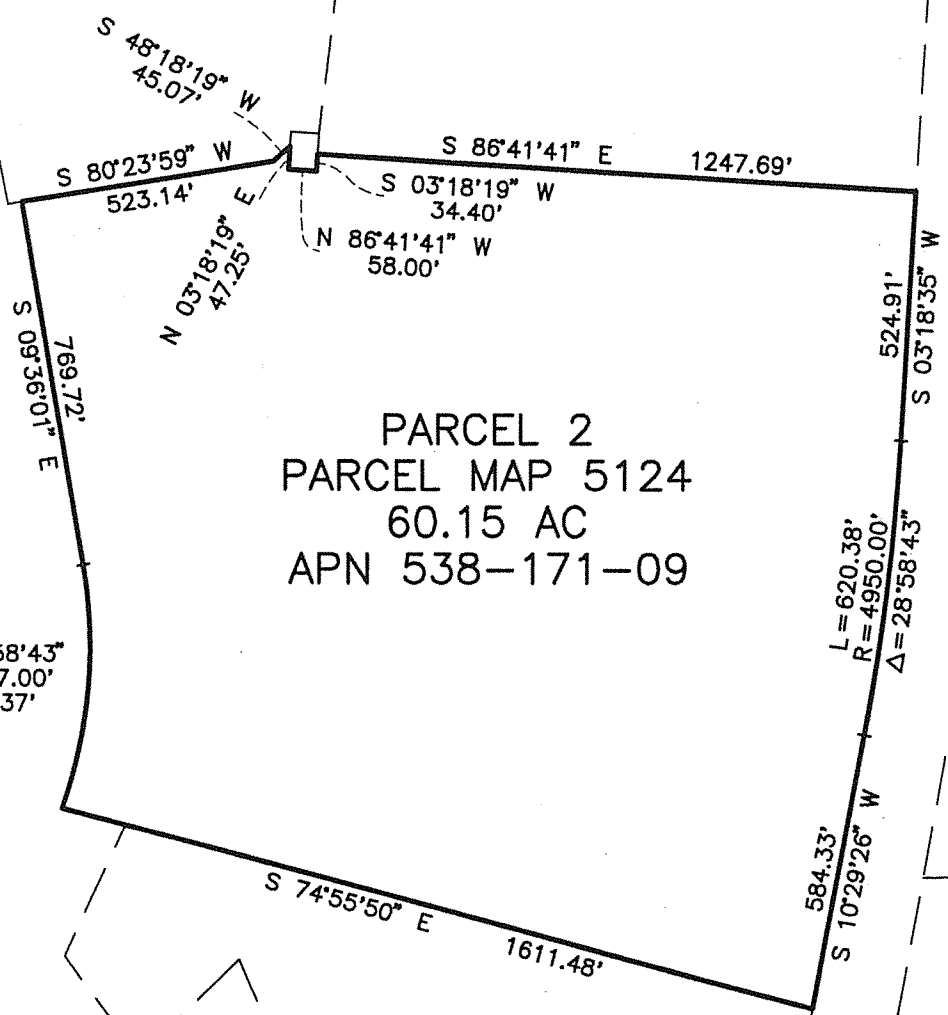
All the storm water runoff from the re-zoned area will be conveyed to the Boneyard Flat. Boneyard Flat has been accepted by Washoe County as the location that will provide mitigation for increases in runoff due to the development of areas within the northern portion of the Spanish Springs Area Plan. The proposed re-zoned area is within the Boneyard Flat drainage basin and discharge from this site can be conveyed to the playa without adversely affecting any existing structures. The Boneyard Flat is located at the northwest corner of the project. Aqua Hydrologic Consulting submitted the application for Conditional Letter of Map Revision (CLOMR) of the Boneyard to FEMA in March 2011. The LOMR was prepared by DEW Hydrology and was approved in 2014. The proposed re-zoned area's elevations are higher than the 100-year 24-hour storm water surface elevation as calculated by Aqua consulting (4504=100-year Flood Elevation) and won't require elevated pad elevations. The lowest elevation within the proposed site is 4513. The site does receive offsite flows from the eastern mountain range, Pa Rah Range. Channels will need to be designed and constructed to convey these storm flows through the proposed re-zoned area to the Boneyard Flat. These channels are common for the northern Spanish Springs area and exist in the northern residential Pebble Creek project as well as within the Spanish Springs Business Center to the south. The on-site 5 year flows will be intercepted in underground storm drain system, which will discharge into the channels previously mentioned.

