



**Update #3 to the  
Technical Drainage Study  
for**

***AREA 15 DISTRICT 2***

**Date Prepared:**  
February 2025

**Prepared for:**  
Fisher Brothers Las Vegas, LLC  
299 Park Avenue, 42<sup>nd</sup> Floor  
New York, NY 10171  
212.940.6262

**Prepared by:**  
Kimley-Horn and Associates, Inc.  
6671 Las Vegas Boulevard South, Suite 320  
Las Vegas, NV 89119  
702.862.3600

**Kimley»»Horn**

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL  
**DRAINAGE STUDY INFORMATION FORM**

Name of Development: Area 15 District 2 Date: February 2025

Location of Development: a) Descriptive (Cross Streets) North/South: Rigel Avenue & Rancho Drive

East/West: Meade Avenue & Sirius Avenue

b) Section: 8 Township: 21 South Range: 61 East

c) APN : 162-08-702-001, 162-08-702-002, 162-08-303-034, 162-08-799-003, 162-08-799-009, and 162-08-799-009

Name of Owner: Fisher Brothers Las Vegas, LLC

Telephone No.: 212.940.6262 Fax No.: n/a E-Mail Address: pbrohn@fisherbrothers.com

Address: 299 Park Avenue, 42nd Floor; New York, NY 10171

Contact Person-Name: Rachael R. Dennis, P.E. Telephone No.: 702.734.5666

\* E-Mail Address: Rachael.Dennis@kimley-horn.com Fax No.: \_\_\_\_\_

Firm: Kimley-Horn

Address: 6671 Las Vegas Boulevard South, #320, Las Vegas NV 89119

Type of Land Development/Land Disturbance Process:

<input type="checkbox"/>	Rezoning	<input type="checkbox"/>	Subdivision Map	<input type="checkbox"/>	Clearing and Grading Only
<input type="checkbox"/>	Parcel Map	<input type="checkbox"/>	Planned Unit Development	<input checked="" type="checkbox"/>	Other (Please specify below)
<input type="checkbox"/>	Large Parcel Map	<input checked="" type="checkbox"/>	Building Permit	<input type="checkbox"/>	Grading Permit

1. Total Owned Land Area: At Site: +/- 11.06 ac Being Developed/Disturbed: +/- 11.06 ac

2. Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area?  Yes\*\*  No

3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility?  Yes\*\*  No

4. Proposed type of development (Residential, Commercial, Etc.): Parking Garage, Commercial

5. Approximate upstream land area which drains to the subject site: +/- 4.38 sq. mi.

6. Has the site drainage been evaluated in the past?  YES  NO If yes, please identify documentation: Area 15 TDS (DS-4921); Area 15 Event Pkg Lot TDS (DS-5288); Area 15 - Phase 2 TDS (DS-5313); Area 15 - Dist 2 TDS (DS-5627)

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Surface runoff into Rancho Drive, Rigel Avenue, & Meade Avenue

8. Briefly describe your proposed schedule for the subject project: ASAP



Submit this form as part of the required drainage study to the local entity which has jurisdiction over the subject property. This form may provide sufficient information to serve as the Conceptual Drainage Study.

**\*New Required Field**

**\*\*Review and concurrence of the Clark County Regional Flood Control District is required.**

	Revision	Date
_____		
_____		
_____		

Local Entity File No. \_\_\_\_\_

REFERENCE: STANDARD FORM 1

<b>CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM</b>		<b>DATE:</b> September 25, 2024
<b>TO:</b> Land Development Services Department of Building & Safety		<b>FROM:</b> Albert Sung, P.E. Project Engineer Department of Public Works
<b>SUBJECT:</b>	Drainage Study for:	<b>COPIES TO:</b>
Area 15 District 2 – Update #2		Kimley-Horn & Associates, Inc.
<b>Cross Streets:</b>	SWC of Rancho Drive & Meade Avenue	Fisher Brothers Las Vegas, LLC
<b>File Number:</b>	F:\Depot\DSMemos\DS5627F.doc	Bart Anderson, P.E., DevCo.
<b>Parcel Number:</b>	162-08-702-001, 162-08-702-002, 162-08-303-034, 162-08-799-003, 162-08-799-009	CCRFCFCD
<b>Zoning Action:</b>	22-0425-TMP1	
<b>FEMA Flood Zone</b>	YES	NO <b>X</b>
<b>Proposed Storm Drain</b>	YES	NO <b>X</b>

