



10/19/22

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Village 27 Parcel M & E Boundary Drainage Improvements Date: October 2022

Location of Development: a) Descriptive (Cross Streets) North/South: Lake Mead Blvd

East/West: _____

b) Section: 15, 21 Township: 20S Range: 59E

c) APN : 137-15-401-003; 137-21-501-001

Name of Owner: Owner: The Howard Hughes Company

Telephone No.: (702) 791-4201 Fax No.: 702-791-4385 E-Mail Address: April.Chapman@howardhughes.com

Address: 10801 W. Charleston Blvd., Las Vegas, Nevada, 89146

Contact Person-Name: Lee Gong, PhD, PE, CFM Telephone No.: (702) 804-2000

* E-Mail Address: LGong@gcwengineering.com Fax No.: (702) 804-2299

Firm: GCW, Inc.

Address: 1555 South Rainbow Boulevard, Las Vegas, Nevada 89146

Type of Land Development/Land Disturbance Process:

☐	Rezoning	☐	Subdivision Map	☐	Clearing and Grading Only
☐	Parcel Map	☐	Planned Unit Development	☒	Other (Please specify below)
☐	Large Parcel Map	☐	Building Permit	☐	Flood Control Channel

1. Total Owned Land Area: At Site: 453.16 acres Being Developed/Disturbed: +/- 4.65 acres

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.): Flood Control Channel

5. Approximate upstream land area which drains to the subject site: +/- 4.8 square miles

6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: Village 31 & 27 (Reverence Tributary Area) Master Conceptual Drainage Study. (DS#5387)

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Discharge to a debris basin others (Summlin West Village 27 Debris Basin)

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



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Engineer's Seal

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

62052-3085

October 19, 2022

Albert Y. Sung, P.E.
City of Las Vegas, Public Works
333 N. Rancho Drive, 7th Floor, Las Vegas, NV 89106

**Re: Technical Drainage Study for Village 27 Parcel M & E Drainage Improvements
Addendum #2**

Dear Mr. Sung,

This letter is to certify that all documents provided on electronic submittal (CD) match the hardcopy version of the study.

Respectfully submitted,

Lee Gong, PhD, P.E., CFM
Flood Control Division



10/19/22



APPENDIX



62052-3085

October 19, 2022

Re: 2nd Response to City of Las Vegas Comments on the Technical Drainage Study for Village 27 Parcel M & E Boundary Drainage Improvements (DS05586B)

This report addresses the City of Las Vegas review comments dated October 3, 2022, regarding the project in its entirety. Below are individual responses to each comment included in the review letter.

Comment 1:

Please note that Final Approval of Improvement Plan will not be issued until the downstream debris basin is approved.

Response:

Noted.

Comment 2:

The site proposed Clark County Regional Flood Control District (CCRFCD) master planned facility. Therefore, CCRFCD concurrence is required prior to final approval of the drainage study.

Please note that effective March 15, 2019, the CCRFCD adopted new requirements for drainage study concurrence submittal. Follow the link below for specific guidance.

<http://gustfront.ccrfcd.org/LandDev/LandDev.aspx>

When it's applicable, structural calculations of facilities must be approved by the City prior to submittal to the Clark County Regional Flood Control District for their review and concurrence.

*** The Conditional Approval of this Drainage Study is to allow the engineer/developer to submit the Improvement Plans to City Land Development Only

*** Do not submit the Drainage Study to Clark County Regional Flood Control District (CCRFCD) prior to the Structural Design and Calculations being approved by the City Building & Safety Department

Response:

Noted.

Comment 3:

The proposed CCRFCD Channel must be dedicated and recorded as Flood Control Right-of-Way prior to City of Las Vegas taking ownership and maintenance responsibility. Clearly identify the Flood Control Right-of-Way limits on the cross-sections and grading plan.

Response:

CCRFGD Flood Control Right-of-Way will be recorded after improvement plan approval. Flood control Right-of-Way limits have been identified on the cross sections and grading plan.

Comment 4:

Change the access ramp direction to match the direction of channel flow for the access ramp located at the upstream end of south side of channel.

Response:

Noted. Per CLV meeting the diagonal retaining wall on the upstream south side of the channel will prevent flows from impacting the access ramp. Therefore, the direction of the access ramp was not revised.