In summary the domestic water, fire suppression, sanitary sewer and reclaimed water systems have the potential to serve the re-zoned land. A channel will need to be constructed to convey offsite storms flows across the project to the Boneyard Flat.

Sincerely,



Samuel Chacon, P.E.
Principal



PARCEL 2
PARCEL MAP 5124
60.15 AC
APN 538-171-09

$\Delta = 28^{\circ}58'43''$
 $R = 1017.00'$
 $L = 514.37'$

WAY

PYRAMID

HAWCO COURT
INGENUITY AVENUE

SCALE: 1" = 400'

MAP
FOR MASTER PLAN AMENDMENT

DOMESTIC WATER

Table 7.6 "Demand Factors by Usage Type" of ECO:LOGIC

Spanish Springs Water System Facility Plan

	<u>LDS</u>	<u>I (formerly NC/I)</u>
MDD (Maximum Day Demand)	1.9	1.2
ADD (Average Day Demand)	0.7	0.7

Current Zoning Water Allocation (LDS)

MDD: 60.151 ac x 1.9 gpm/ac	= 114.29 gpm
ADD: 60.151 ac x 0.7 gpm/ac	= 42.11 gpm

Rezoning Water Allocation (I)

MDD: 60.151 ac x 1.2 gpm/ac	= 72.18 gpm
ADD: 60.151 ac x 0.7 gpm/ac	= 42.11 gpm

Rezoned Water Reduction

MDD: 114.29 gpm - 72.18 gpm	= 42.11 gpm
ADD: none due to same demand factor	

SEWER

Capacity of the Existing North Spanish Springs Lift Station, per CFA's Sewer Report is 1286 gpm (2204 ERU's)

<u>EXISTING & TENTATIVELY APPROVED ARE:</u>	<u>ERU</u>
Pebble Creek (344 lots)	344
Shadow Ridge (533 lots)	533
Donavan Commercial (10 AC)	25
Spanish Springs Business Center (210.98 AC) *	528
Western Addition I (100 AC)	250
Harris Ranch (262 lots)	262
Pebble Creek Estates	83
	2025
 <u>PROPOSED RE-ZONED AREA</u>	
60.151 acres of I *	150

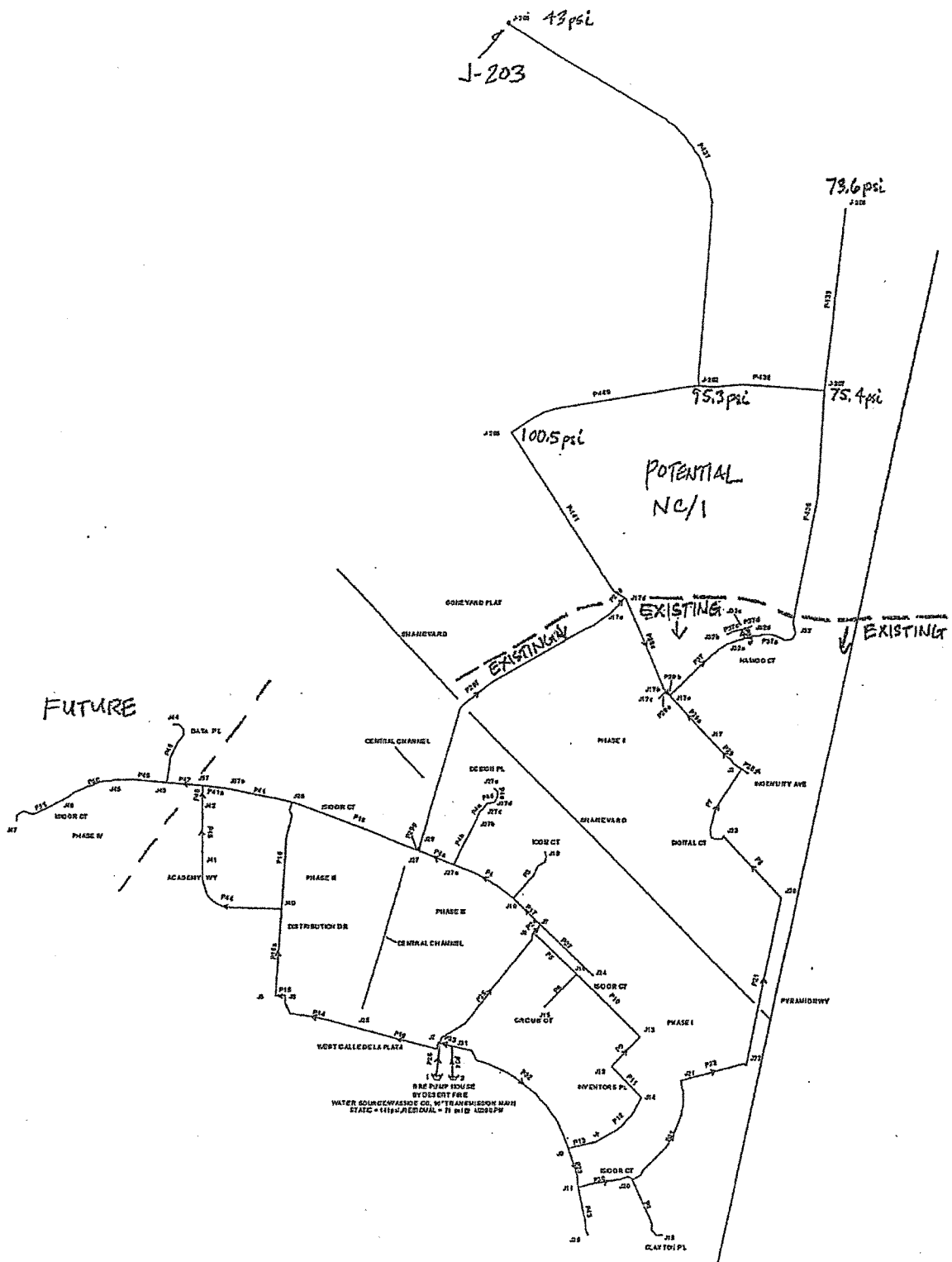
GRAND TOTAL: 2175 < 2204 = capacity lift station