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 <sup>st</sup> Submittal	11/23/2022	12/08/2022	Not Approved	\$400.00	5048051: \$400
2 <sup>nd</sup> Submittal	1/17/2023	2/6/2023	Not Approved	\$400.00	5111599: \$400
3 <sup>rd</sup> Submittal	2/22/2023 (Paid on 2/27/2023)	3/16/2023	Conditional Approval	\$400.00	5161732: \$400
CCRFCFCD	4/27/2023	4/27/2023	Concurrence Received	N/C	N/C
4 <sup>th</sup> Submittal & Supplement	1/31/2023 & 2/26/2024	2/29/2024	Approved	\$100.00	5611540: \$100
5 <sup>th</sup> Submittal	9/12/2024	9/25/2024	See Comments Below	\$100.00	5926394: \$100
<b>TOTAL FEES (LDDRS):</b>				<b>\$1,400.00</b>	----

**REMARKS:**

**5<sup>th</sup> Submittal: Update #2 for minor revision of onsite drainage system**

**4<sup>th</sup> Submittal & Supplement: Update to address minor revision for onsite drainage pattern**

The Drainage Study for the subject project has been reviewed and:

<b>X</b>	is approved subject to conformance to all City standards and the following conditions:
	must be resubmitted or supplemented including the following:
	is conditionally approved subject to Clark County Regional Flood Control District concurrence.
	is conditionally approved subject to Clark County Public Works Department concurrence.

1. **Sheet C00.02:** Replace the “*Stormwater Management Notes*” with the current *City of Las Vegas* standard version.

**\*\*\* The City of Las Vegas Flood Control is standardizing the file naming of drainage studies and plans during the digitizing process. When saving the project files in the CD or thumb drive, please follow the system below:**

**If drainage study only contains one combined file, use the following naming convention in Document Title:**

**1<sup>st</sup> Submittal DS and Plans (for first and original submittal);**

**2<sup>nd</sup> Submittal DS and Plans (for second submittal (addendum #1)) etc.**

**If drainage study contains multiple files, use the following naming convention in Document Title:**

**1<sup>st</sup> Submittal DS (for the report of the drainage study)**

**1<sup>st</sup> Submittal Plan 1 (could be the drainage condition maps)**

**1<sup>st</sup> Submittal Plan 2 (could be the improvement plans) etc.**

**NOTE:** Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the *Nevada Division of Environmental Protection* a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained on site; for inclusion in the Stormwater General Permit No. NVR100000. A phased construction unit in a contiguous subdivision is considered under construction until all stripped or disturbed surface areas have been covered by paving, building construction or planting. For more information, including forms and applications see <http://ndep.nv.gov/bwpc/storm01.htm> or call (775) 687-9429.

**NOTE:** Any future changes to the proposed design (or design assumptions) as outlined in the approved drainage study and attached preliminary grading plan which affect drainage must be addressed in a Drainage Study Update and accepted by the *City of Las Vegas Flood Control Section*. Additionally, final approval of a drainage study is valid for a period of one (1) year. If the proposed construction has not been completed in that time period, the *City of Las Vegas* reserves the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction of a project.

**END OF REMARKS**  
HDR/CAA/AYS

T/R/S: T21S/R61E/08  
AREA R-08



February 20, 2025

Mr. Albert Sung, P.E.  
City of Las Vegas Flood Control  
333 Rancho Drive  
Las Vegas, NV 89106

**RE: *Update#3 to the Technical Drainage Study for Area 15 District 2 (DS5627)***

Dear Mr. Sung,

Attached is one (1) copy of the *Update #3 to the Technical Drainage Study for Area 15 District 2* for your review. This letter certifies that all items provided on the electronic submittal (CD) match the paper version bound into the study.

With Kimley-Horn, you should expect more and will experience better. Please contact me at (702) 734-5666 or [rachael.dennis@kimley-horn.com](mailto:rachael.dennis@kimley-horn.com) should you have any questions or concerns.

Sincerely,

A handwritten signature in black ink that reads "Rachael R. Dennis".

Rachael R. Dennis, P.E.

A handwritten signature in black ink that appears to read "Sean Schofield".

Sean Schofield, Analyst

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February 20, 2025

Mr. Albert Sung, P.E.  
City of Las Vegas Flood Control  
333 Rancho Drive  
Las Vegas, NV 89106

**RE: Update #3 to the Technical Drainage Study for Area 15 – Phase 2 (DS5627)**

Dear Mr. Sung,

The purpose of this letter is to serve as the **Update #3** to the subject project. The *Technical Drainage Study for Area 15 District 2* (hereinafter referred to as **TDS**) was approved by CLV on April 26, 2023. The *Update to the Technical Drainage Study for Area 15 District 2* (hereinafter referred to as **UP**) was approved by CLV on February 29, 2024. The *Update #2 to the Technical Drainage Study for Area 15 District 2* (hereinafter referred to as **UP2**) was approved by CLV on September 25, 2024. Pertinent reference material has been included in **Appendix C**. The **Update #3** included herein, is intended to supersede data contained in previous studies.

