

From: [Hope Sullivan](#)
To: [Karen E. Downs](#); [Heather Ferris](#)
Cc: [Christopher M. Baker](#); [Christie Overlay](#)
Subject: RE: LU-2021--3-8: Animal Processing Facility
Date: Wednesday, November 10, 2021 10:28:25 AM
Attachments: [image001.png](#)

Thank you Karen.

Christie: for the slaughterhouse file, supplement to the application.

Hope Sullivan, AICP
Community Development Director
108 E. Proctor Street
Carson City, NV
775-283-7922



From: Karen E. Downs <kdowns@manhard.com>
Sent: Tuesday, November 9, 2021 6:04 PM
To: Hope Sullivan <HSullivan@carson.org>; Heather Ferris <HFerris@carson.org>
Cc: Christopher M. Baker <cbaker@manhard.com>
Subject: RE: LU-2021--3-8: Animal Processing Facility

Hi Heather and Hope,

On behalf of Carson Valley Meats, we agree with the conditions of approval that were discussed at the September 29 Planning Commission meeting (signed Notice of Decision attached), and will incorporate the conditions into the updated site design. We expect the updated information to be available at the December 15 Planning Commission meeting.

Please let me know if you need any additional information.

Thank you,
Karen

Karen E. Downs | Senior Planner/Project Manager

241 Ridge Street, Suite 400, Reno, NV 89501
d: 775.321.6538 | c: 775.313.3360 | manhard.com

[Redacted]

From: Hope Sullivan <HSullivan@carson.org>

From: Christopher M. Baker <cbaker@manhard.com>

Sent: Monday, November 8, 2021 2:40 PM

To: Hope Sullivan <HSullivan@carson.org>; Karen E. Downs <kdowns@manhard.com>

Cc: Heather Ferris <HFerris@carson.org>

Subject: RE: LU-2021--3-8: Animal Processing Facility

Hi Hope,

Thanks for the email. We request the December 15th PC date for the item to be reheard. In speaking with Heather she suggested we update our application materials to incorporate the additional conditions agreed to at the original PC hearing, what date would you need that material to go forward with the December 15th PC date?

Thanks,

Christopher M. Baker, LEED AP | Planning Manager

241 Ridge Street, Suite 400, Reno, NV 89501

d: 775.321.6539 | c: 775.745.4033 | manhard.com

[Redacted]

From: Hope Sullivan <HSullivan@carson.org>

Sent: Friday, November 5, 2021 3:19 PM

To: Christopher M. Baker <cbaker@manhard.com>; Karen E. Downs <kdowns@manhard.com>

Cc: Heather Ferris <HFerris@carson.org>

Subject: [EXTERNAL] LU-2021--3-8: Animal Processing Facility

Chris and Karen:

This is a follow up to the conversation we just had. Earlier this week, we received a letter advising us of a noticing error relative to the Planning Commission's public hearing on the above referenced project. More specifically, the letter advised that noticing to the mobile home park included an incorrect address (5001 US Highway 50 E instead of 4999 US Highway 50 E) and that notice was not

sent to the mobile home tenants in spaces 40, 41, 42, 43, 45, 46 and 47.

We have reviewed the noticing and agree that an error was made. Therefore, this matter will need to go back to the Planning Commission for public hearing. We will ensure proper noticing.

If it works for you and your client, we would like to target the December 15, 2021 Planning Commission meeting. If that will not work, then it would be the January 26, 2022 meeting.

I apologize to you and your client for this error. Please advise as to which date will work.

Thank you.

Hope Sullivan, AICP
Community Development Director
108 E. Proctor Street
Carson City, NV
775-283-7922



This email has been scanned for email related threats and delivered safely by Mimecast.
For more information please visit <http://www.mimecast.com>

This email has been scanned for email related threats and delivered safely by Mimecast.
For more information please visit <http://www.mimecast.com>



Carson City Planning Division

108 E. Proctor St.
Carson City, Nevada 89701

(775) 887-2180

Planning@carson.org
www.carson.org

★ CLERK ★
FILED

Time 11:51 am

PLANNING COMMISSION
September 29, 2021

SEP 30 2021

NOTICE OF DECISION – LU-2021-0308

By Lina E. Reseck
Deputy
Carson City, Nevada

An application was received regarding a request for a special use permit to allow for a slaughterhouse on property zoned General Industrial ("GI"), located on the south side of Hwy 50 E and east of Detroit Road, portions of APNs 008-371-38, 008-371-39, and 008-371-10.

The Planning Commission conducted a public hearing on September 29, 2021, in conformance with City and State legal requirements and approved LU-2021-0308 based on the findings contained in the staff report and subject to the following conditions of approval.

CONDITIONS OF APPROVAL:

Standard Conditions of Approval per CCMC 18.02.105 (1):

1. The applicant must sign and return the Notice of Decision within 10 days of receipt of notification. If the Notice of Decision is not signed and returned within 10 days, the item will be rescheduled for the next Planning Commission meeting for further consideration.
2. The applicant shall meet all the conditions of approval and commence the use for which this permit is granted within twelve months of the date of final approval. A single, one-year extension of time may be granted if requested in writing to the Planning and Community Development Division thirty days prior to the one-year expiration date. Should this permit not be initiated within one year and no extension granted, the permit shall become null and void.
3. All development shall be substantially in accordance with the development plans approved with this application, except as otherwise modified by the conditions of approval herein.
4. All improvements shall conform to City standards and requirements.

The following shall be submitted or included as part of a building permit application:

5. The applicant shall submit a copy of the Notice of Decision signed by the applicant and owner.
6. Details of any proposed exterior light standards must be submitted with the building permit. All exterior lighting must be directed downward. The design of the light standards must include cutoffs and shields, if necessary, to prevent spillover of light or glare onto adjacent properties.
7. The applicant shall provide a landscape and irrigation plan in compliance with Carson City Development Standards, Division 3- Landscaping. The plans shall include landscaping to help to buffer views from Highway 50 East as well as surrounding

- properties.
8. Brick Road shall be a privately owned and maintained road and shall be designed to meet city standards for local streets, including streetlights, storm drain systems, water systems, sanitary sewer systems, and paving structural sections per Carson City Development Standards ("CCDS") 12.11. Brick Road must be constructed fully within an access and public utility easement, including the cul-de-sac bulb.
 9. The site must be designed to detain and infiltrate stormwater runoff from the corral, or runoff must be treated by some other means to be approved by the City Engineer.

The following shall be accomplished prior to the issuance of any building permit.

10. Prior to the issuance of any building permit, the lot line adjustment (LLA-2020-0007) shall be recorded.
11. Where drainage flow paths are changed and cross parcel lines, the applicant shall establish drainage easements.
12. A Letter of Map Revision shall be completed prior to issuance of any building permit.

The following are on-going conditions:

13. The hours of operation shall be 6 a.m. to 6 p.m. Monday through Friday.
14. The facility shall be limited to harvesting animals 1 day per week.
15. A maximum of 60 animals may be processed per week, with animals on-site no more than 1 day per week for a maximum of 24 hours prior to harvesting.
16. The facility may process wild game, without limitation.
17. Manure and waste material shall be removed from the corral area weekly, within 24 hours following harvesting. Manure shall be hauled off-site and disposed of properly. Manure shall not be stored on-site.
18. Unusable portions of the animals (offal, hides, fat, etc.) shall be sprayed with denature to eliminate the potential for odors and removed from the site on the day of harvest and properly handled by a rendering company.
19. The applicant shall obtain and maintain all required permits and licenses, including but not limited to a wastewater discharge permit from NDEP, a NV Department of Agriculture license to operate (NRS Chapter 583 license); and USDA permits.

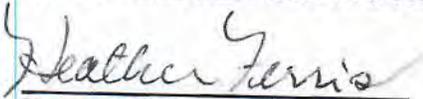
Additional conditions that apply during processing for local events:

20. A maximum of three times per year, additional animals may be processed to serve the needs of local events. To accommodate these events, harvesting may occur a maximum of 3 consecutive days with a maximum of 120 animals on-site at any one time.
21. A minimum of 3 business days prior to increasing operations for local events, the applicant shall provide written notice to the Community Development Department.
22. Manure and waste material shall be removed from the corral daily during increased operations. Manure shall be hauled off-site and disposed of properly. Manure shall not be stored on-site.

Conditions added at the September 29, 2021 Planning Commission meeting:

23. One-year following the commencement of operations, the Planning Commission shall review the special use permit to ensure compliance with the conditions of approval. The applicant shall, at a minimum, submit to the Planning Commission documentation of the actual number of large animals harvested per week during the first year of operation and any crimes in the area associated with the facility. During this review, the Planning Commission may determine whether continued annual review is necessary.
24. Based on a voluntary condition offered by the applicant, live animals shall be kept indoors on-site. No open corrals will be allowed. The building shall be designed consistent with the approved processing building.
25. This special use permit shall not be transferrable.
26. The sewer lift station downstream of the project is at capacity with entitled projects. The project must enter into a development agreement with the City to pay its pro-rata share based on the peak flow to be contributed, with an available flow of 320 gallons per minute and a total project cost of \$1,000,000.

This decision was made on a vote of 4 ayes, 1 nays, 2 absent.

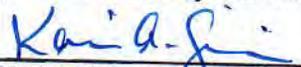

Heather Ferris
Planning Manager

Emailed on: Thursday, September 30, 2021

By: Christie Overlay

**PLEASE SIGN AND RETURN THIS NOTICE OF DECISION WITHIN
TEN DAYS OF RECEIPT**

This is to acknowledge that I have read and will comply with the Conditions of Approval as approved by the Carson City Planning Commission.


OWNER/APPLICANT SIGNATURE

9.30.2021
DATE

KARIN A. SINCLAIR
PLEASE PRINT YOUR NAME HERE

RETURN VIA:

Email to: coverlay@carson.org

Fax to: (775) 887-2278

Mail to: Carson City Planning Division
108 E. Proctor St.
Carson City, NV 89701

CARSON VALLEY MEATS

SPECIAL USE PERMIT

(Revised) **AUGUST 2021**



Prepared For:



P.O. Box 1143 Newcastle, CA 95658

Prepared By:



241 Ridge Street, Suite 400 Reno, NV 89501

TABLE OF CONTENTS

Project Location	1
Existing Conditions.....	2
Application Request.....	5
Project Description and Justification	5
Findings.....	13
Master Plan Policy Checklist	13

LIST OF FIGURES

Figure 1: Project Location	1
Figure 2: Surrounding Property Designations.....	2
Figure 3: Lot Line Adjustment Parcel Configuration	3
Figure 4: Existing Master Plan Designations.....	4
Figure 5: Existing Zoning Designations	5
Figure 6: Site Plan	8
Figure 7: Conceptual Elevations and Floor Plan	9
Figure 8: General Industrial Development Standards	11
Figure 9: Trip Generation.....	11
Figure 10: Off-Street Parking	12

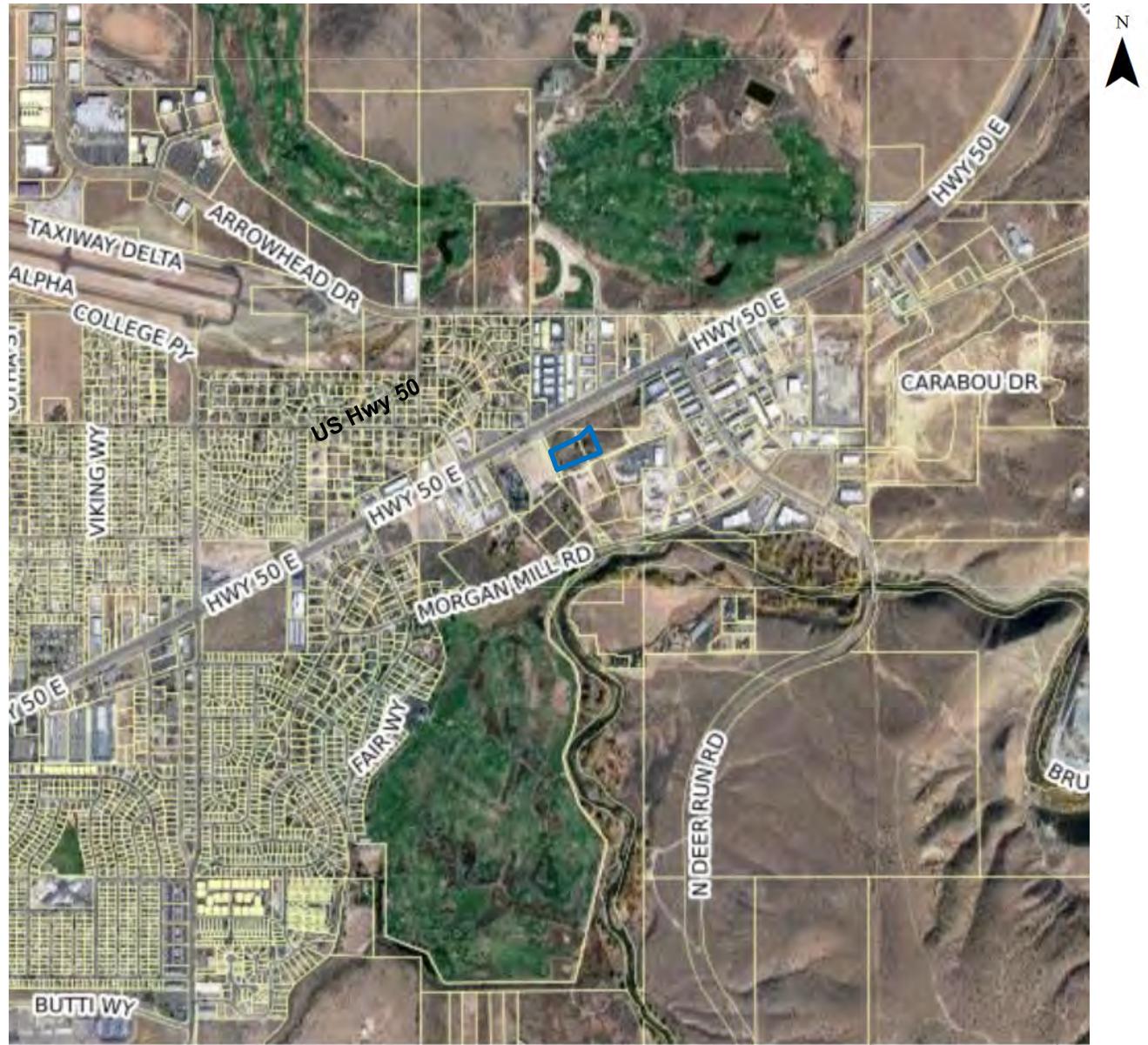
APPENDICES

- SUP Application Form (includes Applicant’s Acknowledgement)
- SUP Plan Set
- Building Elevations/Floor Plans
- Master Plan Policy Checklist
- Documentation of Taxes Paid-to-Date
- Project Impact Reports

PROJECT LOCATION

The project site is located south of US Highway 50 East, east of Detroit Road and north of Brick Road (portions of APNs 008-371-38, -39, and -10, totaling 4.43 acres). Please note that a Lot Line Adjustment has been submitted for review with Carson City (LLA-2020-00007), which will reconfigure the existing parcel configuration so that this project will ultimately be located on one parcel (see Figure 3). The total project area is +/- 4.43 acres.

Figure 1: Project Location



 Project Location

EXISTING CONDITIONS

The +/- 4.43 acre project area is currently undeveloped, with the majority of the area covered with vegetation consisting mainly of sagebrush and grasses. As depicted on FEMA Map #3200010112F, a floodway and floodplain is present on a large portion of the property. A CLOMR-F will be pursued to adjust the Flood Zone AE line so that it lies outside of the proposed pavement areas.

The project area has a Master Plan designation of Mixed-Use Commercial (MUC) and is zoned General Industrial (GI) and is surrounded by property that is also zoned General Industrial. Figure 2 below details the existing master plan designations, existing zoning, and current land uses for surrounding properties.

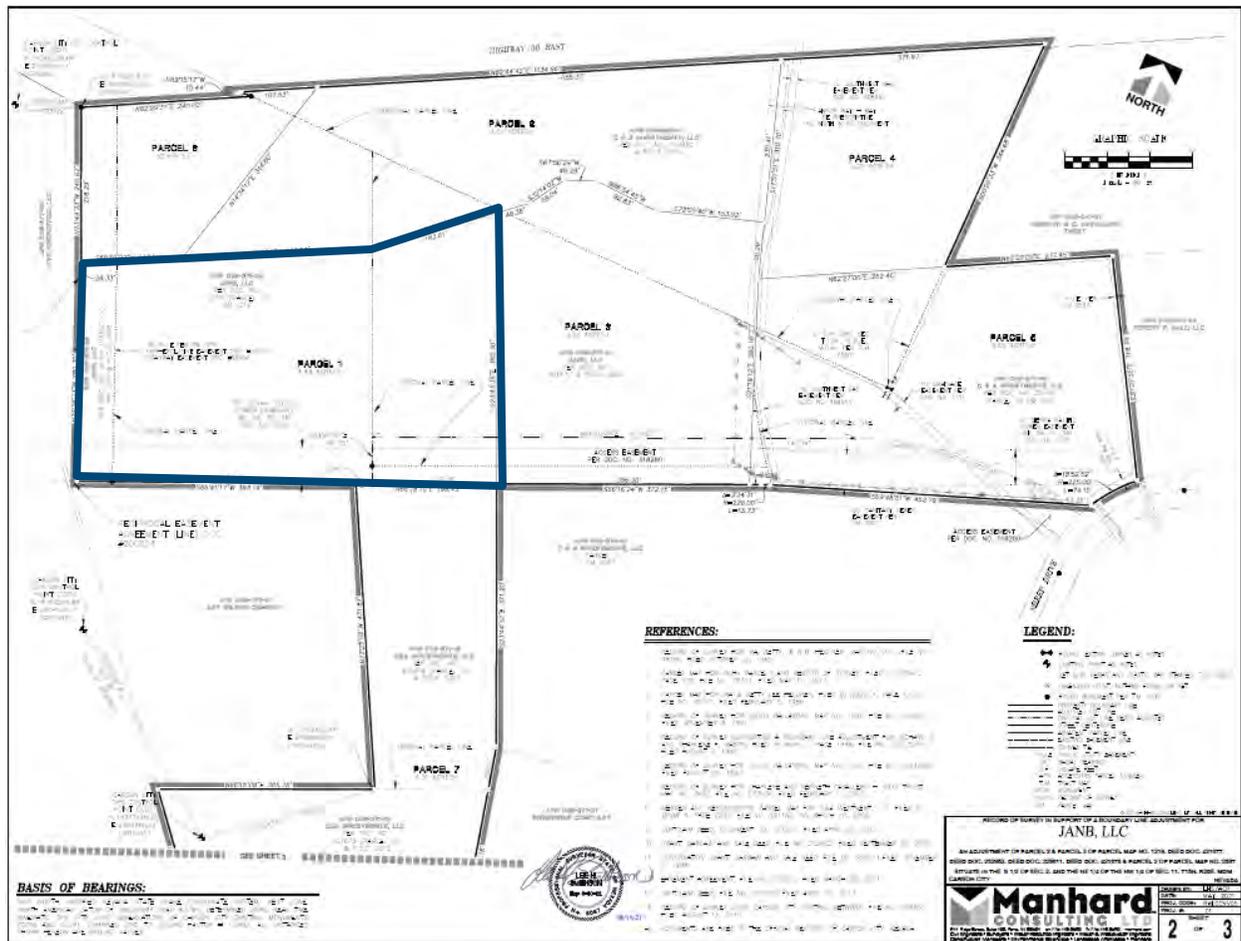
Figure 2: Surrounding Property Designations

	Existing Master Plan	Existing Zoning	Current Land Use
North	MUC	GI	Undeveloped
East	MUC	GI	Undeveloped
South	Community/Regional Commercial (CRC)	GI	Aggregate Materials Distributor and Undeveloped
West	MUC	GI	Undeveloped/Vacant

Please note that a Lot Line Adjustment (see Figure 3) has been submitted for review with Carson City (LLA-2020-00007). The proposed LLA will reconfigure the existing parcels associated with this project so that the project area (4.43 acres) will ultimately be one parcel. The project area is shown as Parcel 1 on the LLA.