Based upon the above calculations, it appears the Lift Station has the capacity to provide service for the proposed zone change.

* Conversion ratio for NC/I is 1 acre = 2.5 ERU

Scenario: Base

FIRE SYSTEM



Scenario: Base
Fire Flow Analysis
Fire Flow Report

PUMPS OPERATING AT
123 PSI

POTENTIAL
N/A
RE-ZONED

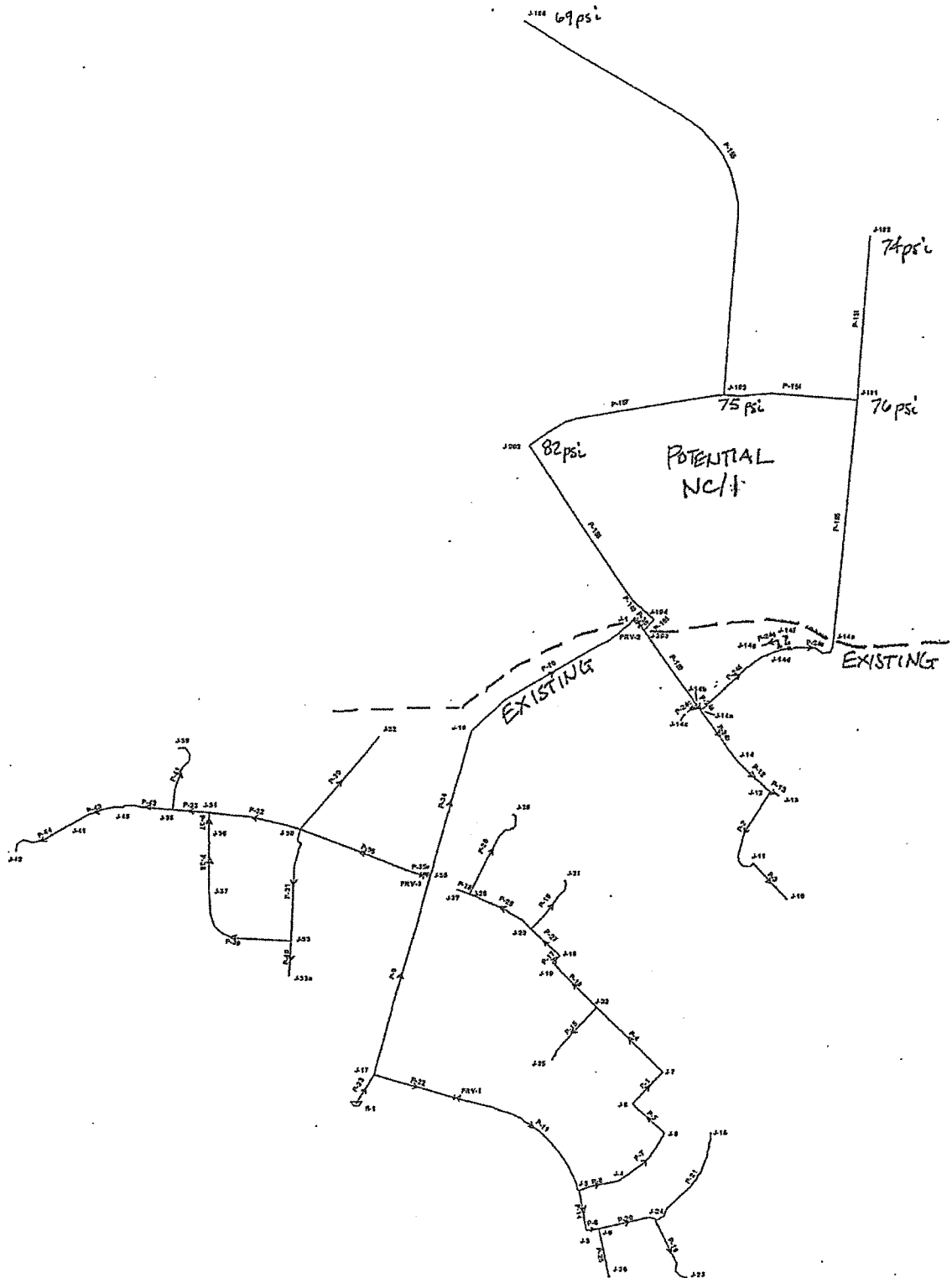
Label	Zone	Fire Flow Iterations	Fire Flow Balanced?	Satisfies Fire Flow Constraints?	Needed Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Needed (gpm)	Total Flow Available (gpm)	Residual Pressure (psi)	Calculated Residual Pressure (psi)	Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Junction
J-202	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	95.27	20.00	78.41	J-207
J-203	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	43.00	20.00	78.41	J-207
J-206	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	73.66	20.00	75.36	J-207
J-207	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	75.36	20.00	88.46	J47
J-208	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	100.51	20.00	82.78	J-207
J1	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	111.19	20.00	90.05	J47
J2	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	122.76	20.00	91.19	J47
J3	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	103.76	20.00	88.78	J47
J4	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	102.46	20.00	88.78	J47
J5	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	114.50	20.00	85.93	J47
J6	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	115.10	20.00	86.17	J47
J7	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	117.37	20.00	89.36	J47
J8	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	117.73	20.00	89.52	J47
J9	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	113.22	20.00	90.17	J47
J10	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	117.61	20.00	88.74	J47
J11	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	110.97	20.00	90.06	J47
J12	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	109.70	20.00	89.76	J47
J13	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	109.08	20.00	89.67	J47
J14	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	108.69	20.00	89.85	J47
J15	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	109.00	20.00	89.61	J47
J16	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	113.52	20.00	89.61	J47
J17	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	104.41	20.00	88.68	J47
J17a	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	105.74	20.00	87.69	J-207
J17b	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	105.67	20.00	87.73	J-207
J17c	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	104.71	20.00	87.73	J-207
J17d	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	108.30	20.00	88.24	J-207
J17e	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	108.46	20.00	88.36	J47
J18	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	112.40	20.00	88.74	J47
J19	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	97.97	20.00	89.92	J47
J20	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	106.39	20.00	89.92	J47
J21	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	100.39	20.00	89.92	J47
J22	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	96.52	20.00	89.50	J47
J23	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	101.61	20.00	88.98	J47
J24	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	107.15	20.00	89.36	J47