Comment 5:

Provide a channel wall diagonally across from the north end of property line to the just west of north access road to protect the access road from washing out. Also, concrete line the access road.

Response:

Retaining walls oriented diagonally have been added at the ends of the north and south access roads on the upstream end of the channel. The upstream access ramps that connect to the access road have also been concrete lined.

Comment 6:

On sheet PP4, add station and elevation at angle points along North Channel. Show 36-inch pipe penetration on the south channel wall profile.

Response:

Station and elevation tags have been added on Sheet PP4 at key angle points along the north upstream end of the channel. The penetration point for the proposed 36" RCP has also been added.

Comment 7:

Provide spot elevations along the channel's key locations.

Response:

Spot elevations have been added along the north and south access roads and along the channel's key locations in all GD/PP sheets.

Comment 8:

Add "Public Drainage easement to be privately maintained" to the 30-ft utility easement shown on sheet GD4. Provide a connection to the proposed south access road along the channel.

Response:

Noted. "Public Drainage easement to be privately maintained" has been added for the 30-ft utility easement shown on sheet GD4

If you have any questions or require additional information, please do not hesitate to contact me at 804-2134.

Respectfully,

GCW, INC.

Lee Gong, PhD, PE, CFM
Flood Control Division

CITY OF LAS VEGAS			DATE:
INTER-OFFICE MEMORANDUM			October 3, 2022
TO: Land Development Services Department of Building & Safety			FROM: Albert Sung, P.E. Flood Control, Project Engineer Department of Public Works
SUBJECT:	Drainage Study for:		COPIES TO:
	Village 27 Parcel M & E Drainage Improvement		The Howard Hughes Company
Cross Streets:	Lake Mead Blvd		GCW, Inc.
File Number:	F:\PW_Flood\1. Development Review\1. DS Memo\DS05586B.doc		Bart Anderson, P.E., DevCo
Parcel Number:	137-15-401-003, 137-21-501-001		
Zoning Action:			
FEMA Flood Zone	YES	NO X	
Proposed Storm Drain	YES X	NO	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	06/28/2022	07/11/2022	Not approved	\$400.00	4845731: \$400
2 nd Submittal	09/13/2022	10/03/2022	See Below	\$400.00	4950238: \$400
			TOTAL FEES (LDDRS):	\$800.00	----

REMARKS:

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

	is approved subject to conformance to all City standards and the following conditions:
X	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.

- Please note that Final Approval of Improvement Plan will not be issued until the downstream debris basin is approved.
- The site proposed *Clark County Regional Flood Control District* (CCRFCD) master planned facility. Therefore, CCRFCD concurrence is required prior to final approval of the drainage study.

Please note that effective March 15, 2019, the CCRFCD adopted new requirements for drainage study concurrence submittal. Follow the link below for specific guidance.

<http://gustfront.ccrfcd.org/LandDev/LandDev.aspx>

When it's applicable, structural calculations of facilities must be approved by the City prior to submittal to the Clark County Regional Flood Control District for their review and concurrence.

***** The Conditional Approval of this Drainage Study is to allow the engineer/developer to submit the Improvement Plans to City Land Development Only**

***** Do not submit the Drainage Study to Clark County Regional Flood Control District (CCRFCD) prior to the Structural Design and Calculations being approved by the City Building & Safety Department**

3. The proposed CCRFCD Channel must be dedicated and recorded as Flood Control Right-of-Way prior to City of Las Vegas taking ownership and maintenance responsibility. Clearly identify the Flood Control Right-of-Way limits on the cross-sections and grading plan.
4. Change the access ramp direct to match the direction of channel flow for the access ramp located at the upstream end of south side of channel.
5. Provide a channel wall diagonally across from the north end of property line to the just west of north access road to protect the access road from washing out. Also, concrete line the access road.
6. On sheet PP4, add station and elevation at angle points along North Channel. Show 36-inch pipe penetration on the south channel wall profile.
7. Provide spot elevations along the channel's key locations.
8. Add "Public Drainage easement to be privately maintained" to the 30-ft utility easement shown on sheet GD4. Provide a connection to the proposed south access road along the channel.

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, conditional acceptance 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.

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.

END OF REMARKS
OSK

T/R/S: T20S/R59E/S15, 21
AREA K-15