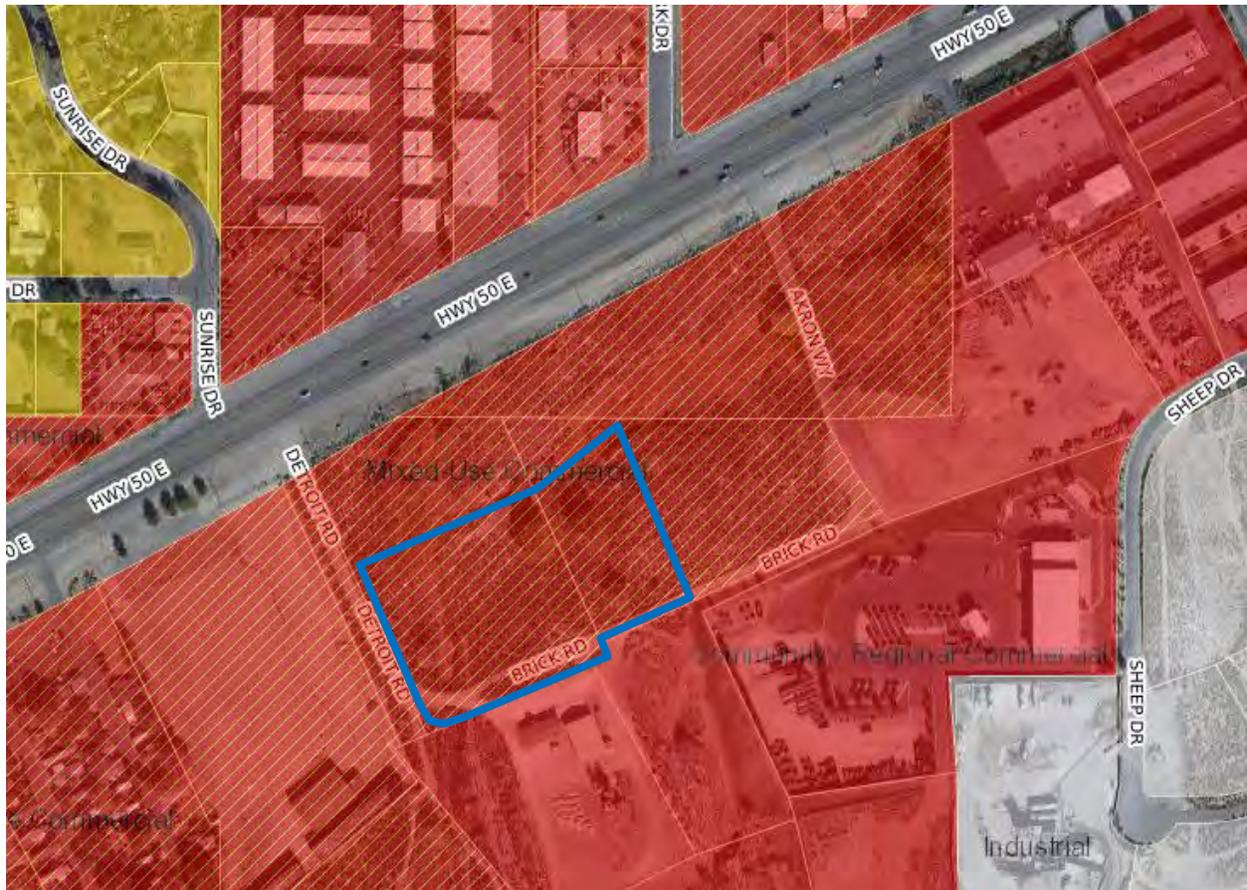
Figure 3: Lot Line Adjustment Parcel Configuration (shown as Parcel 1)



LLA-2020-00007, previously submitted to Carson City, includes Parcel 1, which is the proposed 4.43 acre project area.



Figure 4: Existing Master Plan Designations (MUC)



 Project Boundary



Figure 5: Existing Zoning Designation (GI)



APPLICATION REQUEST

The enclosed application is for a:

SPECIAL USE PERMIT to allow the proposed use (slaughterhouse), which is a conditional use in the GI zoning district.

PROJECT DESCRIPTION AND JUSTIFICATION

The applicant, Carson Valley Meats, Inc., is requesting a Special Use Permit for an animal processing facility. The proposed animal processing facility is a conditional use (slaughterhouse) in the General Industrial (GI) zoning district and requires approval of a Special Use Permit.

The proposed animal processing facility includes a 5,000 sq. ft. +/- building for processing, storage, and retail services, a +/- 5,600 sq. ft. loading/corral area, off-street parking, and associated landscaping/open space. The proposed location is ideal for the intended use because it is in an existing General Industrial area, is naturally buffered by the topography, and has easy access.



The proposed facility will be USDA-certified, and will process beef, goat, lamb, swine, and wild game. It will be available to regional ranchers and livestock producers.

A local facility will provide benefits to Carson City and throughout the region, including:

- Opportunity for local ranchers and livestock producers to process locally;
- The ability for meat to come directly from a local producer, much like the neighborhood butcher of days gone by;
- Ability to provide unique cuts and products unavailable in supermarkets;
- Reduces the stress of long-distance transportation on livestock;
- Reduces environmental and financial impacts of long-distance transportation; and
- Local facilities will be able to continue processing meat, even when the large-scale facilities are impacted by nationwide events that could limit meat availability nationwide (i.e. pandemic).

Carson Valley Meats, Inc. supports the “Farm to Table” movement by providing a viable local alternative for both the producer and consumer. This operation will reduce the cost of production of meat for local ranchers and provides a high-quality, fresh source of meat for area residents.

Business Overview

The proposed hours of operation will be Monday through Friday, 6:00 a.m. to 3:00 p.m. The facility will be closed on weekends and holidays (based on USDA inspection schedule). The facility will typically process +/- 60 animals per week. Animals will be delivered to the site one day prior to or the day of harvesting during regular business hours and held in the corral up to 24 hours. Approximately half of the animals would be delivered the day prior to harvest. Typically, harvesting will occur one day a week and processing on the remaining work days.

During weeks where local events such as fairs occur (+/- 6 times per year), harvesting could occur 1-3 days per week. There may be additional animals on-site during these fair/event weeks, with a maximum of 120 animals at any time, although it is unlikely that there would ever be more than 100 at any time. On fair/event weeks, the facility would only process the animals coming from the fair/event and they would be dropped off the day prior to harvest. The normal scheduled animals would be moved to a different week for processing.

Five employees are anticipated for normal business operations with the potential need for six to eight employees when operations are at full capacity.

In addition to the services mentioned above, this facility will also offer on-site custom butchering, curing and smoking meats and retail meat sales (200 sq. ft. +/- of proposed facility). Only prepackaged meats will be sold; an open meat counter with unwrapped items will not be available. Any wild game that will be processed for customers will be done separately from the USDA products and are of lesser priority.



Processing

The entire harvesting process will occur indoors. During this process, liquid is captured in a collection tank, prior to going down the drain and the tank is pumped out as needed. The processing floor is swept before wash down to capture any solids, and the resulting waste stream goes through a screening process prior to discharge to the treatment system.

Typical water usage expected is as follows:

- Max 4,000 gallons per day on a typical harvest day (1 day per week)
 - o 100 gallons per head of cattle x 20
 - o 50 gallons per head of sheep, goat, hog x 40
- Max 8,000 gallons per day on a fair/event week harvest day (1-3 days per week, max. 6 times per year, maximum potential animals on site - 120)
 - o 100 gallons per head of cattle x 40
 - o 50 gallons per head of sheep, goat, hog x 80

Noise

Animals will be in the outdoor corral area for 24 hours +/- each week (the day before harvesting) with an average time on site being less than or equal to 24 hours. All harvesting and processing activities will occur inside the facility, thus containing any associated noises to the confines of the building.

Odor

Any unusable portions remaining after the harvesting process will be sprayed with denature to eliminate the potential for odor and removed from the site on the day of harvest. The unusable portions will be picked up by a local rendering company and thus eliminating the potential for undesirable odors after harvest day. After the harvesting process and the meat has been processed, it is stored in the on-site freezer to remove the potential for spoiling and odor.

Additionally, manure and waste material will be removed from the corral area weekly. A tractor will shovel the waste and load it into a truck to haul it off-site.

Use Permitting and Inspections

- Permitting as required through Carson City Building Department and Health Department
- NDEP- Wastewater Discharge Permit: inspections and annual reporting
- NV Department of Agriculture - Chapter 583 License: annual inspections
- USDA- Hazard Analysis Critical Control Point (HACCP) Plan: USDA Permit (facility inspection prior to opening), daily inspections



Figure 6: Site Plan (Full size sheets in application package)

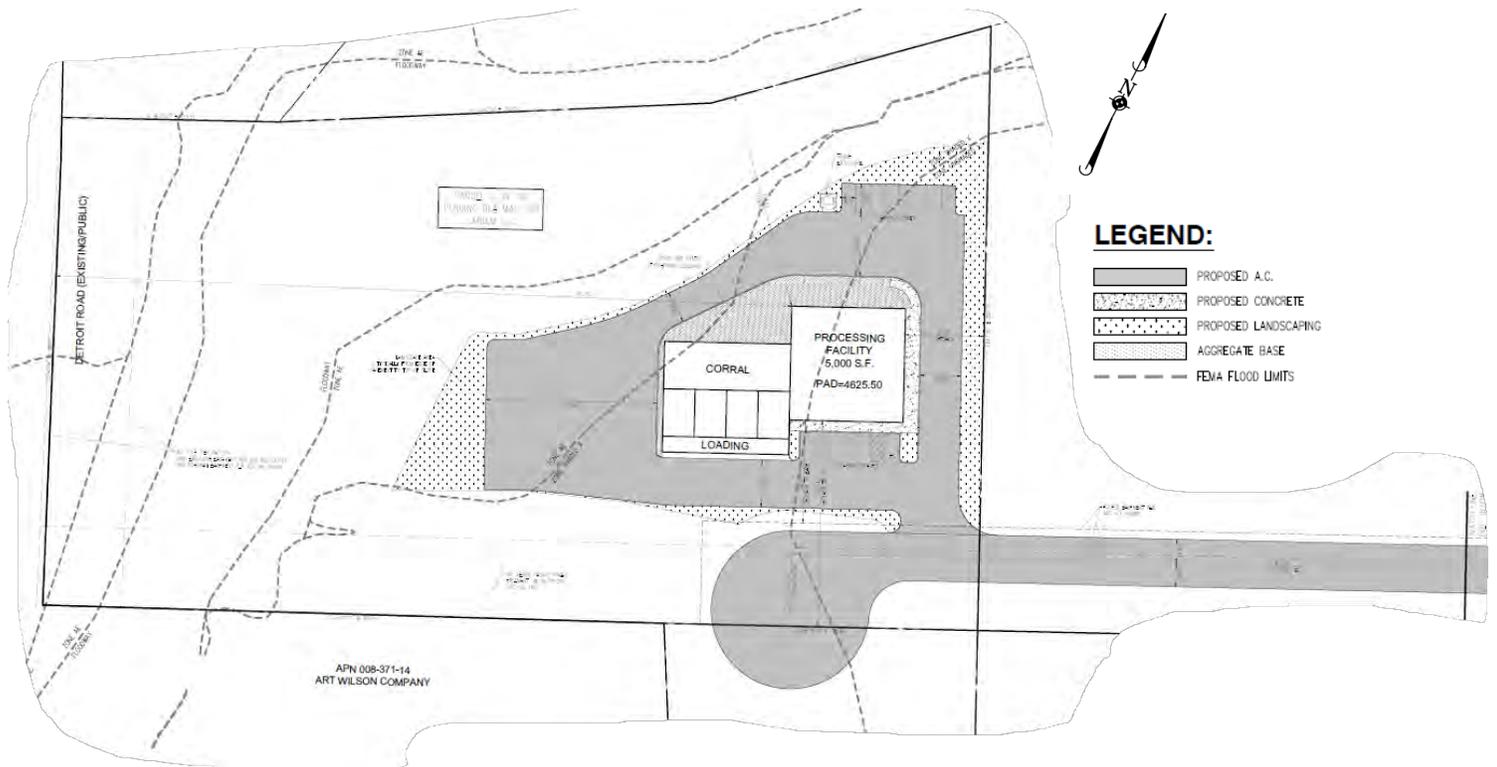
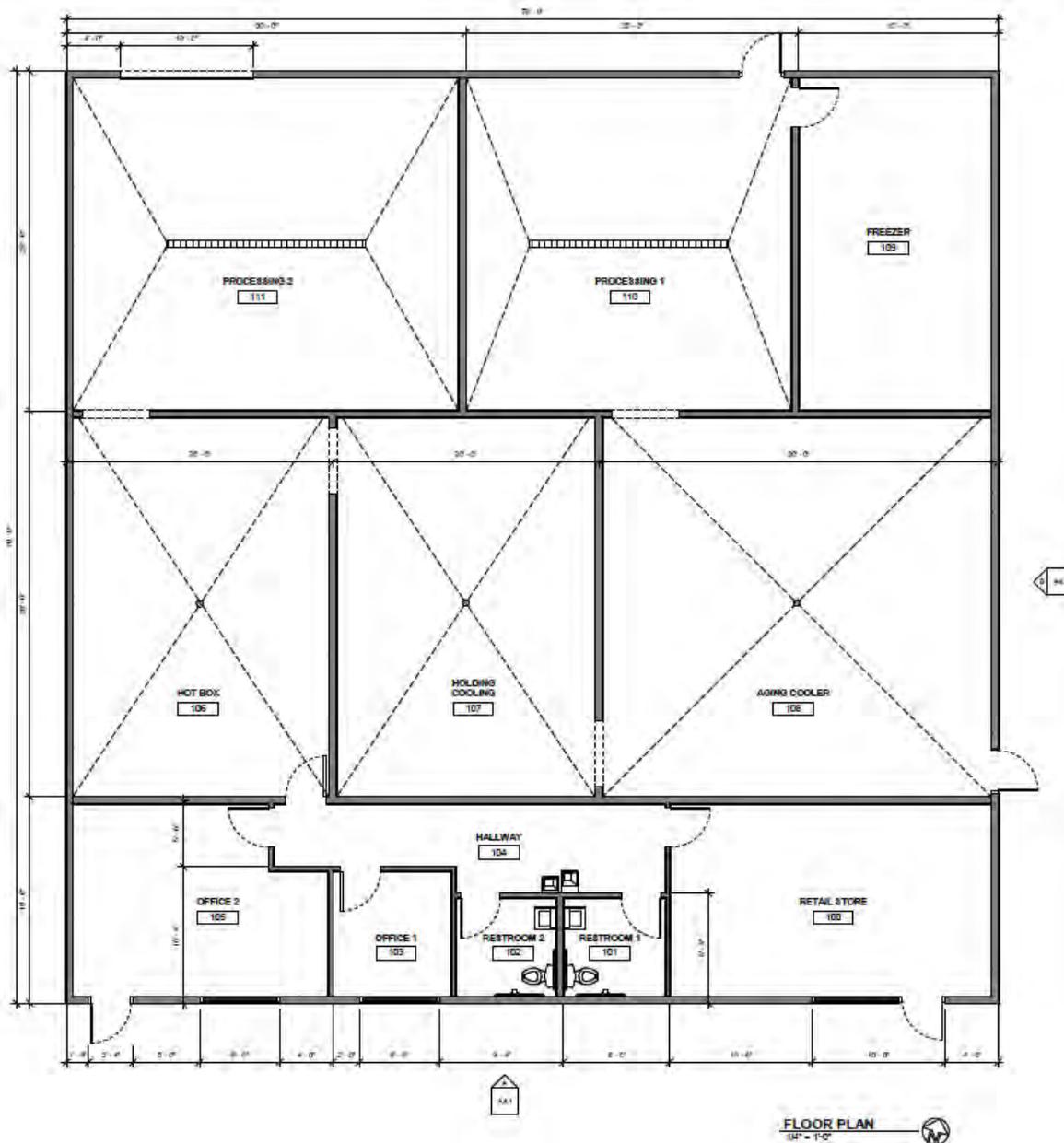


Figure 7: Conceptual Building Elevations and Floor Plan



Figure 7: Conceptual Elevation and Floor Plan, cont.



Development Standards

The project has been designed to meet the development standards established in the General Industrial zoning designation and are consistent with CCMC Section 18.04.195 – Non-residential districts intensity and dimensional standards.



Figure 8: General Industrial Development Standards

GI Development Standard	CCMC Standard	Proposed
Minimum Area	12,000 sq. ft.	193,172 sq. ft. (4.43 ac.) +/-
Minimum Lot Width	120 ft.	Exceeds minimum req.
Maximum Lot Depth	N/A	N/A
Maximum Building Height	45 ft.	Will not exceed 45 ft.; the facility will be a one story building.
Minimum Setbacks: Front	30 ft.	65 ft. (Bldg to Access Easement)
Minimum Setbacks: Side	0 ft.	50 ft.
Minimum Setbacks: Street Side	0 ft.	N/A
Minimum Setbacks: Rear	0 ft.	137 ft.

Project Access

Primary access to the project site will be off Brick Road, a private road with planned improvements to meet the rural collector improvement standards, with access from Sheep Drive.

Traffic

The Institute of Transportation Engineers (ITE) Trip Generation Handbook, 10th Edition, indicates that trip generation for warehousing (Land Use 150) and retail sales, the most closely associated uses for this project, is 5.05 ADT per employee plus retail sales. The total trip generation is 53 ADT; (5.05 x 8 employees + 13 for retail sales). Because the project will not generate more than 80 peak hour trips or more than 500 ADT according to ITE trip generation rates, a traffic impact study is not required.

Figure 9: Trip Generation

ITE Land Use	ITE Trip Generation	Unit	Project Trip Generation
Land Use 150: Warehousing	5.05 ADT per employee	8 employees	40.04
Land Use 814: Retail Variety Store	63.47 ADT per 1,000 sq. ft.	200 sq. ft.	12.70
TOTAL			53 ADT

The applicant has indicated that the following trips are expected, which is similar to the trip generation estimated with Land Use 150: Warehousing along with retail sales:

- Trips associated with up to 8 employees and general business operations (i.e. mail deliveries, USDA inspections): 25 ADT
- Trips associated with small retail meat sales (200 sq. ft. +/- area): 13 ADT
- One day per week pickup trucks with trailers deliver animals to the site: 10+/- trucks/week



- Truck to remove unusable portions: 1 truck/week

Parking

The CCMC requires 1 space per 1,000 sq. ft. plus 1 space per employee for the proposed use and 1 space per 300 sq. ft. of gross floor area for the retail portion of the facility. This indicates a parking need of 14 parking spaces (4,800 sq. ft. gross floor area x 1 space/1,000 sq. ft.) + (1 space x 8 employees (max number) + (200 sq. ft. gross floor area x 1 space/300 sq. ft.). The Site Plan includes 14 parking spaces.

Figure 10: Off Street Parking

	CCMC Standard	Unit	Project Parking Required
Proposed Use	1 space per 1,000 sq. ft. + 1 space per employee	4,800 sq. ft. and 8 employees	13 Stalls
Retail Portion	1 space per 300 sq. ft. GFA	200 sq. ft. GFA	1 Stall
Total			14 Stalls

Landscaping

The Landscape design is consistent with Title 18, Division 3 Landscaping requirements: “A minimum of 20 percent of the site's impervious surfaces excluding the building coverage will be pervious areas of landscape material”. Based on these calculations, 6,966 sq. ft. landscape area (20% of impervious surface (34,830sq. ft.)) is required and a total of 10,188 sq. ft. is provided within the project site.

The landscape areas shown on the site plan functions to buffer the facility by surrounding the proposed pavement areas. The total landscaping provided (10,188 sq. ft.) exceeds the required landscaping per code. Detailed landscape calculations and design will be provided with final plans.

Utilities

There are existing water and sewer services to the subject property, with public water and sewer provided by Carson City. If necessary, the water line and sewer line configuration will be altered to allow for the proposed building. Please see detailed Project Impact Statements included with this application.

Water

Per the preliminary water system analysis, the pipe sizes and piping layouts within the project are adequately designed to meet the demands of the development. The analysis shows that the pressures on site will meet Carson City and NAC requirements.

Sewer

See attached Project Impact Report regarding sewer that estimates peak sewer discharge flow to be approximately .008 MGD, translating into the 8” sewer pipe being less than 1% full.



Drainage

Per the analysis contained within the conceptual drainage study, the addition of a detention facility will detain the required amount of discharge in the required storm event with no negative impact to downstream facilities and surrounding areas.

The project site is located within a floodway and Zone AE, shaded Zone X and unshaded Zone X flood designations according to FEMA map #3200010112F with an effective date of June 6th, 2019. A CLOMR-F will be pursued to adjust the Flood Zone AE line so that it lies outside of the proposed pavement areas.

Due to site constraints such as existing topography and location of floodway and floodplain, a large portion of the proposed 4.43 acre +/- parcel is not developable. The proposed animal processing facility would be constructed on the remaining, developable portion of the property.

FINDINGS

In accordance with Carson City Municipal Code Section 18.02.080, this project has been designed to consider the following:

1. Will be consistent with the objectives of the Master Plan elements.

An animal processing and freezer storage facility located on the subject property is consistent with the objectives of the Carson City Master Plan elements, specifically those with designations of Mixed-Use Commercial. The Master Plan Policy Checklist is included in this application package with additional information.