**Scenario: Base
Fire Flow Analysis
Fire Flow Report**

Label	Zone	Fire Flow Iterations	Fire Flow Balanced?	Satisfies Fire Flow Constraints?	Needed Fire Flow (gpm)	Available Fire Flow (gpm)	Total Flow Needed (gpm)	Total Flow Available (gpm)	Residual Pressure (psi)	Calculated Residual Pressure (psi)	Minimum System Pressure (psi)	Calculated Minimum System Pressure (psi)	Minimum System Junction
J25	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	119.01	20.00	88.28	J47
J26	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	99.10	20.00	89.15	J47
J27	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	117.74	20.00	86.96	J47
J27a	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	117.39	20.00	87.62	J47
J27b	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	112.49	20.00	87.62	J47
J27c	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	110.62	20.00	87.62	J47
J27d	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	109.90	20.00	87.62	J47
J27e	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	108.57	20.00	87.62	J47
J28	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	111.73	20.00	83.34	J47
J29	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	117.67	20.00	87.01	J47
J31	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	122.76	20.00	91.26	J47
J32	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	98.76	20.00	82.50	J-207
J32a	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	100.83	20.00	84.27	J-207
J32b	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	98.28	20.00	84.27	J-207
J32c	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	99.84	20.00	84.27	J-207
J32d	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	98.73	20.00	84.27	J-207
J37	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	98.18	20.00	80.01	J47
J37a	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	101.22	20.00	80.81	J47
J39	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	105.61	20.00	90.06	J47
J40	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	111.29	20.00	83.75	J47
J41	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	101.19	20.00	81.50	J47
J42	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	97.97	20.00	80.40	J47
J43	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	92.13	20.00	78.29	J47
J44	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	84.18	20.00	78.29	J47
J45	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	84.22	20.00	76.00	J47
J46	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	76.90	20.00	73.44	J47
J47	Zone	2	true	true	4,000.00	4,100.00	4,000.00	4,100.00	20.00	70.39	20.00	76.90	J46

Scenario: Base

RECLAIMED WATER



Title: SSBC - RECLAIMED WATER MAIN

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Chacon & Menante Engineering and Design Ltd

37 Brookside Road Waterbury, CT 06708 USA +1-203-755-1666

Project Engineer: C&M

WaterCAD v8.5 [6.5120]

Page 1 of 1

Scenario: Base
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Base Flow (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-1	4,512.50	Zone	Demand	100.00	Fixed	100.00	4,762.41	108.12