Since approval of **UP2**, Sirius Avenue has been slightly modified. The proposed revisions include:

- The existing flood wall approved with the *Update #3 to the Technical Drainage Study for Area 15* (hereinafter referred to as **District 1 TDS**) approved by CLV on July 23, 2024, along Sirius Avenue from the intersection of Rigel Avenue to the west has been shifted south approximately 12 feet to provide more walkable pedestrian area. A copy of the previously approved District 1 TDS has been included in **Appendix C**. The proposed conditions HEC-RAS Model **Cross Section 1215** and **1170** were revised match the new grading and **Cross Section 1160** was added to better model the transition of the revised southern flood wall. A total flowrate of **113 cfs** (previously 114 cfs) will weir north in Rigel Avenue, turn east in Meade Avenue, and will ultimately be conveyed within Rancho Drive. Flows for Cross Sections in Rigel Avenue (**RA**) and Meade Avenue (**MA**) have been updated accordingly. Refer to the revised hydraulic summary tables on **Figures PRO-1** and **PRO-2** in **Appendix A**. The updated Finish Floor Calculations Table has been included in **Appendix B**. The revised lateral weir at **Cross Section 1170** continues to show that the proposed walls along the pedestrian ramp will prevent flows from entering the site from Sirius Avenue. A copy of the HEC-RAS Model has been included in **Appendix B** and on the Data CD in **Appendix E**.
- Revised onsite storm drain systems to accommodate underground utility conflicts. Revised onsite storm drain alignments, and trench drains have been shown on **Figure FAC-1** in **Appendix A**. Pipe layouts have been revised west of Building, however the locations of the trench drains remain unchanged with this submittal. Trench Drain locations and pipe layouts have been revised within the prorated Subbasin **ONV** located at the southern end of the site. Updated Trench Drain calculations have been provided in **Appendix B**. Proposed onsite local storm drain ranging in size from **6-inch to 10-inch PVC** will convey flows captured by the

proposed trench drains and drop inlets to outlet through the curb into the existing adjacent roadways. Note that none of the onsite prorated areas have been modified with this submittal.

- The longitudinal slope and cross slope for onsite Section **ONP2 South** was revised to match the onsite grading north of Building 6. Refer to the revised hydraulic summary tables on **Figures PRO-1** and **PRO-2** in **Appendix A**. A copy of the normal depth calculation has been included in **Appendix B**.

Refer to the **Improvement Plans** in **Appendix D** for the revised grading and storm drain changes. The proposed project generally maintains existing drainage patterns, the proposed buildings meet finished floor criteria, and is in general conformance with the approved **UP2**. The methodologies and calculations presented in this report are in compliance with the *CCRFCD Hydrologic Criteria and Drainage Design Manual (Manual)*.

In the unlikely event the drains at the proposed low points become completely clogged, emergency overflow paths have been provided to protect the adjacent finished floors.

In general, the overall drainage patterns for the site are consistent with the previously approved referenced drainage studies and the proposed site plan does not significantly alter existing peak flows or the character of flows downstream of the development and do not pose any negative impacts on the downstream facilities and development.

With Kimley-Horn, you should expect more and will experience better. Please contact me at (702) 734-5666 or [rachael.dennis@kimley-horn.com](mailto:rachael.dennis@kimley-horn.com) should you have any questions.

Sincerely,



Rachael R. Dennis, P.E.



Sean Schofield, Analyst

## LIST OF APPENDICES

### Appendix A – Documents & Figures

- PRO-1: Overall Proposed Condition Drainage Map
- PRO-2: Onsite Proposed Condition Drainage Map
- FAC-1: Onsite Facility Map

### Appendix B – Hydraulic Calculations

- Normal Depth Calculations – Proposed Conditions Street Sections
- Normal Depth Calculations – Onsite Sections
- Trench Drain Calculations
- HEC-RAS Proposed Conditions Analysis Model (SiriusAve.prj) (On Data CD)
  - Proposed Conditions Report
  - Summary Tables
  - Reach Profile
  - Cross Sections
  - Lateral Weir Summary Tables
- Finished Floor Elevation Table

### Appendix C – Reference Material

- *Update #2 to the Technical Drainage Study for Area 15 District 2; September 2024 (DS5762).*
- *Update #3 to the Technical Drainage Study for Area 15 July 2024 (DS4921).*

### Appendix D – Improvement Plans

### Appendix E – Data CD