2. Will not be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties of the general neighborhood; and is compatible with and preserves the character and integrity of adjacent development and neighborhoods or includes improvements or modifications either on-site or within the public right-of-way to mitigate development related to adverse impacts such as noise, vibrations, fumes, odors, dust, glare, or physical activity.

This project will not be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties of the general neighborhood. Adjacent properties to the north, east and west are all vacant and zoned general industrial, just like the subject property. The two adjacent uses to the south are also zoned general industrial. Of these two properties, one has an industrial use located on it and the other is vacant. The site has been designed and operation protocols will be in place to eliminate any problems relating to noise and odor that are associated with the proposed use. The general neighborhood will not be negatively affected by the proposed project either as it is either not near any of the existing uses in the area or will be directly adjacent to undevelopable land.



Any outdoor lighting installed on the exterior of the building will be shielded from neighboring property through height, placement, and wattage. Outdoor lighting will be indicated on improvement plans.

3. Will have little or no detrimental effect on vehicular or pedestrian traffic.

The project will have little additional impact on the existing street network, sidewalks, or parking. The total trip generation is 53 ADT. Because the project will not generate more than 80 peak hour trips or more than 500 ADT according to ITE trip generation rates, a traffic impact study is not required. Primary access is provided from Brick Road, a private road with planned improvements. Vehicles can access Brick Road from Sheep Drive.

4. Will not overburden existing public services and facilities, including schools, police and fire protection, water, sanitary sewer, public roads, storm drainage, and other public improvements.

As demonstrated in the Project Impact Reports for water, sewer, drainage, and traffic, the project will not contribute to or overburden existing public services and facilities. Comments will be incorporated as appropriate in Improvement Plans to ensure that the facility does not overburden existing public services and facilities. The commercial project will have no impact on schools and limited impact on police and fire services. Public improvements that are required by Carson City are incorporated into the design of the project.

5. Meets the definition and specific standards set forth elsewhere in this Title for such particular use and meets the purpose statement of that district.

The proposed use/project meets the purpose statement of the General Industrial zoning district in which it is located in. The animal processing (slaughterhouse) use processes products (meat products) from raw material (animals) and the process as a whole involves conditions that could be deemed offensive. The proposed project meets or exceeds all of the specific intensity and dimensional standards for the district as well.

6. Will not be detrimental to the public health, safety, convenience and welfare.

The proposed project incorporates appropriate measures and Carson City requirements to ensure that improvements to the site will benefit public health, safety, convenience and welfare.

7. Will not result in material damage or prejudice to other property in the vicinity, as a result of proposed mitigation measures.

The improvements to the site will not result in material damage or prejudice to other property in the vicinity.



MASTER PLAN POLICY CHECKLIST

The purpose of the Master Plan Policy Checklist is to provide a list of answers that address whether a development proposal is in conformance with the goals and objectives of the 2006 Carson City Master Plan that are related to this SUP application. This project complies with the Master Plan and accomplishes the following objectives:

Chapter 2: Vision, Themes, and Guiding Principles

1. The proposed project provides another service option to better serve the Carson City residents as well as the regional population. (1.2)
2. The proposed project incorporates and minimizes impact to floodplain in its vicinity. (1.3)
3. The proposed project adds to the economic vitality of Carson City by providing local employment and a unique and in-demand service along a major corridor. (3.0)

Chapter 3: A Balanced Land Use Pattern

1. The proposed project is located within the Carson City and it is served by community water and wastewater facilities as identified in the Water and Wastewater Master Plans. (1.1b)
2. The proposed project is expected to utilize sustainable building materials and construction techniques. (1.1e)
3. The proposed site is in a moderate priority infill development area give that the property is designated for mixed-use development and is located along a major gateway corridor. (1.2a)
4. The proposed project minimizes disturbance to distinctive topographic features on site. (1.4c)
5. The proposed site is located to be adequately served by city services including fire and sheriff services. (1.5d)
6. The proposed project promotes mixed-use development appropriate for the surrounding area. (2.1b, 2.2b, 2.3b)
7. The proposed project is properly sited to protect environmentally sensitive areas. (3.1b)
8. The proposed site will be completely out of the primary floodplain located nearby. (3.3d)
9. The appropriate level of services will be provided for given the proposed project.

Chapter 5: Economic Vitality

1. The proposed project adds to diversity of local job opportunities. (5.1c)
2. The proposed project promotes vertical diversity by providing another option to local ranchers/farmers to effectively and efficiently harvest their livestock. (5.1g)
3. The proposed project is located in a manner to conserve local natural resources and open space and protect the adjacent floodplain. (5.5f)



Chapter 6: Livable Neighborhoods and Activity Centers

4. The proposed project is expected to utilize durable, long-lasting building materials. (6.1a)
5. The proposed project will provide a suitable building façade with clearly identifiable entrance and ample site landscaping. (6.1c)



Carson City Planning Division
108 E. Proctor Street · Carson City NV 89701
Phone: (775) 887-2180 • E-mail: planning@carson.org

FOR OFFICE USE ONLY:

CCMC 18.02.080

SPECIAL USE PERMIT

FEE*: **\$2,450.00 MAJOR**
\$2,200.00 MINOR (Residential zoning districts)
+ noticing fee
*Due after application is deemed complete by staff

- SUBMITTAL PACKET – 4 Complete Packets (1 Unbound Original and 3 Copies) including:
- Application Form
 - Detailed Written Project Description
 - Site Plan
 - Building Elevation Drawings and Floor Plans
 - Special Use Permit Findings
 - Master Plan Policy Checklist
 - Applicant's Acknowledgment Statement
 - Documentation of Taxes Paid-to-Date
 - Project Impact Reports (Engineering)

- CD or USB DRIVE with complete application in PDF

Application Received and Reviewed By: _____

Submission Deadline: Planning Commission application submittal schedule.

Note: Submittals must be of sufficient clarity and detail for all departments to adequately review the request. Additional information may be required.

FILE

APPLICANT PHONE #
Carson Valley Meats 916-803-1777

MAILING ADDRESS, CITY, STATE, ZIP
P.O. Box 1143 Newcastle, CA 95658

EMAIL ADDRESS
karin@carsonvalleymeats.com

PROPERTY OWNER PHONE #
JANB, LLC

MAILING ADDRESS, CITY, STATE, ZIP
PO Box 1984 Carson City, NV 89702

EMAIL ADDRESS

APPLICANT AGENT/REPRESENTATIVE PHONE #
Karen Downs, Manhard Consulting 775-321-6538

MAILING ADDRESS, CITY STATE, ZIP
241 Ridge Street, Suite 400, Reno, NV, 89501

EMAIL ADDRESS

kdowns@manhard.com

Project's Assessor Parcel Number(s):

008-371-38,39,10

Street Address

Project's Master Plan Designation

Mixed-Use Commercial

Project's Current Zoning

General Industrial

Nearest Major Cross Street(s)

HWY 50 E and Detroit RD

Please provide a brief description of your proposed project and/or proposed use below. Provide additional pages to describe your request in more detail. SEE ATTACHED- Applicant is proposing a +/- 5,000 sq. ft. animal processing facility with a corral/loading area.

PROPERTY OWNER'S AFFIDAVIT

I, Nicole Ballardini, being duly deposed, do hereby affirm that I am the record owner of the subject property, and that I have knowledge of, and I agree to, the filing of this application. *

Nicole Ballardini
Signature

4785 Caughlin Parkway, Reno, NV 89519

Address

8/13/2021

Date

*Manager of JANB, LLC
Use additional page(s) if necessary for additional owners.

STATE OF NEVADA)
COUNTY Washoe)

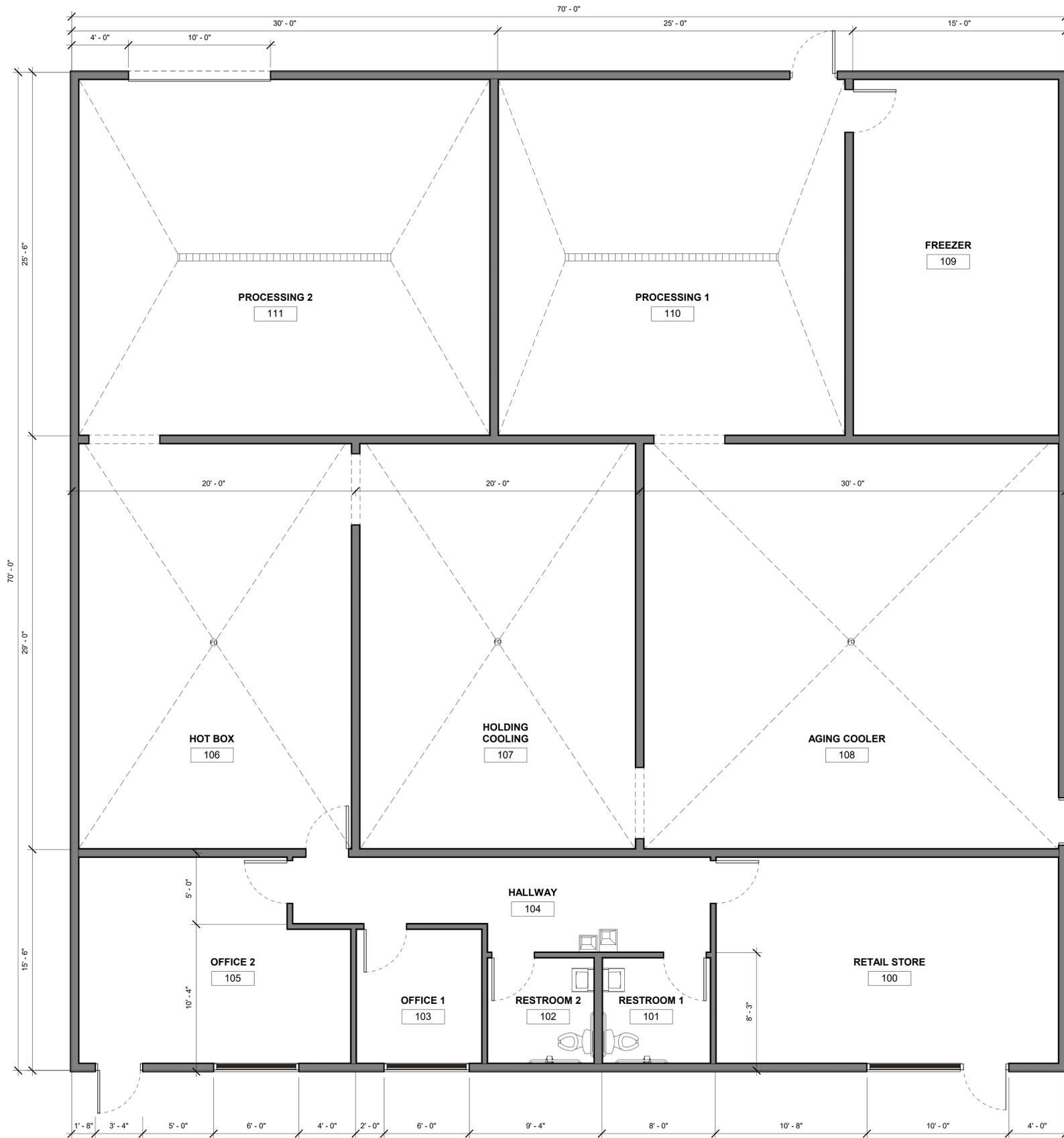
On August 13, 2021, Nicole Cecile Ballardini, personally appeared before me, a notary public, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

Jennifer Lynn Wyrsoch
Notary Public



JENNIFER LYNN WYRSCH
Notary Public - State of Nevada
Appointment Recorded in Washoe County
No: 03-83078-2 - Expires May 24, 2023

NOTE: If your project is located within the Historic District or airport area, it may need to be scheduled before the Historic Resources Commission or the Airport Authority in addition to being scheduled for review by the Planning Commission. Planning staff can help you make this determination.



General Notes

No.	Revision/Issue	Date



Architect:

**JOEY LASSONDE DRAFTING
AND Design**
775-527-2483
1975 SELMI DRIVE, SUITE 116
RENO, NEVADA 89512

Copyright 2020 All Rights Reserved
Drawings, specifications and other documents including those in electronic form, prepared by the architect are Instruments of Service for use solely with respect to this Project. The Architect shall be deemed the author and owner of these instruments of Service and shall retain all common law, statutory and other reserved rights, including copyrights.

Project Name and Address

CARSON VALLEY MEATS
CARSON CITY, NEVADA

Title

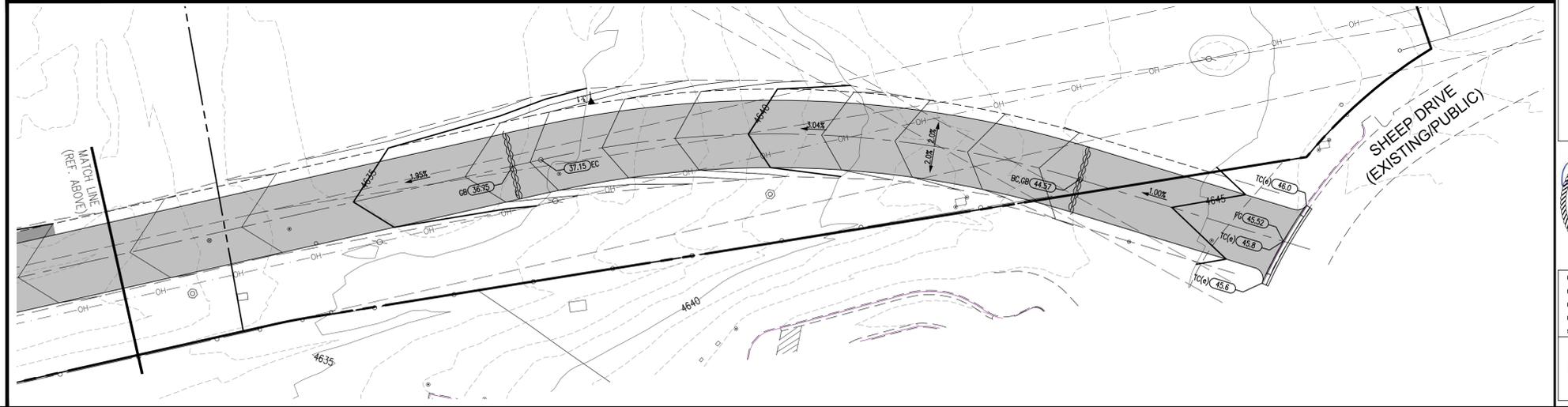
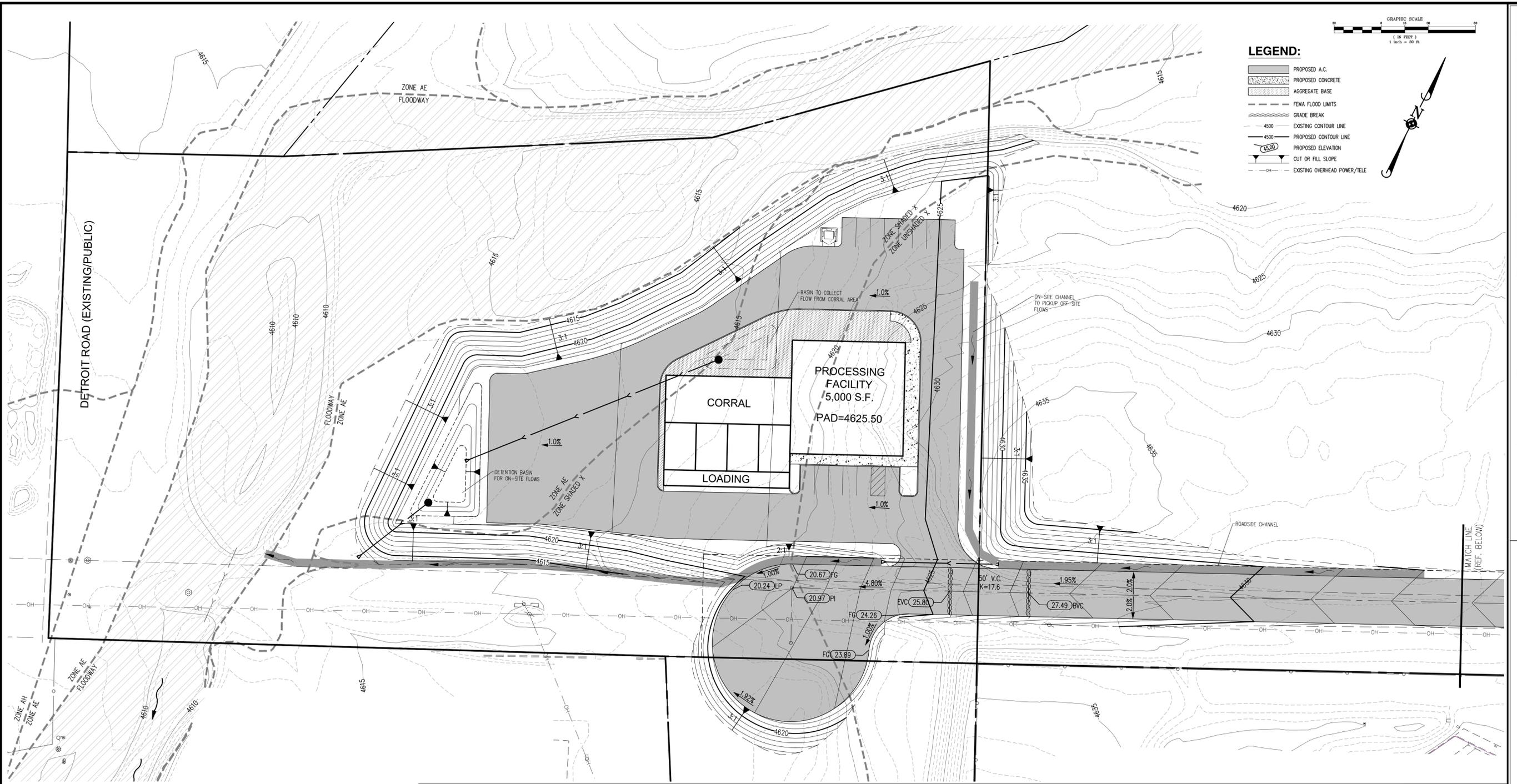
FLOOR PLAN

Approvals

Date 08/30/2021	Job Number	Sheet A2.1
Scale 1/4" = 1'-0"		

FLOOR PLAN
1/4" = 1'-0"

August 18, 2021 - 17:30 Dwg Name: P:\Corcoran\Drawings\Plan Set\GUP Plans\Grading\Plan.dwg Updated By: A.Motter



DATE	REVISIONS	DRAWN BY	CHECK BY

Manhard CONSULTING LTD.

841 Ridge Street, Suite 400, Reno, NV 89501 | ph:775-748-8800 | fx:775-748-8800 | manhard.com

Civil Engineers • Surveyors • Water Resources Engineers • Water & Wastewater Engineers
 Construction Managers • Environmental Scientists • Landscape Architects • Planners

CARSON VALLEY MEATS
CARSON CITY, NEVADA
PRELIMINARY GRADING PLAN

PROFESSIONAL ENGINEER STATE OF NEVADA
ANDREW W. MOTTER
 CIVIL
 Exp 12-31-21
 13794

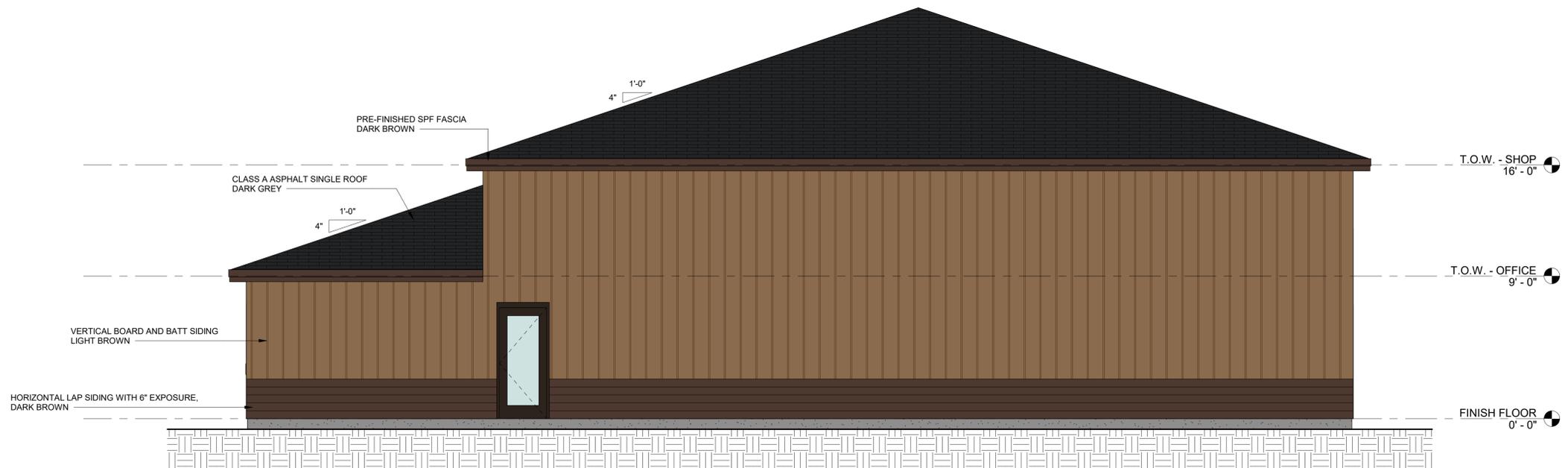
8/19/21

PROJ. MGR.: AWM
 PROJ. ASSOC.: AWM
 DRAWN BY: AWM
 DATE: 8/19/21
 SCALE: 1"=30'

SHEET
G1 OF **4**



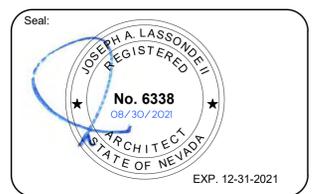
A FRONT ELEVATION
1/4" = 1'-0"



B SIDE ELEVATION
1/4" = 1'-0"

General Notes

No.	Revision/Issue	Date



Architect:
**JOEY LASSONDE DRAFTING
AND Design**
775-527-2483
1975 SELMI DRIVE, SUITE 116
RENO, NEVADA 89512

Copyright 2020 All Rights Reserved
Drawings, specifications and other documents including those in electronic form, prepared by the architect are Instruments of Service for use solely with respect to this Project. The Architect shall be deemed the author and owner of these instruments of Service and shall retain all common law, statutory and other reserved rights, including copyrights.