J-3	4,532.80	Zone	Demand	0.00	Fixed	0.00	4,696.54	70.84
J-4	4,536.00	Zone	Demand	26.00	Fixed	26.00	4,690.62	66.90
J-5	4,533.00	Zone	Demand	33.00	Fixed	33.00	4,696.78	70.86
J-6	4,533.50	Zone	Demand	50.00	Fixed	50.00	4,696.22	70.40
J-7	4,539.00	Zone	Demand	13.00	Fixed	13.00	4,672.56	57.79
J-8	4,537.00	Zone	Demand	50.00	Fixed	50.00	4,676.41	60.32
J-9	4,540.00	Zone	Demand	59.00	Fixed	59.00	4,681.33	61.14
J-10	4,532.00	Zone	Demand	100.00	Fixed	100.00	4,701.14	73.18
J-11	4,529.00	Zone	Demand	50.00	Fixed	50.00	4,701.47	74.62
J-12	4,524.00	Zone	Demand	30.00	Fixed	30.00	4,702.82	77.37
J-13	4,524.00	Zone	Demand	30.00	Fixed	30.00	4,702.82	77.37
J-14	4,519.00	Zone	Demand	0.00	Fixed	0.00	4,704.10	80.08
J-14a	4,517.00	Zone	Demand	0.00	Fixed	0.00	4,705.71	81.65
J-14b	4,517.00	Zone	Demand	0.00	Fixed	0.00	4,706.45	81.97
J-14c	4,517.00	Zone	Demand	30.00	Fixed	30.00	4,706.44	81.96
J-14d	4,517.00	Zone	Demand	0.00	Fixed	0.00	4,702.35	80.19
J-14e	4,517.00	Zone	Demand	30.00	Fixed	30.00	4,700.63	79.45
J-14f	4,517.00	Zone	Demand	0.00	Fixed	0.00	4,702.35	80.19
J-14g	4,517.00	Zone	Demand	20.00	Fixed	20.00	4,702.34	80.19
J-15	4,543.00	Zone	Demand	0.00	Fixed	0.00	4,695.39	65.93
J-16	4,515.00	Zone	Demand	0.00	Fixed	0.00	4,785.54	117.05
J-17	4,520.80	Zone	Demand	0.00	Fixed	0.00	4,786.42	114.92
J-18	4,526.50	Zone	Demand	50.00	Fixed	50.00	4,661.51	58.41
J-19	4,526.50	Zone	Demand	50.00	Fixed	50.00	4,661.82	58.55
J-20	4,523.50	Zone	Demand	26.00	Fixed	26.00	4,660.73	59.37
J-21	4,522.00	Zone	Demand	46.00	Fixed	46.00	4,660.64	59.98
J-22	4,531.50	Zone	Demand	23.00	Fixed	23.00	4,664.73	57.64
J-23	4,542.00	Zone	Demand	100.00	Fixed	100.00	4,694.92	66.16
J-24	4,538.50	Zone	Demand	50.00	Fixed	50.00	4,695.39	67.88
J-25	4,531.00	Zone	Demand	90.00	Fixed	90.00	4,664.34	57.69
J-26	4,534.80	Zone	Demand	0.00	Fixed	0.00	4,696.22	69.84
J-27	4,518.00	Zone	Demand	0.00	Fixed	0.00	4,660.18	61.52
J-28	4,518.70	Zone	Demand	26.00	Fixed	26.00	4,660.18	61.21
J-29	4,516.80	Zone	Demand	80.00	Fixed	80.00	4,659.75	61.85
J-30	4,530.50	Zone	Demand	60.00	Fixed	60.00	4,709.61	77.49
J-31	4,551.00	Zone	Demand	25.00	Fixed	25.00	4,707.60	67.75
J-32	4,520.50	Zone	Demand	100.00	Fixed	100.00	4,708.79	81.46
J-33	4,527.50	Zone	Demand	20.00	Fixed	20.00	4,708.37	78.25
J-33a	4,527.00	Zone	Demand	20.00	Fixed	20.00	4,708.36	78.46
J-35	4,517.50	Zone	Demand	0.00	Fixed	0.00	4,785.77	116.07
J-36	4,551.00	Zone	Demand	35.00	Fixed	35.00	4,707.61	67.76
J-37	4,543.50	Zone	Demand	35.00	Fixed	35.00	4,707.74	71.06
J-38	4,561.00	Zone	Demand	0.00	Fixed	0.00	4,706.88	63.12
J-39	4,563.00	Zone	Demand	30.00	Fixed	30.00	4,706.50	62.08
J-40	4,574.00	Zone	Demand	50.00	Fixed	50.00	4,706.16	57.18
J-41	4,585.00	Zone	Demand	50.00	Fixed	50.00	4,703.43	51.24
J-42	4,593.00	Zone	Demand	50.00	Fixed	50.00	4,702.54	47.39
J-191	4,518.00	Zone	Demand	100.00	Fixed	100.00	4,695.21	76.67
J-192	4,523.00	Zone	Demand	50.00	Fixed	50.00	4,694.90	74.37
J-193	4,520.00	Zone	Demand	50.00	Fixed	50.00	4,695.05	75.73
J-194	4,514.00	Zone	Demand	50.00	Fixed	50.00	4,716.38	87.56