Project Name and Address
CARSON VALLEY MEATS
CARSON CITY, NEVADA

Title
EXTERIOR ELEVATIONS

Approvals

Date 08/30/2021	Job Number 	Sheet A4.1
Scale 1/4" = 1'-0"		



108 E. Proctor Street
Carson City, Nevada 89701
(775) 887-2180
Hearing Impaired: 711

August 16, 2021

Karin Sinclair
Carson Valley Meats
876 Centerville Lane, Unit C
Gardnerville, NV 89460
Via email: karin@carsonvalleymeats.com

Major Project Review: MPR-2021-0240

Project Description: Proposed 5,000 square foot animal processing facility with a 5,600 square foot corral/loading area. Slaughtering would occur one-day per week during normal operations but will likely operation 2-3 days per week when processing animals during local fairs and other similar events. Drop-off of animals will occur no more than 24 hours before processing is to occur. There will also be a small meat counter for the retail sale of pre-packaged cuts of meat.

Review Date: July 20, 2021

Major Project Review Comments

The following requirements and comments are provided for your use in preparing final plans and submittals for the project. Please be advised that the comments presented in this letter are based on the plans submitted with the Major Project Review application and may not include all the requirements or conditions which may be placed on the project at the time of submittal of planning applications for approval (if applicable) or final plans for building permits. It is hoped, however, that this review will expedite the completion of your project.

Some of the requirements noted below may have already been shown or otherwise indicated in the plans and need only be submitted in the final improvement plan form. Final on- and off-site improvement plans shall be submitted to the Building Division, (108 E. Proctor Street). These plans must contain all appropriate requirements of Development Engineering, Health, Utilities, Fire, and Planning Divisions/Departments.

Planning applications (if applicable), such as Master Plan Amendments, Zoning Changes, Special Use Permits, Variances, Lot Line Adjustments, Parcel Maps, etc. shall be submitted to the Planning Division (108 E. Proctor Street) for review and approval.

SITE INFORMATION:

Address: Highway 50 E and Detroit Road
APN: 008-371-39 and 008-371-10
Parcel Size: 4.43 acres (after completion of LLA-2020-0007)
Master Plan Designation: Mixed-Use Commercial
Zoning: General Industrial

PLANNING DIVISION

Contact Heather Ferris, Planning Manager

1. General Industrial - Carson City Municipal Code (CCMC) 18.04.150

The proposed animal processing facility/slaughterhouse is a conditional use in the General Industrial (GI) zoning district; therefore, a Special Use Permit is required. The proposed retail sales of pre-packaged cuts of meat is permitted primary use in the GI zoning district.

The lot line adjustment, LLA-2020-0007 must be completed prior to the issuance of any building permits for the subject project.

2. Setbacks - CCMC 18.04.195 (Non-residential)

	<u>Front</u>	<u>Rear</u>	<u>Side</u>	<u>Street Side</u>
Required:	30 ^{1,2} feet	0 ¹ feet	0 ^{1,2} feet	0 ^{1,2} feet

1. Business arterial landscape setback requirement= 10 feet (average)
2. 50 feet adjacent to residential district.

As shown on the site plan, the setbacks will be met.

3. Height - CCMC 18.04.195 (Non-residential) and CCDS Division 1.10.6

The maximum height is 45 feet for the GI zoning district. Elevations were not provided with this MPR application. As you finalize your design please keep this height limitation in mind.

4. Signs - Carson City Development Standards, Division 4

A Sign Permit will be required prior to the placement or erection of any sign, or to install or alter any electrical wiring or fixture. See the Planning Division for information and standards. A Sign Permit application may be obtained from the Building Division. (Development Standards, Division 4.4.1)

5. Parking and Loading – Carson City Development Standards, Division 2

The number of parking spaces required for various uses is described in the parking section of the CCMC, Division 2.2 of the Carson City Development Standards. As discussed during the MPR parking is require to be provided at a ratio of 1 space per 1,000 square feet plus 1 space for each employee, for the slaughterhouse (warehouse, storage building, or wholesale operations use) and 1 space per 300 square feet of gross floor area for the retail portion of the facility. The site plan shows 7 parking spaces which may be sufficient depending on how many employees you will have on-site. Your Special Use Permit application should include a parking plan with parking calculation showing how your project will meet parking demand. A reduced parking standard may be approved administratively by the Community Development Director. The request must be made in writing and include a parking plan as well as supporting documentation from an accredited source, such at the ITE.

6. Architectural Design - [Carson City Development Standards, Division 1](#)

Building elevations must be provided with the Special Use Permit application. The elevations must demonstrate compliance with the architectural standards outlined in the Development Standards, Division 1.1.

7. Lighting - [Carson City Development Standards, Division 1](#)

Exterior lighting must be consistent with Division 1.3 of the Development Standards.

Exterior light fixture details must be submitted with a building permit application for review and approval by the Planning Division prior to installation. Exterior lighting must be consistent with Division 1.3 of the Carson City Development Standards.

9. Roof-Mounted Equipment - [Carson City Development Standards, Division 1](#)

Any roof-mounted equipment (HVAC, etc.) must be screened from view from a public right-of-way or adjacent property using architectural means such as parapet walls and equipment wells. The use of a picket fence or chain link slatted screening is prohibited. Show all roof-mounted equipment on the elevation plan. (Development Standards, Division 1.1.7)

10. Trash Storage - [Carson City Development Standards, Division 1](#)

Trash, refuse, or recycled material storage containers are required within office, commercial, industrial, or multi-family districts ([CCMC 18.05.015](#)).

- a. Outdoor areas used for the storage of trash or refuse must be completely enclosed by a solid gate and a six-foot masonry block wall and be designed to integrate with the building and site design, including colors and materials. Enclosures shall be screened with appropriate plant materials wherever possible. Provide trash enclosure construction details with the final building permit plans. (Development Standards, Division 1.2.6)
- b. Trash enclosures shall be designed to meet or exceed minimum size requirements as determined by the sanitation company and shall be located to provide unobstructed access to refuse vehicles. All trash refuse or recycled material shall be stored in containers within its walled enclosure. (Development Standards, Division 1.2.6)

11. Growth Management- [CCMC 18.12](#)

Growth Management applies to all residential, commercial, and industrial property that is required to be served by city water and/or sewer service within the consolidated municipality of Carson City. A Growth Management application is required for all commercial and industrial developments that exceed an average daily water usage of 15,000 gallons per day. In a phased development, we look at the total water usage and not water usage by phase.

Growth Management applications are reviewed by the Planning Commission acting as the Growth Management Commission. In addition to hearing whether or not the City has the capacity and the technical capability to provide water, "the Growth Management Commission

must first find the use utilizes water conservation measures and techniques. If that finding is made the Growth Management Commission must consider if the use will promote health, welfare, safety or quality of life; or create quality jobs; or promote recreation and tourism.”

12. General Comments-

Your Special Use Permit application should clearly address the following:

- a) How many days per week will there be animals on-site during normal operations?
- b) How many animals will there be on-site per week at any one time?
- c) What limitations will there be for delivery of animals?
- d) How will your normal operations change when processing animals for local fairs and other events? Describe the number of days animals will be on-site; number of animals at any one-time on-site; and number of these events per year you anticipate serving.
- e) What types of animals will you be processing and how many will your facility hold? If you think you may want to process poultry, rabbits, or wild game, you should consider including that in your Special Use Permit request.
- f) What are your proposed hours of operation?
- g) How do you plan to deal with animal waste, both manure and offal/processing waste?
- h) Although it the retail portion of your business does not require a Special Use Permit, it would be helpful to provide a description of retail operations to provide a comprehensive overview at the proposed on-site uses.
- i) The APNs of all parcels involved. It appears APN 008-371-38 is involved in the lot line adjustment and should therefore be listed on the application for the Special Use Permit.

ENGINEERING AND UTILITIES

Contact Stephen Pottey, Project Manager

Transportation:

13. A sealed memo must be provided by a professional engineer showing that the project will not generate more than 80 peak hour trips and will not generate more than 500 trips per day according to ITE trip generation rates. If either of these limits is expected to be exceeded, a sealed traffic impact study must be provided, meeting the requirements of CCDS 12.13. Please contact Chris Martinovich for traffic impact study scoping at 775-283-7367.
14. The access roadway shall be private. This access road must meet the Carson City Standard Detail for Industrial Streets C-5.1.7.

15. Private streets will be designed to meet city standards for local streets, including streetlights, storm drain systems, water systems, sanitary sewer systems, and paving structural section per CCDS 12.11.
16. The access road must be fully within an access and public utility easement, including the bulb at the end.
17. The bulb at the end of the access road must be 96 feet in diameter if parking is not allowed. If parking is allowed the diameter must be increased by 16 feet. If parking is not allowed it must be signed and striped accordingly.

Water:

18. The existing water main is 6-inch asbestos concrete on the west (Detroit Rd) and south (Brick Rd) sides of the property.
19. A fire hydrant at the end of the water main in Brick Road is required for flushing to maintain water quality.
20. The lot line adjustment must be recorded prior to the building permit being issued.
21. A public utility easement must be recorded over the water main prior to the building permit being issued.
22. A wet stamped water main analysis must be submitted in accordance with CCDS 15.3.1(a) to show that adequate pressure will be delivered to the meter and fire flows meet the minimum requirements of the Carson City Fire Department. Please contact the Michael Friend at (775) 283-7713 or mfriender@carson.org to schedule a fire hydrant flow test.
23. A reduced pressure principle assembly backflow preventer will be required for the domestic water line. The fire line must have a double check valve backflow preventer if it is Class 1-3, or a reduced pressure principle assembly if it is Class 4-6. These backflow preventers must be above ground in a hot box and must be located as close to the property line as possible. The irrigation service will need a reduced pressure backflow preventer if a vacuum breaker system cannot be designed to operate properly.
24. Due to minimal water information provided in the MPR application, additional requirements may apply.
25. Project shall comply with all City and State codes and standards.

Sewer:

26. The existing sewer main is 12-inch PVC on the west side of the property (Detroit Rd) and 8-inch PVC on the south side of the property (Brick Rd). The 12" main is approximately 25% full and the 8" main is approximately 10% full (d/D). There is also a pressurized main on the west side of the property.

27. A wet stamped sewer main analysis must be submitted that includes addressing the effect of flows on the existing City system. See section 15.3.2 of CCDS. There may be upgrades triggered to the nearby sewer lift station for pumping capacity and storage dependent on the amount of sewage the development discharges to the sanitary sewer system.

Storm Drainage and Flooding:

28. The FEMA flood zone is Zone X (shaded), Zone AO, and Zone AE floodway going through the property.
29. The structure is outside the SFHA but there is fill being placed within the SFHA. The code requires volume mitigation at a 1:1 ratio for the floodplain volume. A LOMR will be required to update the flood map.
30. Recently, Carson City has adopted changes to the detention design storm requirements from a 5-year, 24-hour event to a 10-year 24-hour event and includes Low Impact Development (LID) design requirements. The drainage manual is available here:
<https://www.carson.org/home/showpublisheddocument/76010/637605816521670000>
31. Drainage easements must be dedicated where flow paths are changed and cross parcel lines.

General Comments:

32. Any commercial or industrial developments with an average daily water usage of 15,000 gallons per day or more must submit a growth management application.
33. Water and sewer connection fees must be paid. If these fees were paid in the past, then the difference between the old and new amounts of water/sewer usages must be paid for. Please see CCMC 12.01.030 for the water connection fee schedule and 12.03.020 for the sewer connection fee schedule.
34. Any engineering work done on this project must be wet stamped and signed by an engineer licensed in Nevada. This will include site, grading, utility and erosion control plans as well as standard details.
35. Please reach out to Waste Management before applying for a building permit for approval of the parking and access layout in relation to trash collection and any proposed trash enclosures.
36. All construction work must be to Carson City Development Standards (CCDS) and meet the requirements of the Carson City Standard Details.
37. Addresses for units will be provided during the building permit review process.

38. Fresh water must be used for Dust control. Contact the Water Operations Supervisor Public Works at 283-7382 for more information.
39. A private testing agreement will be necessary for the compaction and material testing in the street right of way. The form can be obtained through Carson City Permit Engineering.
40. An erosion control plan meeting section 13 of CCDS will be required in the plan set.
41. Any work performed in the street right of way will require a traffic control plan and a timeline type schedule to be submitted before the work can begin. A minimum of one week notice must be given before any work can begin in the street right of way.
42. Please show any easements on the construction drawings.
43. A Construction Stormwater Permit from the Nevada Division of Environmental Protection (NDEP) will be required for the construction of projects 1 acre or greater.
44. A Dust Control Permit from NDEP will be required for any project 5 acres or greater.

These comments are based on a very general site plan and do not indicate a complete review. All pertinent requirements of Nevada State Law, Carson City Code, and Carson City Development Standards will still apply whether mentioned in this letter or not.

FIRE DEPARTMENT

Dave Ruben, Battalion Chief/Fire Marshal

45. Project must comply with the International Fire Code and northern Nevada fire code amendments as adopted by Carson City.
46. Buildings 5000SF or larger require fire sprinklers, fire alarm, and Knox box.
47. If the building is sprinklered, there must be a fire hydrant within 100' of the FDC.
48. If the building isn't sprinklered, there must be a fire hydrant within 400' of the most remote part of the building.
49. Minimum cul-de-sac diameter is 96'. "No Parking-Fire Lane" signs are required.
50. The access road must be paved.
51. There must be a fire access road within 150' of all parts of the building. The access road/driveway must be paved.
52. Any dead-end drive aisles considered a fire access road that are more than 150', must provide a turnaround that complies with IFC Appendix D.

BUILDING DIVISION

Contact Corey Coleman, Building Official

53. Designs will be to the 2018 Code Series and Northern Nevada Amendments (Building and Fire).
54. Provide submittal digitally to the permit center at permitcenter.carson.org.
55. Licensed contractor and Designer required.
56. Address processing coolers and drainage.

ENVIRONMENTAL CONTROL AUTHORITY

Contact Jennifer Churchward, Environmental Control Officer

57. All floor sinks and drains in harvesting and food prep areas where grease and/or solids result from processing operations are required to connect to a properly sized gravity grease interceptor, per CCMC 12.06.245.
58. Submit calculations used in the sizing of the grease interceptor.
59. Submit a plumbing plan that clearly delineates all connections to both sanitary sewer and grease interceptor.
60. Trash enclosure will require connection either to its own grease interceptor or, if adequate fall can be obtained, can connect to the main grease interceptor. See CCMC Development Standard Appendix 18 Division 15.5 for trash enclosure details.
61. Provide details/specs of all pretreatment methods that will be used prior to wastewater being discharged to the sewer system (including screen systems, DAF, flocculation, etc.)
62. Sewer discharges must meet all applicable Federal (40 CFR 403), State (NRS 445A), and Local (CCMC 12.06.410) discharge limits. See table in CCMC 12.06.410 for limits on pH, temperature, BOD, COD, oil & grease, and total suspended solids.
63. Facility will be issued a Wastewater Discharge Permit by ECA. Haul off records from rendering company will need to be kept on site.
64. Secondary containment will be required for all stored and in-use liquid chemicals in quantities of 30 gallons or above, per CCMC 12.06.248. This includes cleaning chemicals and any chemicals used to control odor.
65. Provide details of measures that will be taken to prevent run off from the corral area reaching the floodway.

Conclusion

Please provide a copy of this MPR letter with any submittal in relation to the proposed project.

Due to changing conditions of business and requirements for zoning, master plan and development codes of Carson City, this MPR information will expire and may need to be updated with a new MPR if the developer has not applied for a building permit within one year of the date of the MPR meeting.

The aforementioned comments are based on the Major Project Review Committee's review. If you have any questions, please feel free to contact the following members of staff, Monday through Friday 8:00 AM to 4:00 PM.

Planning Division –

Heather Ferris, Planning Manager
(775) 283-7080
Email: hferris@carson.org

Engineering Division –

Stephen Pottey, Project Manager
(775) 283-7079
Email: spottey@carson.org

Fire Prevention –

Dave Ruben, Battalion Chief/Fire Marshal
(775) 283-7153
Email: druben@carson.org

Building Division –

Corey Coleman, Chief Building Official
(775) 283-7052
Email: ccoleman@carson.org

Environmental Control Authority

Jen Churchward, Environmental Control Officer
(775) 283-7409
Email: jchurchward@carson.org

Sincerely,
Community Development Department, Planning Division



Heather Ferris
Planning Manager

cc: MPR-2021-0240
Karen Downs, Manhard Consulting kdowns@manhard.com

MEMO

To: JANB, LLc – Carson Valley Meats, Inc.

From: Ralph Wenziger, P.E.

Date: 8/18/21

Re: Preliminary Sewer Capacity for existing 8" line in Brick Road

The proposed Carson Valley Meats facility will have an approximate peak sewer discharge flow of 8,000 gpd per fair/event day. The existing sewer line in Brick Road is an 8" PVC line with slope of 1%. The capacity of the 8" sewer line with a slope of 1% at 50% full is approximately **0.39 MGD**.

The peak sewer discharge flow from Carson Valley Meats will be approximately **0.008 MGD**, this translates into the 8" sewer pipe being less than 1 % full. Per the information provided by Carson Valley Meats for the peak fair/event day of 8,000 gpd the existing 8" sewer line in Brick Road has the capacity to handle the peak flow from Carson Valley Meats.

I hope this memo provides adequate support for Carson Valley Meats sewer discharge contribution. If there are any questions about the data/assumptions above, please do not hesitate to contact me.

Sincerely,

Ralph Wenziger, P.E.
rwenziger@manhard.com
775-887-5256



Master Plan Policy Checklist

Special Use Permits & Major Project Reviews & Administrative Permits

PURPOSE

The purpose of a development checklist is to provide a list of questions that address whether a development proposal is in conformance with the goals and objectives of the 2006 Carson City Master Plan that are related to non-residential and multi-family residential development. This checklist is designed for developers, staff, and decision-makers and is intended to be used as a guide only.

Development Name: Carson Valley Meats

Reviewed By: _____

Date of Review: _____

DEVELOPMENT CHECKLIST

The following five themes are those themes that appear in the Carson City Master Plan and which reflect the community's vision at a broad policy level. Each theme looks at how a proposed development can help achieve the goals of the Carson City Master Plan. A check mark indicates that the proposed development meets the applicable Master Plan policy. The Policy Number is indicated at the end of each policy statement summary. Refer to the Comprehensive Master Plan for complete policy language.

CHAPTER 3: A BALANCED LAND USE PATTERN



The Carson City Master Plan seeks to establish a balance of land uses within the community by providing employment opportunities, a diverse choice of housing, recreational opportunities, and retail services.

Is or does the proposed development:

- N/A Meet the provisions of the Growth Management Ordinance (1.1d, Municipal Code 18.12)?
- Use sustainable building materials and construction techniques to promote water and energy conservation (1.1e, f)?
- Located in a priority infill development area (1.2a)?
- N/A Provide pathway connections and easements consistent with the adopted Unified Pathways Master Plan and maintain access to adjacent public lands (1.4a)?

- Protect existing site features, as appropriate, including mature trees or other character-defining features (1.4c)?
- N/A At adjacent county boundaries or adjacent to public lands, coordinated with the applicable agency with regards to compatibility, access and amenities (1.5a, b)?
- In identified Mixed-Use areas, promote mixed-use development patterns as appropriate for the surrounding context consistent with the land use descriptions of the applicable Mixed-Use designation, and meet the intent of the Mixed-Use Evaluation Criteria (2.1b, 2.2b, 2.3b, Land Use Districts, Appendix C)?
- N/A Meet adopted standards (e.g. setbacks) for transitions between non-residential and residential zoning districts (2.1d)?
- Protect environmentally sensitive areas through proper setbacks, dedication, or other mechanisms (3.1b)?
- Sited outside the primary floodplain and away from geologic hazard areas or follows the required setbacks or other mitigation measures (3.3d, e)?
- Provide for levels of services (i.e. water, sewer, road improvements, sidewalks, etc.) consistent with the Land Use designation and adequate for the proposed development (Land Use table descriptions)?
- N/A If located within an identified Specific Plan Area (SPA), meet the applicable policies of that SPA (Land Use Map, Chapter 8)?

CHAPTER 4: EQUITABLE DISTRIBUTION OF RECREATIONAL OPPORTUNITIES



The Carson City Master Plan seeks to continue providing a diverse range of park and recreational opportunities to include facilities and programming for all ages and varying interests to serve both existing and future neighborhoods.

Is or does the proposed development:

- N/A Provide park facilities commensurate with the demand created and consistent with the City's adopted standards (4.1b)?
- N/A Consistent with the Open Space Master Plan and Carson River Master Plan (4.3a)?

CHAPTER 5: ECONOMIC VITALITY



The Carson City Master Plan seeks to maintain its strong diversified economic base by promoting principles which focus on retaining and enhancing the strong employment base, include a broader range of retail services in targeted areas, and include the roles of technology, tourism, recreational amenities, and other economic strengths vital to a successful community.

Is or does the proposed development:

- N/A Encourage a citywide housing mix consistent with the labor force and non-labor force populations (5.1j)
- N/A Encourage the development of regional retail centers (5.2a)
- N/A Encourage reuse or redevelopment of underused retail spaces (5.2b)?
- N/A Support heritage tourism activities, particularly those associated with historic resources, cultural institutions and the State Capitol (5.4a)?
- N/A Promote revitalization of the Downtown core (5.6a)?
- N/A Incorporate additional housing in and around Downtown, including lofts, condominiums, duplexes, live-work units (5.6c)?

CHAPTER 6: LIVABLE NEIGHBORHOODS AND ACTIVITY CENTERS



The Carson City Master Plan seeks to promote safe, attractive and diverse neighborhoods, compact mixed-use activity centers, and a vibrant, pedestrian-friendly Downtown.

Is or does the proposed development:

- Use durable, long-lasting building materials (6.1a)?
- N/A Promote variety and visual interest through the incorporation of varied building styles and colors, garage orientation and other features (6.1b)?
 - Provide variety and visual interest through the incorporation of well-articulated building facades, clearly identified entrances and pedestrian connections, landscaping and other features consistent with the Development Standards (6.1c)?
- N/A Provide appropriate height, density and setback transitions and connectivity to surrounding development to ensure compatibility with surrounding development for infill projects or adjacent to existing rural neighborhoods (6.2a, 9.3b 9.4a)?
- N/A If located in an identified Mixed-Use Activity Center area, contain the appropriate mix, size and density of land uses consistent with the Mixed-Use district policies (7.1a, b)?
- N/A If located Downtown:
 - Integrate an appropriate mix and density of uses (8.1a, e)?
 - Include buildings at the appropriate scale for the applicable Downtown Character Area (8.1b)?
 - Incorporate appropriate public spaces, plazas and other amenities (8.1d)?
- N/A Incorporate a mix of housing models and densities appropriate for the project location and size (9.1a)?

CHAPTER 7: A CONNECTED CITY



The Carson City Master Plan seeks promote a sense of community by linking its many neighborhoods, employment areas, activity centers, parks, recreational

amenities and schools with an extensive system of interconnected roadways, multi-use pathways, bicycle facilities, and sidewalks.

Is or does the proposed development:

- N/A Promote transit-supportive development patterns (e.g. mixed-use, pedestrian-oriented, higher density) along major travel corridors to facilitate future transit (11.2b)?
- N/A Maintain and enhance roadway connections and networks consistent with the Transportation Master Plan (11.2c)?
- N/A Provide appropriate pathways through the development and to surrounding lands, including parks and public lands, consistent with the Unified Pathways Master Plan (12.1a, c)?

If there is any additional information that would provide a clearer picture of your proposal that you would like to add for presentation to the Planning Commission, please be sure to include it in your detailed description.

Please type and sign the statement on the following page at the end of your findings response.

ACKNOWLEDGMENT OF APPLICANT

I certify that the forgoing statements are true and correct to the best of my knowledge and belief. I agree to fully comply with all conditions as established by the Planning Commission. I am aware that this permit becomes null and void if the use is not initiated within one-year of the date of the Planning Commission's approval; and I understand that this permit may be revoked for violation of any of the conditions of approval. I further understand that approval of this application does not exempt me from all City code requirements.

Karin Sinclair

Applicant's Signature

KARIN SINCLAIR

Print Name

8.11.2021

Date



CARSON CITY

Capital of Nevada

[Treasurer Home](#)

[Assessor Data Inquiry](#)

[Back to Last Page](#)

Secured Tax Inquiry Detail for Parcel # 008-371-10

Property Location: AKRON WY
Billed to: JANB LLC
P O BOX 1984
CARSON CITY, NV 89702-0000

Tax Year: 2019-20
Roll #: 008719
District: 2.4
Tax Service:
Land Use Code: 140

[Code Table](#)

Outstanding Taxes:

Prior Year	Tax	Penalty/Interest	Total	Amount Paid	Total Due
Current Year					
08/19/19	993.22		993.22	993.22	.00
10/07/19	993.00		993.00	993.00	.00
01/06/20	993.00		993.00	993.00	.00
03/02/20	993.00		993.00	993.00	.00
Totals:	3,972.22	.00	3,972.22	3,972.22	

No Taxes Owing

[History](#)

Additional Information

	2019-20	2018-19	2017-18	2016-17	2015-16
Tax Rate	3.5700	3.5700	3.5700	3.5200	3.5200
Tax Cap Percent	4.8	4.2	2.6	.2	3.2
Abatement Amount	565.81	337.18	489.93	204.72	211.81



CARSON CITY

Capital of Nevada

Treasurer Home

Assessor Data Inquiry

Back to Last Page

Secured Tax Inquiry Detail for Parcel # 008-371-38

Property Location: HWY 50 EAST

Billed to: JANB LLC

P O BOX 1984

CARSON CITY, NV 89702-0000

Tax Year: 2019-20

Roll #: 008722

District: 2.4

Tax Service:

Land Use Code: 110

[Code Table](#)

Outstanding Taxes:

Prior Year	Tax	Penalty/Interest	Total	Amount Paid	Total Due
<u>Current Year</u>					No Taxes Owing
08/19/19	29.09		29.09	29.09	.00
10/07/19					
01/06/20					
03/02/20					

[History](#)

Additional Information

	2019-20	2018-19	2017-18	2016-17	2015-16
Tax Rate	3.5700	3.5700	3.5700	3.5200	3.5200
Tax Cap Percent	4.8	4.2	2.6	.2	3.2
Abatement Amount		1.18	2.30	2.59	2.65



CARSON CITY

Capital of Nevada

[Treasurer Home](#)[Assessor Data Inquiry](#)[Back to Last Page](#)

Secured Tax Inquiry Detail for Parcel # 008-371-39

Property Location: [HWY 50 EAST](#)
 Billed to: [JANB LLC](#)
[P O BOX 1984](#)
[CARSON CITY, NV 89702-0000](#)

Tax Year: [2019-20](#)
 Roll #: [008723](#)
 District: [2.4](#)
 Tax Service:
 Land Use Code: [140](#)

[Code Table](#)

Outstanding Taxes:

Prior Year	Tax	Penalty/Interest	Total	Amount Paid	Total Due
Current Year					
08/19/19	1,082.36		1,082.36	1,082.36	.00
10/07/19	1,080.00		1,080.00	1,080.00	.00
01/06/20	1,080.00		1,080.00	1,080.00	.00
03/02/20	1,080.00		1,080.00	1,080.00	.00
Totals:	4,322.36	.00	4,322.36	4,322.36	

No Taxes Owing[History](#)

Additional Information

	2019-20	2018-19	2017-18	2016-17	2015-16
Tax Rate	3.5700	3.5700	3.5700	3.5200	3.5200
Tax Cap Percent	4.8	4.2	2.6	.2	3.2
Abatement Amount	3,601.85	2,483.07	2,649.31	222.83	230.53



Civil Engineering
Surveying
Water Resources Management
Construction Management
Landscape Architecture
Land Planning

August 19, 2021

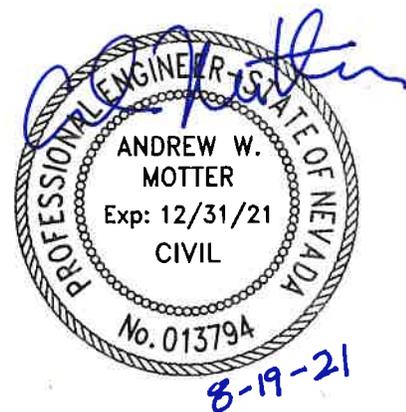
Carson City Community Development Department
108 E. Proctor Street
Carson City, NV 89701

RE: CARSON VALLEY MEATS SPECIAL USE PERMIT; TRAFFIC

To Whom it May Concern,

The Institute of Transportation Engineers (ITE) Trip Generation Handbook, 10th Edition, indicates that trip generation for warehousing (Land Use 150) and retail sales, the most closely associated uses for this project, is 5.05 ADT per employee plus retail sales. The total trip generation is 53 ADT; (5.05 x 8 employees + 13 for retail sales). Because the project will not generate more than 80 peak hour trips or more than 500 ADT according to ITE trip generation rates, a traffic impact study is not required.

ITE Land Use	ITE Trip Generation	Unit	Project Trip Generation
Land Use 150: Warehousing	5.05 ADT per employee	8 employees	40.04 ADT
Land Use 814: Retail Variety Store	63.47 ADT per 1,000 sq. ft.	200 sq. ft.	12.70 ADT
TOTAL			53 ADT





Manhard™

CONSULTING LTD

CONCEPTUAL DRAINAGE STUDY

FOR

CARSON VALLEY MEATS

CARSON CITY, NEVADA

Prepared for:

Carson Valley Meats
PO Box 1984
Carson City, NV 89702

Prepared by:

Manhard Consulting Ltd.
241 Ridge Street, Suite 400
Reno, NV 89501



08/19/21

TABLE OF CONTENTS

I. INTRODUCTION

II. EXISTING AND PROPOSED HYDROLOGY

III. PROPOSED DRAINAGE FACILITIES

IV. CONCLUSIONS

V. TABLES

TABLE 1 – RUNOFF FLOWS

TABLE 2 – DETENTION VOLUME

V. FIGURES

FIGURE 1 – VICINITY MAP

FIGURE 2 – EXISTING HYDROLOGIC CONDITIONS

FIGURE 3 – PROPOSED HYDROLOGIC CONDITIONS

VI. APPENDICES

APPENDIX A – SUPPORTING CALCULATION DATA

I. INTRODUCTION

- B.** The following report is a Conceptual Drainage Study for Carson Valley Meats dated August 2021.
- C.** The contact person for the preparation of this report is Spencer D. Fellows, P.E. at Manhard Consulting, 775-746-3500.
- D.** The project consists of a 5,000 square foot meat processing facility with attached corral and loading zone, parking lot, and associated roadway.
- E.** The existing Carson Valley Meats parcel numbers are APN 008-371-39 and 008-371-10 and are 8.29 acres in combined size. A lot line adjustment currently being processed will make the final parcel 4.43 acres. The parcel slopes from east to west at approximately 5.0% within the confines of the project site. The proposed project site is situated within the Northeast 1/4 of the Northwest 1/4 of Section 11, Township 15 North, and Range 20 East of the Mount Diablo Meridian in Carson City, Nevada. Currently, the parcel is undeveloped and is proposed to be partially developed.

The subject property is currently zoned general commercial (GC) within Carson City and is adjacent to the following areas:

North: APN 008-385-01, zoned GC, undeveloped

South: APN 008-371-14 -13 -47, zoned GC, partially developed

East: APN 008-387-46, zoned GC, undeveloped

West: APN 008-371-38, zoned GC, Detroit Road

- F.** Reference the included Vicinity Map (Figure #1).

II EXISTING AND PROPOSED HYDROLOGY

- A.** The intent of this hydrology study is to set a basis for the existing conditions for comparison to the proposed conditions and prove that the discharge created by the

proposed development was alleviated via a detention structure prior to discharging to the existing culvert crossing located at the south corner of the proposed project site. There are a total of 1 existing drainage basin, 2 proposed drainage basins, and 1 proposed detention basin for the proposed project. Basins are represented by their boundary as well as existing and proposed conditions. Reference Figure 2 (Existing Hydrologic Conditions) and Figure 3 (Proposed Hydrologic Conditions) for a visual representation of existing basins, proposed basins, and detention basin.

- B.** The Rational Method was used to determine storm flow discharge. Data used for the Rational Method was derived from the following: NOAA Atlas 14 precipitation intensity values for a 10-minute time of concentration and runoff coefficients are from the 2009 Truckee Meadows Regional Drainage Manual.

The Modified Rational Method was used to determine the storage volume required for the increase of peak storm runoff. Data used for the Modified Rational Method was derived from the following: NOAA Atlas 14 precipitation intensity values for the 5-year and 100-year storm, and runoff curve numbers are from the 2009 Truckee Meadows Regional Drainage Manual.

The following is a description of each basin and its data characteristics. E. represents the existing basin and P. represents the proposed basin.

BASIN E-1 – The basin is 4.43 acres in size. A runoff coefficient of 0.20 was used for the 5-year storm event, and a runoff coefficient value of 0.50 was used for the 100-year storm event (based on undeveloped range area) for the existing conditions. Using a 10-minute time of concentration, the intensity value for the 5-year storm event is 1.46 inches/hour, and the intensity value for the 100-year storm event is 3.55 inches/hour, respectively. Discharge sheet flows across the proposed project site in the existing condition in a northeast to southwest direction at approximately 5.0% discharging into an existing culvert at south corner of the project at the intersection of Detroit Road and Brick Road.

BASIN P-1 – The basin totals 1.20 acres in size. A runoff coefficient of 0.65 was used for the 5-year storm event, and a runoff coefficient value of 0.80 was used for the 100-year storm event (based on neighborhood commercial). Using a 10-minute time of concentration, the intensity value for the 5-year storm event is 1.46 inches/hour, and the intensity value for the 100-year storm event is 3.55 inches/hour, respectively. Discharge flows along the proposed parking lot at a slope of 1.0% and enters the proposed storm drain facilities of the proposed project. A water quality basin is located in the middle of the site for animal-related runoff. The discharge will exit in the detention basin located in the southeast corner of the proposed project site at a rate that equal to or less than the discharge in the existing conditions to the existing culvert.

BASIN P-2 – The basin totals 3.23 acres in size. A runoff coefficient of 0.20 was used for the 5-year storm event, and a runoff coefficient value of 0.50 was used for the 100-year storm event (based on undeveloped range area). Using a 10-minute time of concentration, the intensity value for the 5-year storm event is 1.46 inches/hour, and the intensity value for the 100-year storm event is 3.55 inches/hour, respectively. Discharge sheet flows into proposed cutoff channels along the proposed edges of the project at a minimum slope of 1.0%. The discharge then flows to the existing culvert located in the south corner of the project.

Below are the analyzed values for the existing and proposed 5-yr and 100-yr storm events.

TABLE 1 – RUNOFF FLOWS (Q-CFS)

	AREA (acres)	EXISTING (5-YR)	EXISTING (100-YR)	PROPOSED (5-YR)	PROPOSED (100-YR)
E-1	4.43	1.29	7.86		
E-Total	4.43	1.29	7.86		
P-1	1.20			1.14	3.41
P-2	3.23			0.94	5.73
P-Total	4.43			2.08	9.14

- C. The downstream drainage consists of an existing culvert at property line of near the intersection of Detroit and Brick Road which leads to the Carson River approximately 1,200 feet to the south.
- D. There are no existing drainage problems for the proposed project site.
- E. The project site lies in Unshaded Zone X, Shaded Zone X (area of the 500-year storm event), Zone AE (area of the 100-year storm event), and Floodway.
- F. There is no existing irrigation on the proposed site.
- G. Reference Figure 2 (Existing Hydrologic Conditions) and Figure 3 (Proposed Hydrologic Conditions) for the tributary areas of existing basin, proposed basins, and detention basin.

III. PROPOSED DRAINAGE FACILITIES

- A. The project site will be graded to allow drainage to flow into the proposed detention facility located in the southwest corner of the project site and discharge to the existing culvert. Discharge will exit the detention basin in a condition less than or equal to the existing condition. (Reference Figure 3, Proposed Hydrologic Conditions for a graphical interpretation of the proposed flow direction).
- B. Detention will be accomplished by meeting the requirements set forth in Division 14 of the Title 18 Appendix - Carson City Development Standards. Based on the proposed verses existing conditions, the following table dictates the required detention for all storm events as per Section 14.4 of the Carson City Development Standards Table 3 illustrates the overall increase in all storm events for the developed area in the existing verses the proposed conditions.

TABLE 2 – DETENTION VOLUME (V-CF)

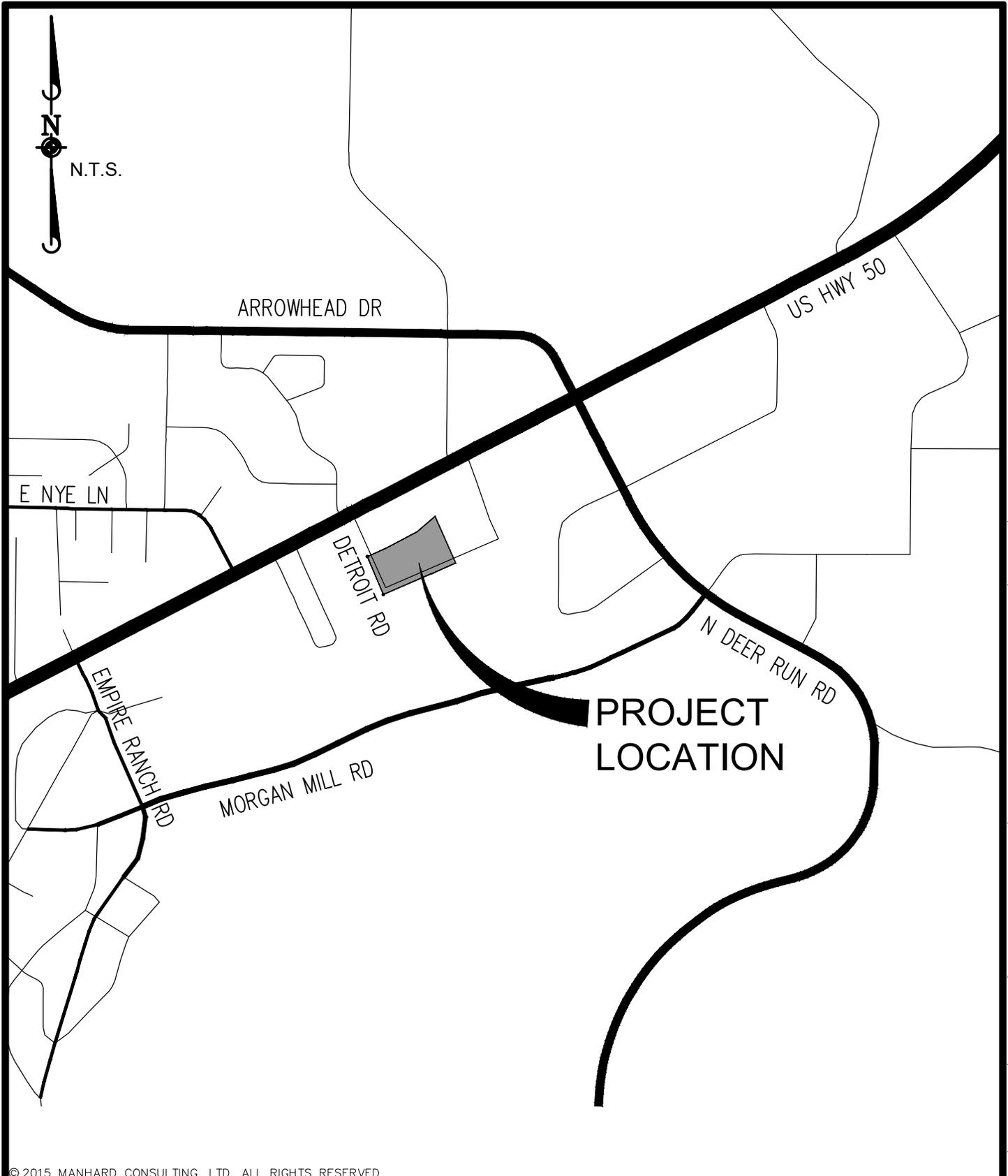
Storm Event	Volume Required (cf)	Volume Provided (cf)
5	511	
10	620	
100	1,321	1,857

Sizing was performed using the Modified Rational Method for a 5-year, 10-year, and 100-year 10-minute time of concentration and the difference in storage rate (see Appendix A for calculations). The largest runoff volume increase of the three storms was used and an outlet structure was sized to control the flow to be equal to or below pre-development flows. The 100-year overflow will be discharging into the existing culvert south of the project.