Title: SSBC - RECLAIMED WATER MAIN

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Chacon & Menante Engineering and Design Ltd

01/21/08 01:55:21 PM © Haestad Methods, Inc. 37 Brookside Road Waterbury, CT 06708 USA +1-203-755-1666

Project Engineer: C&M

WaterCAD v6.5 [6.5120]

Page 1 of 2

**Scenario: Base
Steady State Analysis
Junction Report**

Label	Elevation (ft)	Zone	Type	Base Flow (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-196	4,524.00	Zone	Demand	200.00	Fixed	200.00	4,683.20	68.88
J-202	4,510.00	Zone	Demand	150.00	Fixed	150.00	4,700.50	82.42
J-203	4,514.00	Zone	Demand	0.00	Fixed	0.00	4,717.76	88.16

Hawco Properties
550 W. Plumb Lane, Suite B #505
Reno, NV 89509
(775)425-4425

August 17, 2015

PROJECT NAME: *Mystic Mountain – Proposed Industrial*
APN 538-171-09

To Whom It May Concern:

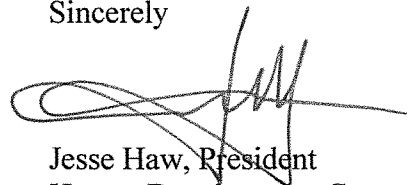
This letter verifies that Mystic Mountain, LLC (an affiliate of Hawco Properties) has adequate water rights for the proposed 60+ acres of industrial land north of the Spanish Springs Business Center. We estimate the 60 acres of industrial land will use approximately 7.725 acre feet of water, based on the past will-serve dedication requirements of similar properties in Spanish Springs Industrial Center.

Hawco Properties has the following rights held with TMWA (previously held with Washoe County):

Permit Number	Acre feet
70702	36.4
70426	40.25
70086	36.2
72270	1.81
70087	0.85
68185	1.24
64639	8.21
62614	5.12
Total	129.22

Thank you for your attention to this matter. Feel free to call me with any questions or concerns.

Sincerely



Jesse Haw, President
Hawco Development Company