Since the project disturbs the existing grades in flood zone AE and is a proposed fill site, MT-1 application to FEMA will be required to raise the processing facility out of the existing flood limits.

IV. CONCLUSIONS

- A.** This report has been prepared in compliance with Division 14 of the Title 18 Appendix - Carson City Development Standards.
- B.** This report is compliant with the most current FEMA standards. Reference the included FEMA FIRM Panel from map #3200010112F included in Appendix A.
- C.** According to the analysis contained within this report, the addition of a detention facility will detain the required amount of discharge in the required storm event with no negative impact to downstream facilities and surrounding areas.



© 2015 MANHARD CONSULTING, LTD. ALL RIGHTS RESERVED



241 Ridge Street, Suite 400, Reno, NV 89501 ph:775-746-3500 fx:775-746-3520 manhard.com
 Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
 Construction Managers • Environmental Scientists • Landscape Architects • Planners

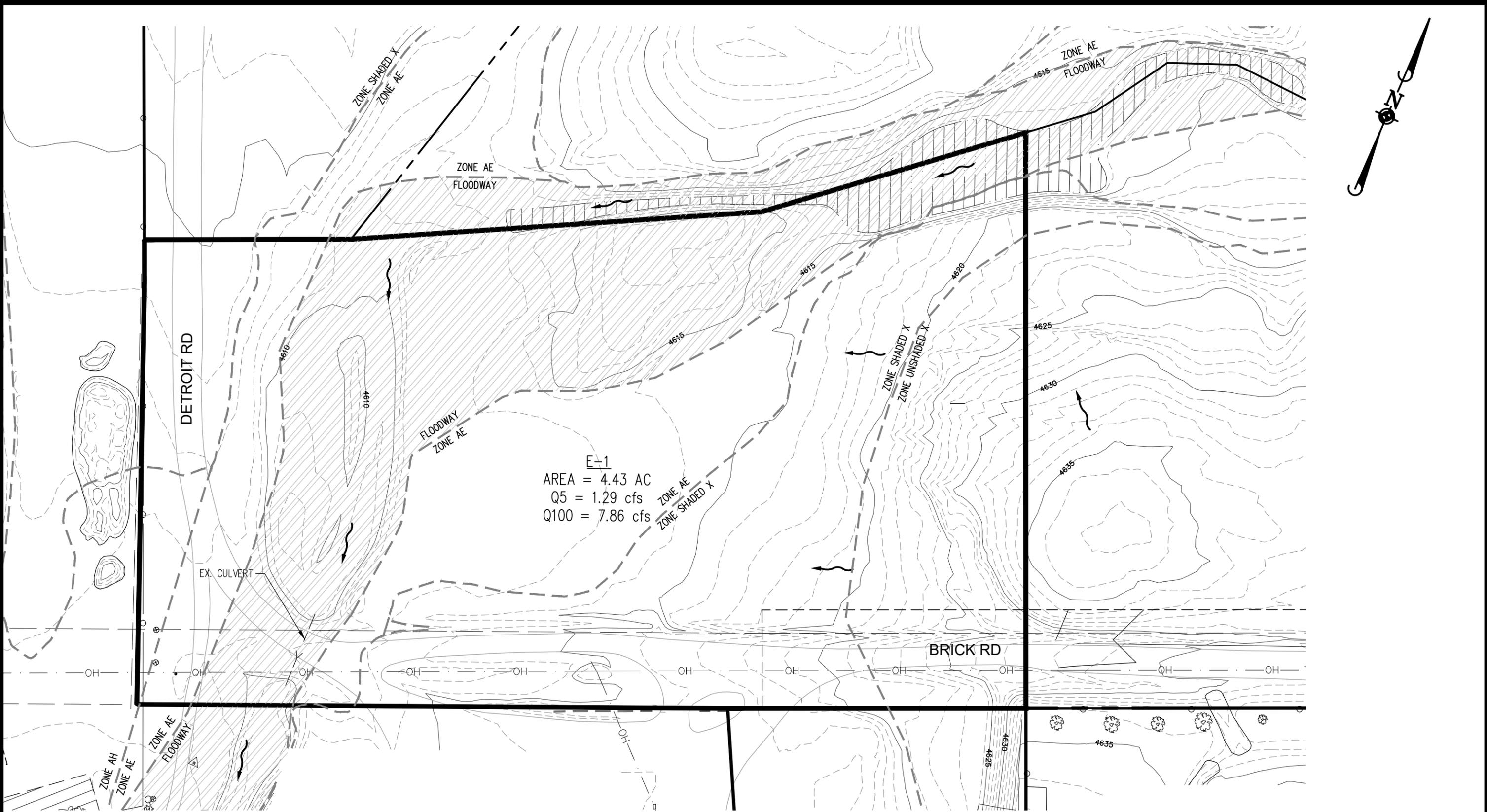
CARSON VALLEY MEATS

CARSON CITY, NEVADA

VICINITY MAP

PROJ. MGR.: AWM
 DRAWN BY: SDF
 DATE: AUG 2021
 SCALE: N.T.S.

SHEET
1 OF **3**
CVM.CCNV01



© 2021 MANHARD CONSULTING, LTD. ALL RIGHTS RESERVED

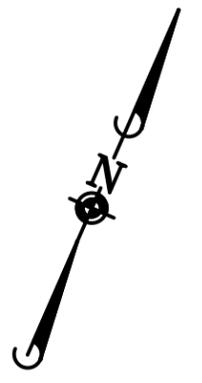
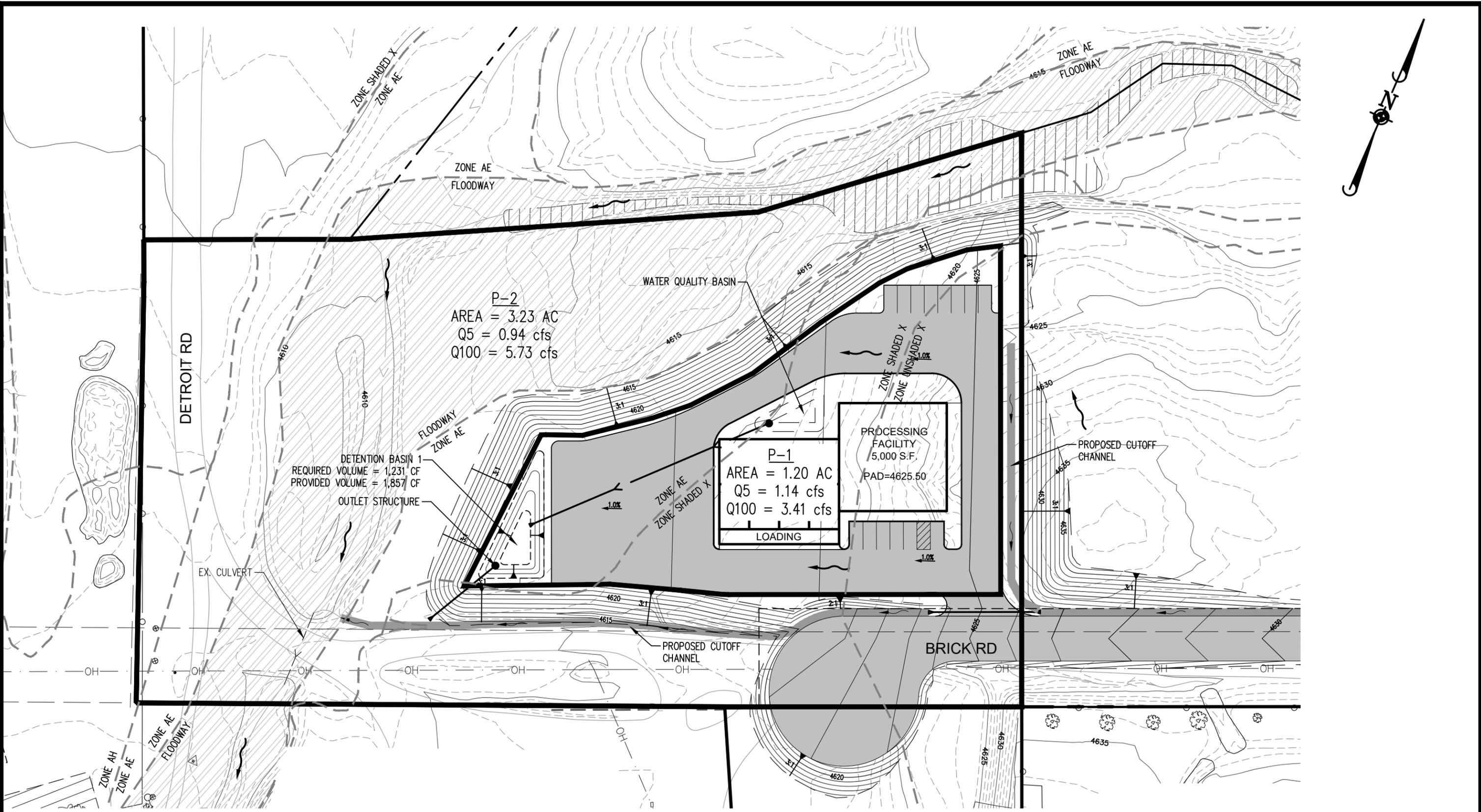
DATE	REVISIONS	DRAWN BY	CHECK BY

Manhard
 CONSULTING LTDTM
 241 Ridge Street, Suite 400, Reno, NV 89501 ph:775.746.3500 fx:775.746.3520 manhard.com
 Civil Engineers | Surveyors | Water Resource Engineers | Water & Waste Water Engineers
 Construction Managers | Environmental Scientists | Landscape Architects | Planners

CARSON VALLEY MEATS
CARSON CITY, NEVADA
FIGURE 2 - EXISTING HYDROLOGICAL CONDITIONS

DRAWN BY: SDF	DATE: AUGUST 2021	SCALE: 1" = 60'	CODE: CVM.CCNV01
------------------	----------------------	--------------------	---------------------

August 18, 2021 - 19:39 Dwg Name: P:\Cvmccnv01\Documents\StormWater Reports\Preliminary Stormwater Reports\Exhibits\Hydrological Conditions.dwg Updated By: sfellows



© 2021 MANHARD CONSULTING, LTD. ALL RIGHTS RESERVED

DATE	REVISIONS	DRAWN BY	CHECK BY

Manhard
CONSULTING LTD

241 Ridge Street, Suite 400, Reno, NV 89501 ph:775.746.3500 fx:775.746.3520 manhard.com
Civil Engineers | Surveyors | Water Resource Engineers | Water & Waste Water Engineers
Construction Managers | Environmental Scientists | Landscape Architects | Planners

CARSON VALLEY MEATS
CARSON CITY, NEVADA
FIGURE 3 - PROPOSED HYDROLOGICAL CONDITIONS

DRAWN BY: SDF	DATE: AUGUST 2021	SCALE: 1" = 60'	CODE: CVM.CCNV01
------------------	----------------------	--------------------	---------------------

August 18, 2021 - 19:39 Dwg Name: P:\Cvmccnv01\Documents\StormWater Reports\Exhibits\Hydrological Conditions.dwg Updated By: sfellows

APPENDIX A

SUPPORTING CALCULATION DATA



NOAA Atlas 14, Volume 1, Version 5
Location name: Carson City, Nevada, USA*
Latitude: 39.1854°, Longitude: -119.7071°
Elevation: 4625.77 ft**



* source: ESRI Maps
 ** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Tryppaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.15 (0.996-1.37)	1.44 (1.25-1.70)	1.93 (1.66-2.29)	2.39 (2.03-2.83)	3.14 (2.59-3.73)	3.83 (3.06-4.58)	4.67 (3.59-5.63)	5.64 (4.18-6.92)	7.20 (5.03-9.04)	8.62 (5.74-11.0)
10-min	0.882 (0.756-1.04)	1.10 (0.948-1.30)	1.46 (1.25-1.74)	1.82 (1.54-2.15)	2.39 (1.97-2.84)	2.92 (2.33-3.49)	3.55 (2.74-4.28)	4.29 (3.18-5.27)	5.48 (3.83-6.88)	6.55 (4.36-8.37)
15-min	0.728 (0.628-0.860)	0.904 (0.784-1.08)	1.21 (1.04-1.44)	1.50 (1.28-1.78)	1.98 (1.63-2.35)	2.41 (1.92-2.88)	2.93 (2.26-3.54)	3.55 (2.63-4.36)	4.53 (3.16-5.68)	5.42 (3.60-6.92)
30-min	0.488 (0.422-0.580)	0.608 (0.528-0.724)	0.814 (0.698-0.970)	1.01 (0.858-1.20)	1.33 (1.10-1.58)	1.62 (1.30-1.94)	1.97 (1.52-2.38)	2.39 (1.77-2.93)	3.05 (2.13-3.83)	3.65 (2.43-4.66)
60-min	0.303 (0.261-0.358)	0.377 (0.327-0.448)	0.504 (0.432-0.600)	0.626 (0.531-0.742)	0.823 (0.679-0.979)	1.00 (0.802-1.20)	1.22 (0.941-1.47)	1.48 (1.10-1.82)	1.89 (1.32-2.37)	2.26 (1.50-2.88)
2-hr	0.204 (0.181-0.234)	0.253 (0.224-0.290)	0.323 (0.284-0.370)	0.384 (0.335-0.441)	0.478 (0.405-0.550)	0.562 (0.465-0.652)	0.656 (0.528-0.770)	0.770 (0.600-0.917)	0.965 (0.720-1.20)	1.15 (0.826-1.46)
3-hr	0.162 (0.145-0.183)	0.202 (0.182-0.228)	0.254 (0.226-0.287)	0.296 (0.262-0.334)	0.356 (0.310-0.404)	0.408 (0.348-0.467)	0.466 (0.389-0.538)	0.539 (0.441-0.633)	0.659 (0.523-0.805)	0.774 (0.597-0.979)
6-hr	0.112 (0.100-0.125)	0.140 (0.125-0.157)	0.174 (0.155-0.195)	0.201 (0.178-0.225)	0.238 (0.208-0.268)	0.267 (0.230-0.302)	0.296 (0.251-0.339)	0.330 (0.274-0.383)	0.380 (0.307-0.447)	0.424 (0.335-0.508)
12-hr	0.073 (0.065-0.082)	0.092 (0.082-0.104)	0.116 (0.103-0.130)	0.135 (0.119-0.151)	0.160 (0.139-0.181)	0.179 (0.155-0.205)	0.199 (0.169-0.230)	0.220 (0.183-0.256)	0.247 (0.200-0.294)	0.269 (0.213-0.325)
24-hr	0.047 (0.043-0.052)	0.059 (0.053-0.065)	0.074 (0.067-0.082)	0.086 (0.078-0.095)	0.103 (0.093-0.114)	0.117 (0.105-0.129)	0.131 (0.116-0.146)	0.146 (0.128-0.163)	0.166 (0.143-0.186)	0.181 (0.155-0.206)
2-day	0.028 (0.025-0.031)	0.035 (0.031-0.039)	0.044 (0.040-0.049)	0.052 (0.046-0.058)	0.062 (0.055-0.070)	0.070 (0.062-0.079)	0.079 (0.069-0.090)	0.088 (0.077-0.101)	0.101 (0.086-0.117)	0.111 (0.093-0.130)
3-day	0.020 (0.018-0.023)	0.025 (0.023-0.029)	0.032 (0.029-0.036)	0.038 (0.034-0.043)	0.046 (0.041-0.052)	0.052 (0.046-0.059)	0.059 (0.052-0.067)	0.066 (0.057-0.076)	0.076 (0.065-0.088)	0.084 (0.070-0.098)
4-day	0.016 (0.015-0.019)	0.021 (0.019-0.023)	0.027 (0.024-0.030)	0.031 (0.028-0.035)	0.038 (0.034-0.043)	0.043 (0.038-0.049)	0.049 (0.043-0.056)	0.055 (0.047-0.063)	0.064 (0.054-0.074)	0.071 (0.059-0.082)
7-day	0.011 (0.010-0.012)	0.014 (0.012-0.016)	0.018 (0.016-0.020)	0.021 (0.019-0.024)	0.025 (0.022-0.029)	0.029 (0.025-0.033)	0.033 (0.028-0.037)	0.036 (0.031-0.042)	0.042 (0.035-0.048)	0.046 (0.038-0.054)
10-day	0.008 (0.008-0.009)	0.011 (0.010-0.012)	0.014 (0.012-0.016)	0.016 (0.014-0.018)	0.020 (0.017-0.022)	0.022 (0.019-0.025)	0.025 (0.022-0.028)	0.028 (0.024-0.032)	0.031 (0.027-0.036)	0.034 (0.029-0.040)
20-day	0.005 (0.005-0.006)	0.006 (0.006-0.007)	0.008 (0.007-0.009)	0.010 (0.009-0.011)	0.012 (0.010-0.013)	0.013 (0.012-0.015)	0.015 (0.013-0.016)	0.016 (0.014-0.018)	0.018 (0.015-0.020)	0.019 (0.016-0.022)
30-day	0.004 (0.003-0.004)	0.005 (0.004-0.005)	0.006 (0.006-0.007)	0.007 (0.007-0.008)	0.009 (0.008-0.010)	0.010 (0.009-0.011)	0.011 (0.009-0.012)	0.012 (0.010-0.013)	0.013 (0.011-0.015)	0.014 (0.012-0.016)
45-day	0.003 (0.003-0.003)	0.004 (0.003-0.004)	0.005 (0.004-0.005)	0.006 (0.005-0.006)	0.007 (0.006-0.007)	0.007 (0.007-0.008)	0.008 (0.007-0.009)	0.009 (0.008-0.010)	0.010 (0.008-0.011)	0.010 (0.009-0.011)
60-day	0.003 (0.002-0.003)	0.003 (0.003-0.004)	0.004 (0.004-0.005)	0.005 (0.004-0.005)	0.006 (0.005-0.006)	0.006 (0.006-0.007)	0.007 (0.006-0.008)	0.007 (0.006-0.008)	0.008 (0.007-0.009)	0.008 (0.007-0.009)

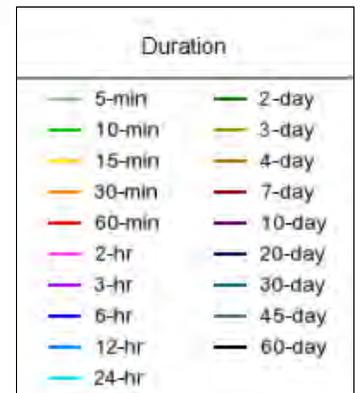
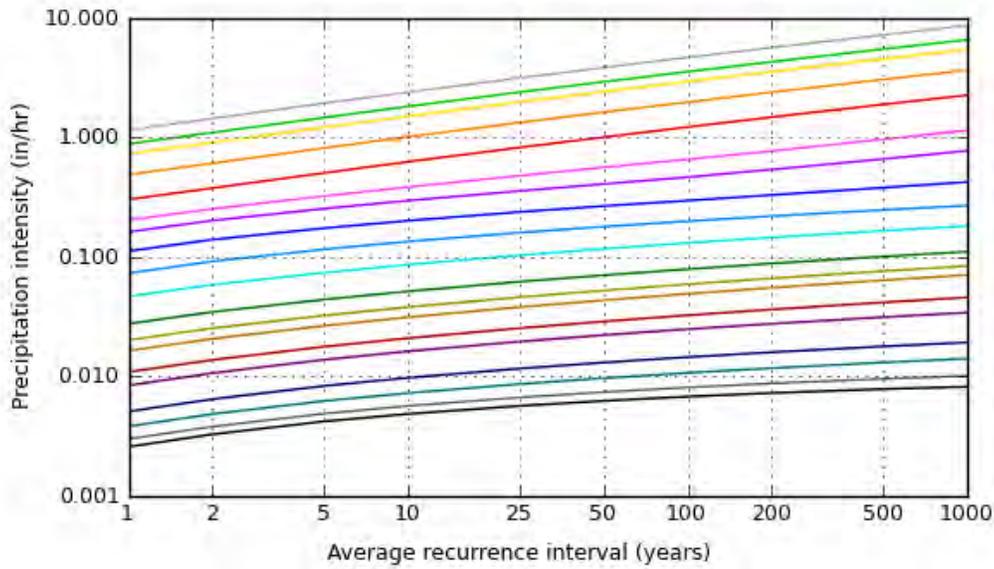
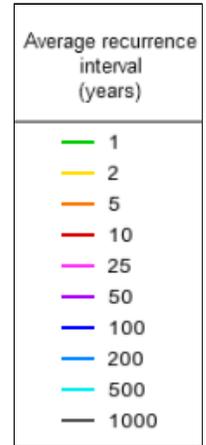
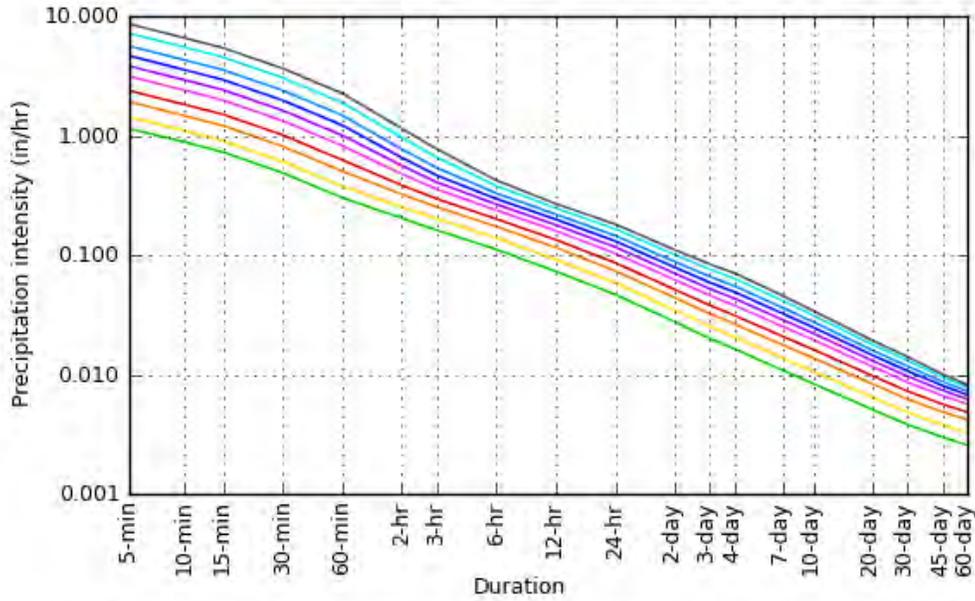
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

PF graphical

PDS-based intensity-duration-frequency (IDF) curves

Latitude: 39.1854°, Longitude: -119.7071°



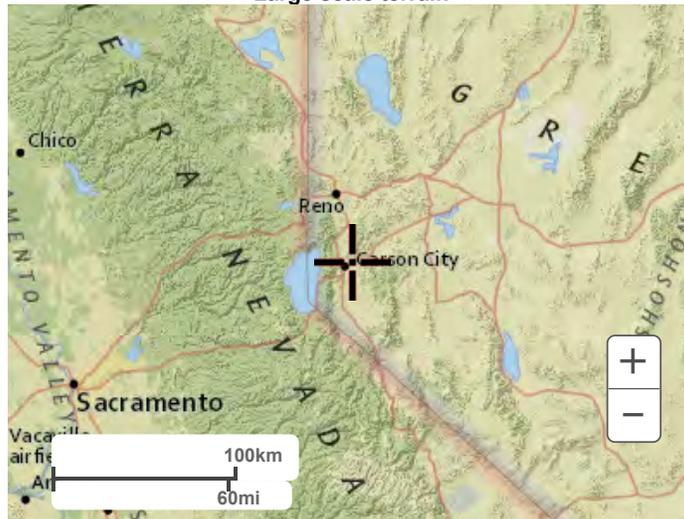
[Back to Top](#)

Maps & aerials

Small scale terrain



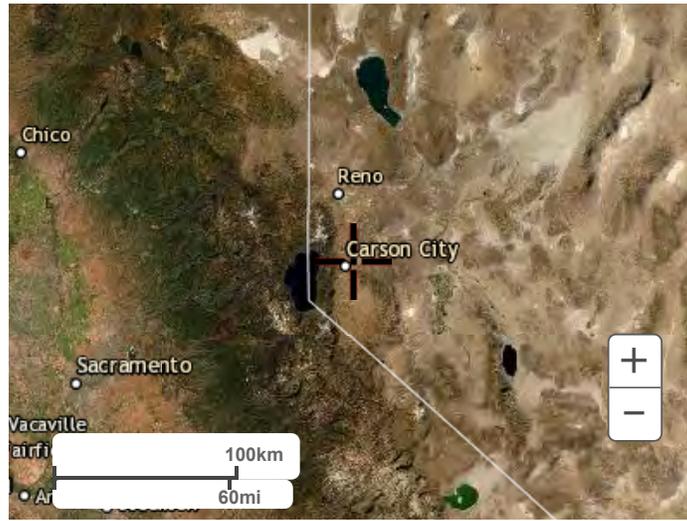
Large scale terrain



Large scale map



Large scale aerial



[Back to Top](#)

[US Department of Commerce](#)
[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)

**RATIONAL FORMULA METHOD
RUNOFF COEFFICIENTS**

Land Use or Surface Characteristics	Aver. % Impervious Area	Runoff Coefficients	
		5-Year (C ₅)	100-Year (C ₁₀₀)
<u>Business/Commercial:</u>			
Downtown Areas	85	.82	.85
Neighborhood Areas	70	.65	.80
<u>Residential:</u>			
(Average Lot Size)			
1/8 Acre or Less (Multi-Unit)	65	.60	.78
1/4 Acre	38	.50	.65
1/8 Acre	30	.45	.60
1/2 Acre	25	.40	.55
1 Acre	20	.35	.50
<u>Industrial:</u>	72	.68	.82
<u>Open Space:</u>			
(Lawns, Parks, Golf Courses)	5	.05	.30
<u>Undeveloped Areas:</u>			
Range	0	.20	.50
Forest	0	.05	.30
<u>Streets/Roads:</u>			
Paved	100	.88	.93
Gravel	20	.25	.50
<u>Drives/Walks:</u>	95	.87	.90
<u>Roof:</u>	90	.85	.87

Notes:

1. Composite runoff coefficients shown for Residential, Industrial, and Business/Commercial Areas assume irrigated grass landscaping for all pervious areas. For development with landscaping other than irrigated grass, the designer must develop project specific composite runoff coefficients from the surface characteristics presented in this table.

VERSION: April 30, 2009

REFERENCE:

USDCM, DROCOG, 1969
(with modifications)

TABLE
701

WRC ENGINEERING, INC.

RUNOFF CURVE NUMBERS FOR ARID AND SEMIARID RANGELANDS¹
Runoff Curve Numbers

Cover Description	Hydrologic Condition ²	Soil Comp A ³	Soil Comp B	Soil Comp C	Soil Comp D
Herbaceous – mixture of grass, weeds, and low-growing brush, with brush the minor element.	Poor		80	87	93
	Fair		71	81	89
	Good		62	74	85
Oak-aspen – mountain brush mixture of oak brush, aspen, mountain mahogany, bitter brush, maple, and other brush	Poor		66	74	79
	Fair		48	57	63
	Good		30	41	48
Pinyon-juniper – pinyon, juniper, or both; grass understory	Poor		75	85	89
	Fair		58	73	80
	Good		41	61	71
Sagebrush with grass understory	Poor		67	80	85
Desert shrub – major plants include saltbrush, greasewood, creosotebush, blackbrush, bursage, palo verde, mesquite, and cactus	Fair		51	63	70
	Good		35	47	55
	Poor	63	77	85	88
	Fair	55	72	81	86
	Good	49	68	79	84

¹Average runoff condition, and $I_a = 0.2S$. For range in humid regions, use Table 702 - 3 of 4.

²*Poor*: < 30% ground cover (litter, grass, and brush overstory)

Fair: 30 to 70% ground cover

Good: > 70% ground cover

³Curve numbers for group A have been developed only for desert shrub.

RATIONAL METHOD DISCHARGE RESULTS

BASIN	RUNOFF COEFFICIENT (5-YEAR)	RUNOFF COEFFICIENT (100-YEAR)	INTENSITY (5-YEAR)	INTENSITY (100-YEAR)	AREA	Q5	Q100
E-1	0.20	0.50	1.46	3.55	4.43	1.29	7.86
E-Total					4.43	1.29	7.86

P-1	0.65	0.80	1.46	3.55	1.20	1.14	3.41
P-2	0.20	0.50	1.46	3.55	3.23	0.94	5.73
P-Total					4.43	2.08	9.14

Equations: $Q = CiA$

Carson Valley Meats: Modified Rational Method

Basin Description: Detention Basin 1

Calc by: SDF

Date: 8/18/21

Existing Conditions

$C_5 = 0.20$
 $C_{100} = 0.50$
 $T_c = 10.0 \text{ min.}$
 $I_5 = 1.46 \text{ in/hr}$
 $I_{10} = 1.82 \text{ in/hr}$
 $I_{25} = 2.39 \text{ in/hr}$
 $I_{100} = 3.55 \text{ in/hr}$
 $A = 4.43 \text{ acres}$

Allowable Release Rates:

$Q_5 = 1.29 \text{ cfs}$
 $Q_{10} = 1.74 \text{ cfs}$
 $Q_{25} = 2.79 \text{ cfs}$
 $Q_{100} = 7.86 \text{ cfs}$

<-- Subbasin E-1

Proposed Runoff Coefficient Calculations

$C_5 = 0.32$
 $C_{10} = 0.34$
 $C_{25} = 0.38$
 $C_{100} = 0.58$

5-Year

Storm Duration (hours)	Rain Intensity (in/hr)	Runoff Rate (cfs)	Release Rate (cfs)	Storage Rate (cfs)	Storage Required (acre-ft)
t	I	$Q=Cr*I*A$	Q_r	$Q_s=Q-Q_r$	$Q_s*t/12$
0.08	1.97	2.81	1.29	1.52	0.0105
0.17	1.50	2.14	1.29	0.85	0.0117
0.25	1.24	1.77	1.29	0.47	0.0099
0.50	0.834	1.19	1.29	-0.10	-0.0043
1.00	0.516	0.74	1.29	-0.56	-0.0465

5-Yr Required Storage: 0.012 acre-ft = 511 cu ft

10-Year

Storm Duration (hours)	Rain Intensity (in/hr)	Runoff Rate (cfs)	Release Rate (cfs)	Storage Rate (cfs)	Storage Required (acre-ft)
t	I	$Q=Cr*I*A$	Q_r	$Q_s=Q-Q_r$	$Q_s*t/12$
0.08	2.44	3.63	1.74	1.89	0.0131
0.17	1.86	2.76	1.74	1.03	0.0142
0.25	1.54	2.29	1.74	0.55	0.0114
0.50	1.03	1.53	1.74	-0.21	-0.0087
1.00	0.640	0.95	1.74	-0.79	-0.0657

10-Yr Required Storage: 0.014 acre-ft = 620 cu ft

Carson Valley Meats: Modified Rational Method

Basin Description: Detention Basin 1

Calc by: SDF

Date: 8/18/21

100-Year

Storm Duration (hours)	Rain Intensity (in/hr)	Runoff Rate (cfs)	Release Rate (cfs)	Storage Rate (cfs)	Storage Required (acre-ft)
t	I	$Q=Cr*I*A$	Q_r	$Q_s=Q-Q_r$	$Q_s*t/12$
0.08	4.75	12.23	7.86	4.37	0.0303
0.17	3.62	9.32	7.86	1.46	0.0203
0.25	2.99	7.70	7.86	-0.16	-0.0034
0.50	2.01	5.18	7.86	-2.69	-0.1120
1.00	1.25	3.22	7.86	-4.64	-0.3870

100-Yr Required Storage: 0.030 acre-ft = 1,321 cu ft

**Carson Valley Meats
Stage-Storage Summary Tables**

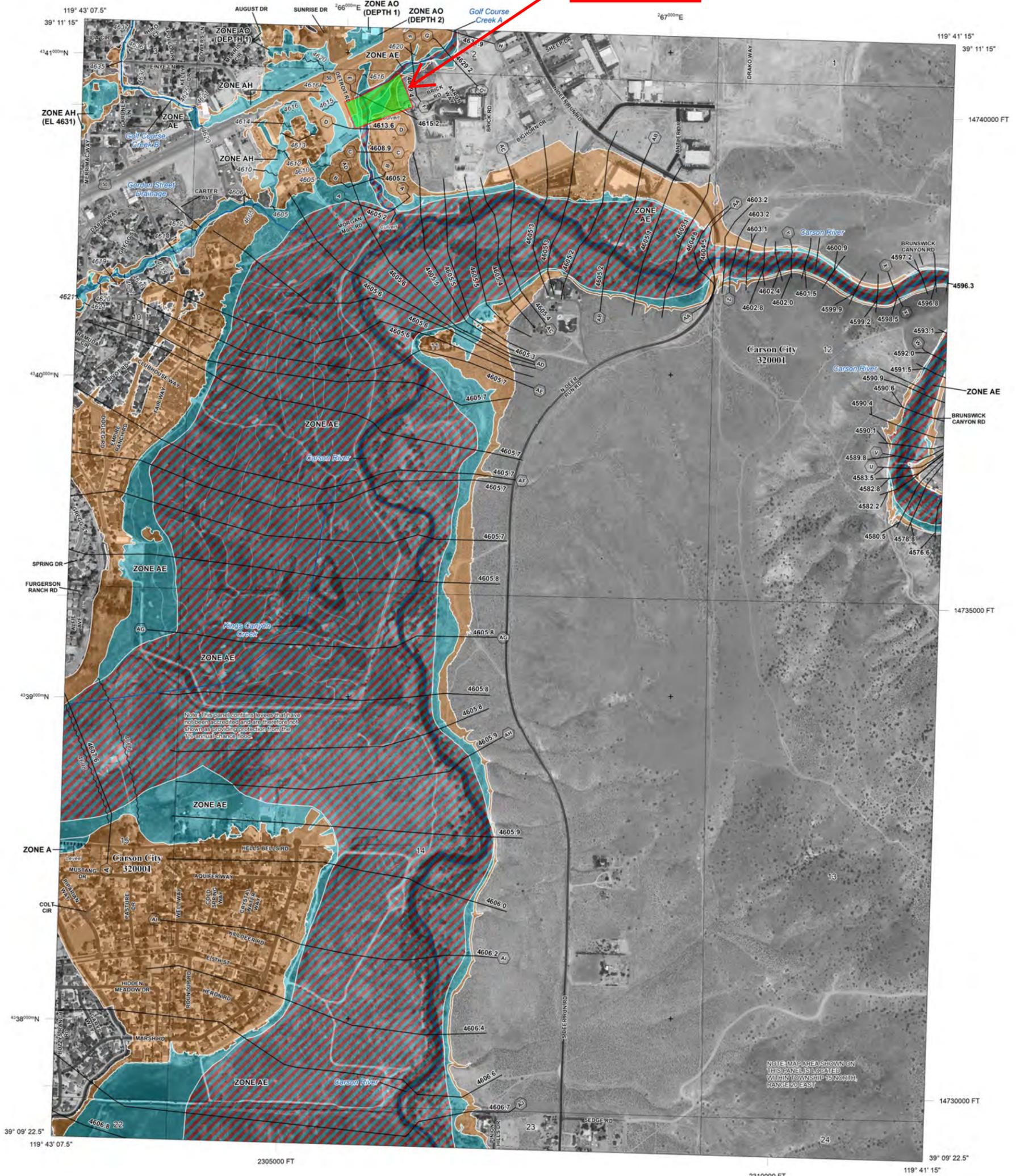
DETENTION	5-Year Req'd Vol.	0.012	ac-ft	511	cu ft
BASIN	10-Year Req'd Vol.	0.014	ac-ft	620	cu ft
	100-Year Req'd Vol.	0.030	ac-ft	1,321	cu ft

stage	Δ elev.	area (sq. ft.)	area (ac.)	avg. area (ac.)	storage _i (ac-ft)	Σ storage _i (ac-ft)	Σ storage _i (cu-ft)
4,619.00	0.00	475	0.01	0.00	0.00	0.00	0
4,620.00	1.00	897	0.02	0.02	0.02	0.02	686
4,621.00	1.00	1445	0.03	0.03	0.03	0.04	1857
4,622.00	1.00	2120	0.05	0.04	0.04	0.08	3640

Weir Elev 4,621.00
Crest Elev 4,622.00

Total Provided Vol.:	0.04 ac-ft
	1857 cu ft

PROJECT LOCATION



Note: This panel contains flood hazard areas that have not been surveyed and are shown as providing protection from the 1% annual chance flood.

NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 16 NORTH, RANGE 20 EAST.

FLOOD HAZARD INFORMATION

- SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP. THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTP://MSC.FEMA.GOV](http://MSC.FEMA.GOV)**
- SPECIAL FLOOD HAZARD AREAS**
 - Without Base Flood Elevation (BFE) Zone A.V, A99
 - With BFE or Depth Zone AE, AO, AH, VE, AR
 - Regulatory Floodway
 - OTHER AREAS OF FLOOD HAZARD**
 - 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
 - Future Conditions 1% Annual Chance Flood Hazard Zone X
 - Area with Reduced Flood Risk due to Levee See Notes, Zone X
 - OTHER AREAS**
 - NO SCREEN Areas Determined to be Outside the 0.2% Annual Chance Floodplain Zone X
 - Area of Undetermined Flood Hazard Zone D
 - GENERAL STRUCTURES**
 - Channel, Culvert, or Storm Sewer
 - Levee, Dike, or Floodwall
 - Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)**
 - 18.2
 - 17.5
 - OTHER FEATURES**
 - Coastal Transect
 - Coastal Transect Baseline
 - Profile Baseline
 - Hydrographic Feature
 - Base Flood Elevation Line (BFE)
 - Limit of Study
 - Jurisdiction Boundary

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-338-2627) or visit the FEMA Map Service Center website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

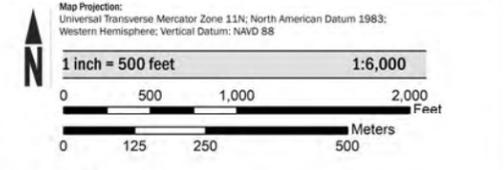
Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

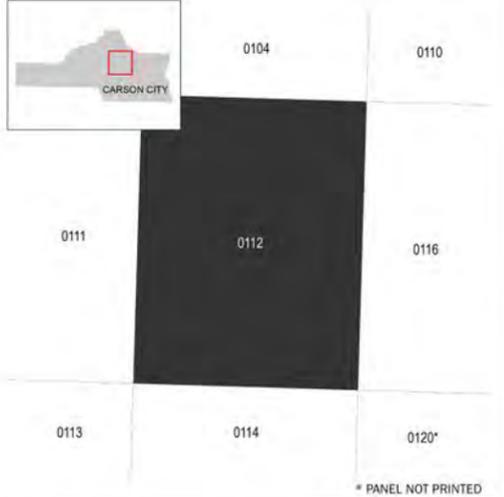
To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided in digital format by the National Agriculture Imagery Program (NAIP). This information was produced at a 3-foot per pixel resolution, using digital orthophotography dated 2015.

SCALE



PANEL LOCATOR



FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP

CARSON CITY, NEVADA
Independent City
PANEL 112 OF 275

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CARSON CITY	320001	0112	F

VERSION NUMBER 2.3.3.0
MAP NUMBER 3200010112F
MAP REVISED JUNE 20, 2019



Civil Engineering
Surveying
Water Resources Management
Water & Wastewater Engineering
Construction Management
Environmental Sciences
Landscape Architecture
Land Planning

PRELIMINARY WATER SYSTEM ANALYSIS FOR

**Carson Valley Meats
Special Use Permit**

Carson City, Nevada

Prepared for:

JANB, LLC
P.O. Box 1984
Carson City, NV 89702

Prepared by:

Manhard Consulting, Ltd.
241 Ridge St, Suite 400
Reno, NV 89501

Job No. CVM.CCNV01

August, 2021





TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	PROJECT LOCATION AND SITE DESCRIPTION	1
2	EXISTING SYSTEM	2
3	PROPOSED WATER SYSTEM IMPROVEMENTS.....	2
3.1	PROPOSED WATER MAIN SYSTEM	2
4	WATER SYSTEM ANALYSIS.....	3
5	CONCLUSION.....	4

LIST OF FIGURES

FIGURE 1:	WATER MAP.....	2
-----------	----------------	---



ABBREVIATIONS

Ø	diameter
AAD	Average Annual Demand
ADD	Average Daily Demand
D	nominal pipe diameter
E	East
EDU	Equivalent Dwelling Unit
(f)	Future
fps	feet per second
GIS	Geographical Information System
gpd	gallons per day
gpm	gallons per minute
HDPE	High Density Polyethylene
LCUD	Lyon County Utility Department
MDD	Maximum Daily Demands
MG	Million Gallons
min.	minimum
N	North
NAC 445A	Nevada Administrative Code 445A.65505 to .6731 Water Controls Design, Construction, Operation and Maintenance
NV	Nevada
PF	Peaking Factor
PHD	Peak Hourly Demand
psi	Pounds per square inch
PVC	Polyvinyl Chloride
vel.	Velocity
WFMP	Water Facility Master Plan



1 INTRODUCTION

This preliminary water system analysis is prepared at the request of JANB, LLC to determine if the current Carson City water system can support the Special Use Permit for Carson Valley Meats processing facility.

The report describes the water system and the criteria used for design. The purpose of this analysis is to establish the adequacy of the proposed water main pipe diameters and layout to meet the needs of the project development.

1.1 PROJECT LOCATION AND SITE DESCRIPTION

The Carson Valley Meats project consists of a 5,000 square foot processing facility located at Brick Road just east of Detroit Road and south of Hwy 50 in Carson City, Nevada. The site consists of APN 008-371-10 and is situated in a portion of the northeast $\frac{1}{4}$ of the northwest $\frac{1}{4}$ of Section 11, Township 15 North, Range 20 East of the Mount Diablo Meridian. Figure 1 shows the location and vicinity of Carson Valley Meats.

The Carson Valley Meats project is a proposed industrial processing facility which consists of 5,000 sf building on an 4.43 acre parcel. The project is currently zoned General Industrial.



Figure 1: Carson Valley Meats



2 EXISTING SYSTEM

The existing water system immediately surrounding the project consists of the following, reference Figure 1:

- 6-inch waterline in Brick Road.
- 6-inch waterline in Detroit Road
- 12-inch waterline in Hwy 50.

3 PROPOSED WATER SYSTEM IMPROVEMENTS

3.1 PROPOSED WATER MAIN SYSTEM

The project water mains and distribution system are show on sheet U1 of the Tentative Map and the existing water infrastructure consists of the following, reference Figure 1:



- Existing 6-inch waterline within Brick Road from Detroit Road to Deer Run Road. The project will tie in on the 6-inch waterline in Brick Road.
- Existing 6-inch waterline Detroit Road.
- Existing 12-inch waterline Deer Road
- existing 12-inch waterline in Hwy 50.

4 WATER SYSTEM ANALYSIS

The typical usage for the processing facility including landscape and domestic service is listed below:

- 1 week = 5 days
- 100 gpd per head of beef (20 head per week)
- 50 gpd per head of lamb/goat/hog (40 head per week)
- 4,000 gpd on processing day (one day per week)
- 8,000 gpd on event processing (event day)

The above usages calculate to an average of 0.6 gpm with a maximum of 2.78 gpm for processing day and a peak of 5.56 gpm for event days and has been included in the analysis of the water main system. In a separate analysis, a 2,000 gpm fire flow requirement was applied to the existing hydrant at the end of the cul-de-sac for Brick Road. This 2,000 gpm fire flow requirement was obtained from Section B105 and Table B105.1 of the 2012 International Fire Code.

The following table provides the high and low pressures that were calculated using static water pressures based on the Carson City 4880 pressure zone:

Table 1: E. Nye Lane Project Pressure Summary

Condition	High Pressure (psi)	Low Pressure (psi)
Max Day	106	101



Peak Hour	105	99
Fire Flow (farthest hydrant)	90	85

A hydrant test will be required after the project is complete to determine the actual fire flow and residual pressures provided to the site fire hydrants.

The maximum day demand low pressure of 101 psi is above the NAC minimum of 40 psi. The peak hour demand low pressure is above the minimum listed in the *Carson City Development Standards*.

To analyze the proposed water system for fire flow condition one fire flow test hydrant was used in the area of Airport Road and Hwy 50. The WaterGEMS modeling software was used to simulate the water system flow for the project area. The water model was calibrated using the existing fire hydrant flow at Nichols Lane and Hwy 50. Then the water system was calculated for a fire flow of 2,000 gpm at node J-168 at the west end of the project. The fire flow results at the hydrant is capable of providing 2,000 gpm at 85 psi which is above the NAC requirement of 20 psi during fire flow conditions.

5 CONCLUSION

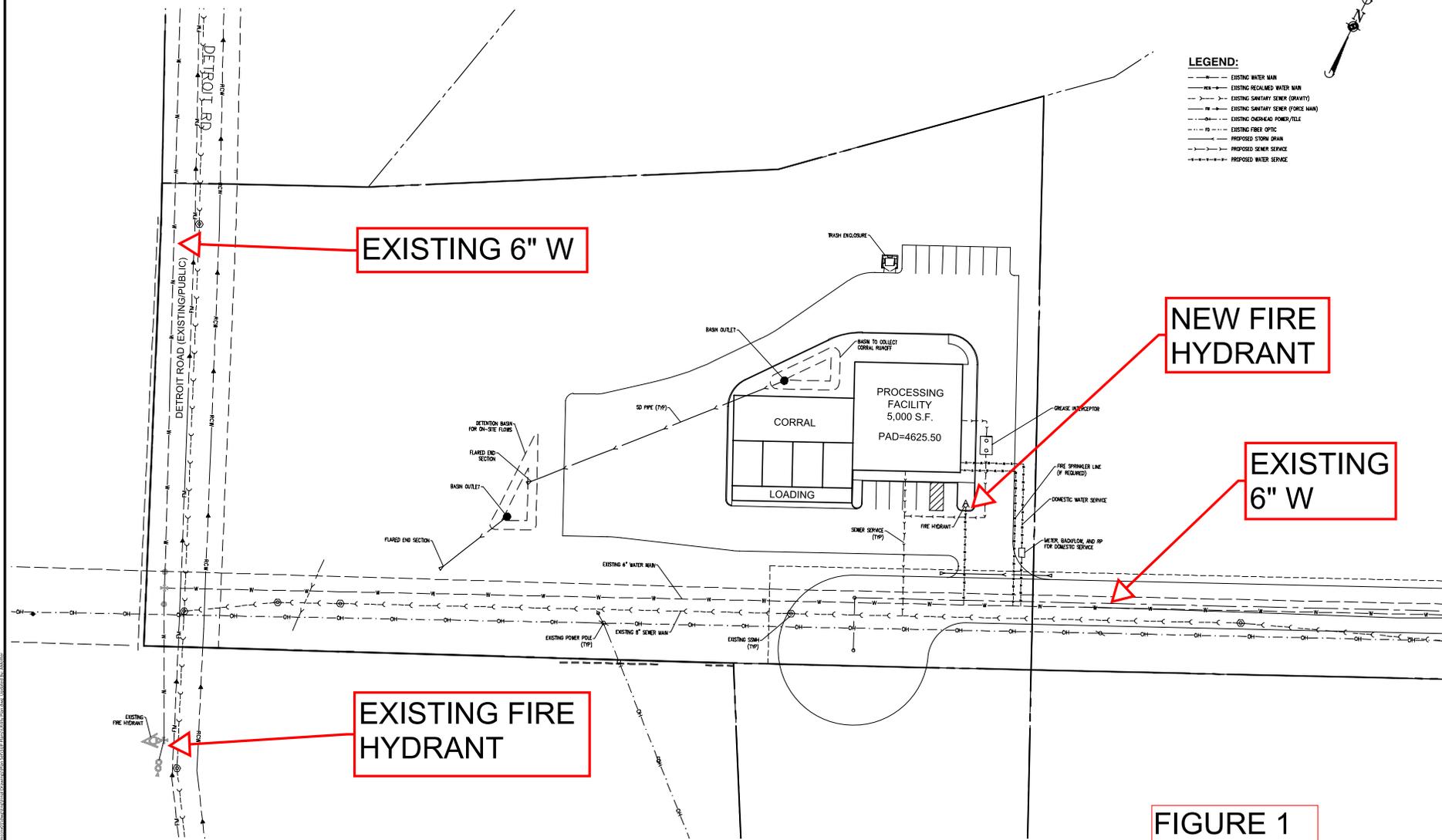
The analysis of the water system shows that the pipe sizes and piping layouts within the Carson Valley Meats project are adequately designed to meet the demands of the development. The analysis shows that the pressures are greater than the minimum requirement and below the maximum requirement for Carson City and the NAC requirements. The Carson Valley Meats project is in compliance and meets the minimum pressures per NAC 445A.6711 during maximum day, peak hour, and fire flow conditions.



Figure 1: Proposed Water System



- LEGEND:**
- EXISTING WATER MAIN
 - EXISTING RECLAIMED WATER MAIN
 - EXISTING SANITARY SEWER (GRAVITY)
 - EXISTING SANITARY SEWER (FORCE MAIN)
 - EXISTING OVERHEAD POWER/TILE
 - EXISTING FIBER OPTIC
 - PROPOSED STORM DRAIN
 - PROPOSED SEWER SERVICE
 - PROPOSED WATER SERVICE



EXISTING 6" W

NEW FIRE HYDRANT

EXISTING 6" W

EXISTING FIRE HYDRANT

FIGURE 1

PROJECT NO.	
DATE	
SCALE	
BY	
CHECKED	
APPROVED	

Manhard CONSULTING LTD.
 10000 E. 1st Avenue, Suite 100, Denver, CO 80231
 303.751.1100
 Construction Management • Environmental Remediation • Landmarks Administration • Highways

CARSON VALLEY MEATS
 CARSON CITY, NEVADA
 PRELIMINARY UTILITY PLAN



PROJ. NO.: 8/19/21
 PROJ. DESC.: JMW
 DRAWN BY: JMW
 DATE: 8/19/21
 SCALE: 1"=50'

SHEET
U1 OF 4



Appendix A: WaterGEMS model system results

(UNIT 1) ADD Junction Report

		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1	<input type="checkbox"/>	J254	1.08	4,466.64	4,601.62	58.37
2	<input type="checkbox"/>	J256	0.54	4,466.00	4,601.62	58.65
3	<input type="checkbox"/>	J-31B	1.08	4,465.70	4,601.62	58.78
4	<input type="checkbox"/>	J260	0.00	4,452.98	4,601.62	64.28
5	<input type="checkbox"/>	J258	2.16	4,451.25	4,601.62	65.03
6	<input type="checkbox"/>	J252	0.00	4,450.16	4,601.62	65.50
7	<input type="checkbox"/>	J-37B	1.89	4,449.50	4,601.62	65.78
8	<input type="checkbox"/>	J-79B	0.54	4,408.00	4,562.31	66.73
9	<input type="checkbox"/>	J250	2.43	4,442.02	4,601.62	69.02
10	<input type="checkbox"/>	J244	0.00	4,387.22	4,562.31	75.72
11	<input type="checkbox"/>	J248	2.16	4,418.88	4,601.62	79.02
12	<input type="checkbox"/>	J-48	1.35	4,412.78	4,601.62	81.66
13	<input type="checkbox"/>	J246	0.27	4,412.39	4,601.62	81.83
14	<input type="checkbox"/>	J320	2.43	4,403.28	4,601.62	85.77
15	<input type="checkbox"/>	J318	2.70	4,397.22	4,601.61	88.39
16	<input type="checkbox"/>	J300	0.00	4,393.20	4,601.61	90.13
17	<input type="checkbox"/>	J316	2.43	4,393.08	4,601.61	90.18
18	<input type="checkbox"/>	J312	1.89	4,389.81	4,601.61	91.59
19	<input type="checkbox"/>	J314	0.27	4,389.39	4,601.61	91.77

(UNIT 1) MDD Junction Report

		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1	<input type="checkbox"/>	J254	2.21	4,466.64	4,601.62	58.37
2	<input type="checkbox"/>	J256	1.11	4,466.00	4,601.62	58.64
3	<input type="checkbox"/>	J-31B	2.21	4,465.70	4,601.62	58.77
4	<input type="checkbox"/>	J260	0.00	4,452.98	4,601.61	64.27
5	<input type="checkbox"/>	J258	4.43	4,451.25	4,601.61	65.02
6	<input type="checkbox"/>	J252	0.00	4,450.16	4,601.61	65.49
7	<input type="checkbox"/>	J-37B	3.87	4,449.50	4,601.61	65.78
8	<input type="checkbox"/>	J-79B	1.11	4,408.00	4,562.31	66.73
9	<input type="checkbox"/>	J250	4.98	4,442.02	4,601.60	69.01
10	<input type="checkbox"/>	J244	0.00	4,387.22	4,562.31	75.71
11	<input type="checkbox"/>	J248	4.43	4,418.88	4,601.60	79.01
12	<input type="checkbox"/>	J-48	2.77	4,412.78	4,601.59	81.65
13	<input type="checkbox"/>	J246	0.55	4,412.39	4,601.59	81.82
14	<input type="checkbox"/>	J320	4.98	4,403.28	4,601.59	85.76
15	<input type="checkbox"/>	J318	5.54	4,397.22	4,601.59	88.38
16	<input type="checkbox"/>	J300	0.00	4,393.20	4,601.59	90.11
17	<input type="checkbox"/>	J316	4.98	4,393.08	4,601.59	90.17
18	<input type="checkbox"/>	J312	3.87	4,389.81	4,601.59	91.58
19	<input type="checkbox"/>	J314	0.55	4,389.39	4,601.59	91.76

(UNIT 1) - MDD Design Fire Flow Report (Design/Available Fire Flow)

		ID	Total Demand (gpm)	Hydrant Available Flow (gpm)	Critical Node ID for Design Run	Critical Node Pressure at Available Flow (psi)	Critical Node Pressure at Fire Demand (psi)	Critical Pressure for Design Run (psi)	Hydrant Design Flow (gpm)	Hydrant Pressure at Design Flow (psi)
1	<input type="checkbox"/>	J314	1,500.55	2,309.90	J300	19.55	58.57	20.00	2,304.28	20.59
2	<input type="checkbox"/>	J316	1,504.98	2,480.17	J316	20.00	64.19	20.00	2,480.17	20.00
3	<input type="checkbox"/>	J318	1,505.54	2,703.51	J318	20.00	68.81	20.00	2,703.52	20.00
4	<input type="checkbox"/>	J260	1,500.00	2,830.11	J260	20.00	55.15	20.00	2,830.11	20.00
5	<input type="checkbox"/>	J320	1,504.98	2,982.56	J320	20.00	72.46	20.00	2,982.57	20.00
6	<input type="checkbox"/>	J254	1,502.21	3,148.07	J254	20.00	54.82	20.00	3,148.03	20.00
7	<input type="checkbox"/>	J258	1,504.43	3,186.90	J260	19.25	59.39	20.00	3,169.53	20.67
8	<input type="checkbox"/>	J246	1,500.55	3,295.30	J246	20.00	74.05	20.00	3,295.30	20.00
9	<input type="checkbox"/>	J248	1,504.43	3,345.85	J250	19.08	64.56	20.00	3,324.73	20.94
10	<input type="checkbox"/>	J250	1,504.98	3,325.28	J250	20.00	64.56	20.00	3,325.28	20.00
11	<input type="checkbox"/>	J252	1,500.00	3,430.83	J254	17.81	56.90	20.00	3,372.23	22.19

(UNIT 1) - MDD Fire Flow Report (Residual Pressure at Fire Flow Demand)

		ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Hydrant Available Flow (gpm)	Hydrant Pressure at Available Flow (psi)
1	<input type="checkbox"/>	J254	2.21	58.37	4,601.62	1,500.00	54.82	3,148.07	20.00
2	<input type="checkbox"/>	J260	0.00	64.27	4,601.61	1,500.00	55.15	2,830.11	20.00
3	<input type="checkbox"/>	J314	0.55	91.76	4,601.59	1,500.00	59.68	2,309.90	20.00
4	<input type="checkbox"/>	J258	4.43	65.02	4,601.61	1,500.00	60.14	3,186.90	20.00
5	<input type="checkbox"/>	J252	0.00	65.49	4,601.61	1,500.00	62.92	3,430.83	20.00
6	<input type="checkbox"/>	J316	4.98	90.17	4,601.59	1,500.00	64.19	2,480.17	20.00
7	<input type="checkbox"/>	J250	4.98	69.01	4,601.60	1,500.00	64.56	3,325.28	20.00
8	<input type="checkbox"/>	J318	5.54	88.38	4,601.59	1,500.00	68.81	2,703.51	20.00
9	<input type="checkbox"/>	J248	4.43	79.01	4,601.60	1,500.00	72.45	3,345.85	20.00
10	<input type="checkbox"/>	J320	4.98	85.76	4,601.59	1,500.00	72.46	2,982.56	20.00
11	<input type="checkbox"/>	J246	0.55	81.82	4,601.59	1,500.00	74.05	3,295.30	20.00

(UNIT 1) PHD Junction Report

		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1	<input type="checkbox"/>	J254	4.43	4,466.64	4,601.58	58.35
2	<input type="checkbox"/>	J256	2.21	4,466.00	4,601.58	58.63
3	<input type="checkbox"/>	J-31B	4.43	4,465.70	4,601.58	58.76
4	<input type="checkbox"/>	J260	0.00	4,452.98	4,601.54	64.24
5	<input type="checkbox"/>	J258	8.86	4,451.25	4,601.54	64.99
6	<input type="checkbox"/>	J252	0.00	4,450.16	4,601.55	65.47
7	<input type="checkbox"/>	J-37B	7.75	4,449.50	4,601.54	65.75
8	<input type="checkbox"/>	J-79B	2.21	4,408.00	4,562.31	66.73
9	<input type="checkbox"/>	J250	9.96	4,442.02	4,601.51	68.97
10	<input type="checkbox"/>	J244	0.00	4,387.22	4,562.29	75.71
11	<input type="checkbox"/>	J248	8.86	4,418.88	4,601.47	78.96
12	<input type="checkbox"/>	J-48	5.54	4,412.78	4,601.46	81.59
13	<input type="checkbox"/>	J246	1.11	4,412.39	4,601.45	81.76
14	<input type="checkbox"/>	J320	9.96	4,403.28	4,601.44	85.69
15	<input type="checkbox"/>	J318	11.07	4,397.22	4,601.43	88.31
16	<input type="checkbox"/>	J300	0.00	4,393.20	4,601.42	90.04
17	<input type="checkbox"/>	J316	9.96	4,393.08	4,601.43	90.10
18	<input type="checkbox"/>	J312	7.75	4,389.81	4,601.42	91.51
19	<input type="checkbox"/>	J314	1.11	4,389.39	4,601.42	91.69

(UNIT 1) PHD Pipe Report

		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/k-ft)	Status	Flow Reversal Count
1	<input type="checkbox"/>	P409	J312	J300	264.79	8.00	150.00	0.00	0.00	0.00	0.00	Open	0
2	<input type="checkbox"/>	P453	J260	J258	330.55	8.00	150.00	0.00	0.00	0.00	0.00	Open	0
3	<input type="checkbox"/>	P397	V8000	J244	68.27	8.00	150.00	0.00	0.00	0.00	0.00	Open	0
4	<input type="checkbox"/>	P399	J314	J312	41.98	8.00	150.00	-1.11	0.01	0.00	0.00	Open	0
5	<input type="checkbox"/>	P459	J254	J256	133.01	8.00	150.00	2.21	0.01	0.00	0.00	Open	0
6	<input type="checkbox"/>	P457	J-31B	J254	160.99	8.00	150.00	6.64	0.04	0.00	0.00	Open	0
7	<input type="checkbox"/>	P401	J312	J316	430.96	8.00	150.00	-8.86	0.06	0.00	0.00	Open	0
8	<input type="checkbox"/>	P455	J258	J-37B	162.29	8.00	150.00	-8.86	0.06	0.00	0.00	Open	0
9	<input type="checkbox"/>	P403	J316	J318	493.96	8.00	150.00	-18.82	0.12	0.00	0.01	Open	0
10	<input type="checkbox"/>	P405	J318	J320	478.96	8.00	150.00	-29.89	0.19	0.01	0.02	Open	0
11	<input type="checkbox"/>	P407	J320	J-48	439.17	8.00	150.00	-39.85	0.25	0.02	0.04	Open	0