

<b>CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM</b>		<b>DATE:</b> August 12, 2021
<b>TO:</b> Land Development Services Department of Building & Safety		<b>FROM:</b> Jennifer Shinn, P.E. Flood Control, Engr. Associate Department of Public Works
<b>SUBJECT:</b>	Drainage Study for:	<b>COPIES TO:</b>
	<b>Montalado North</b>	Impulse Civil Engineering
<b>Cross Streets:</b>	Shaumber Road and Ann Road	International LLC c/o WLB Group
<b>File Number:</b>	F:\Depot\DSMemos\DS5458C.doc	Bart Anderson, P.E., DevCo
<b>Parcel Number:</b>	126-25-401-007, 126-25-401-008, 126-36-101-001, & 126-36-101-002	
<b>Zoning Action:</b>	21-0064-TMP1; 21-0064-VAC1	
<b>FEMA Flood Zone</b>	YES NO <b>X</b>	
<b>Proposed Storm Drain</b>	YES <b>X</b> NO	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 <sup>st</sup> Submittal	5/27/2021	6/14/2021	See Comments Below	\$400.00	4308989: \$400
2 <sup>nd</sup> Submittal	7/12/2021 & 7/29/2021	7/22/2021 & 8/10/2021	See Comments Below	\$400.00	4367684: \$400
3 <sup>rd</sup> Submittal	8/12/2021	8/12/2021	See Comments Below	\$0.00	N/C
<b>TOTAL FEES (LDDRS):</b>				<b>\$800.00</b>	<b>----</b>

**REMARKS:**

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. Prior to approval of construction drawings a copy of the patent easement, sketch, and legal description must be submitted to Land Development in order to process a Declaration of Utilization across BLM Property.
2. This site accepts offsite flows and conveys them through the site. Provide a "Public Drainage Easement to be Privately Maintained" and show the easement on the grading plan. Public drainage easements must be recorded by separate document prior to the final acceptance of the improvement plans unless they are to be recorded by parcel or final map.
3. The engineer must provide a table on the grading plans that shows a quantity estimate of all drainage improvements within Public Drainage Easements. All drainage improvements within Public Drainage Easements must be bonded and inspected.
4. The project proposes to build a temporary drainage facilities along the western and eastern boundaries. Prior to final plan approval the developer must complete a maintenance and liability agreement for the interim drainage improvements (off-site berms or channels) and post a minimum maintenance bond of \$50,000 or 50-percent of the construction cost for the improvements, whichever is greater. The engineer must submit an estimate of the quantities for constructing the facility and an exhibit that adequately shows the location and limits of the drainage facility to *City of*

*Las Vegas Flood Control* for approval. Once the drainage study is conditionally approved, the engineer should contact the City's Land Development Section (229-6371) to begin the agreement process.

In order for the maintenance bond to be released in the future, a drainage update / letter will be required to justify that the offsite berms / channels are no longer necessary and can be removed.

5. It is noted that the 2<sup>nd</sup> study submittal separated the subject site into 2 Units. Clearly define the channel construction limits for Units 1 and 2 on the respective Grading Plans. *Added notes to Unit 1 and 2 where one ends and the other begins.*
6. Provide a flowline at the western inlet area such that flows are directed away from the walls and drain towards invert of RCB. Reflect this flow line in Section Detail T/DT-04 of Unit 2 plans. *Added flow lines to the plan and to the section detail.*
7. Provide storm drain system information at Headwall: Station, Offset, Invert, on Sheet PP-01 of Unit 2 plans. *Added to the profile.*
8. Show the existing contours on the eastern boundary of Unit 2 to demonstrate how the proposed grading and drainage tie into existing conditions. *The contours are there but for some reason didn't show on the pdf – they show now.*
9. Add or extend Section Detail 4/DT-01 of Unit 2 to show the perimeter walls along La Mancha Avenue. Provide flood protection a minimum of 6" above adjacent TC in the form of grading and/or solid grouted walls. *Expanded Section Detail to show perimeter wall.*
10. Provide 12' maintenance access to eastern outlet structures within public drainage easement. *Added maintenance road to eastern outlet structures.*
11. Flip arrow directions on Section Detail callouts S/DT-04 and R/DT-04 on Sheet GR-03 of Unit 2 plans to match Detail Sheet. *Flipped the call out arrows.*
12. Show proposed RCB and the 12' maintenance access road (Type II) in Section Details O/DT-02 and S/DT-04 of Unit 2 plans. *Added to details.*

**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**  
HDR/JKS

T/R/S: T19S/R59E/S25&36  
AREA F-25

<b>CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM</b>		<b>DATE:</b> August 10, 2021
<b>TO:</b> Land Development Services Department of Building & Safety		<b>FROM:</b> Jennifer Shinn, P.E. Flood Control, Engr. Associate Department of Public Works
<b>SUBJECT:</b>	Drainage Study for:	<b>COPIES TO:</b>
	<b>Montalado North</b>	Impulse Civil Engineering
<b>Cross Streets:</b>	Shaumber Road and Ann Road	International LLC c/o WLB Group
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<b>FEMA Flood Zone</b>	YES	NO <b>X</b>
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			<b>TOTAL FEES (LDDRS):</b>	<b>\$800.00</b>	----

**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:
<b>X</b>	must be <b>supplemented</b> 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. Prior to approval of construction drawings a copy of the patent easement, sketch, and legal description must be submitted to Land Development in order to process a Declaration of Utilization across BLM Property.
2. This site accepts offsite flows and conveys them through the site. Provide a "Public Drainage Easement to be Privately Maintained" and show the easement on the grading plan. *Easements have been added and labeled per above comment.* Publicdrainage easements must be recorded by separate document prior to the final acceptance of the improvement plans unless they are to be recorded by parcel or final map. *Will be added to the Final Map.*
3. The engineer must provide a table on the grading plans that shows a quantity estimate of all drainage improvements within Public Drainage Easements. *A table has been added to Unit 1 & Unit 2 grading plans.* All drainage improvements within Public Drainage Easements must be bonded and inspected.
4. The project proposes to build a temporary drainage facility along the western boundary. Prior to final plan approval the developer must complete a maintenance and liability agreement for the interim drainage improvements (off-site berms or channels) and post a minimum maintenance bond of \$50,000 or 50-percent of the construction cost for the improvements, whichever is greater. The engineer must submit an estimate of the quantities for constructing the facility and an exhibit that adequately shows the location and limits of the drainage facility to *City of Las Vegas Flood*

*Control* for approval. Once the drainage study is conditionally approved, the engineer should contact the City's Land Development Section (229-6371) to begin the agreement process.

In order for the maintenance bond to be released in the future, a drainage update / letter will be required to justify that the offsite berms / channels are no longer necessary and can be removed.

5. It is noted that the resubmitted study separates the subject site into 2 Units. Additional clarification is needed to identify which Unit is constructing the western channel. *Unit 1 will install the channel that is along it's westerly side and it will outfall into the original wash location. Unit 2 will complete the western channel from Unit 1 to the north and outfall into the 8' x 4' RCB.*
6. Provide section detail and detailed grading at the western headwall. *Add another section and some spot elevations.*
7. The resubmitted plans revises the proposed 96" RCP as a curved storm drain system. Show the RCB angle points and/or curved segments by station location and angle/degree change. Include the radius information and discuss how the curved sections are to be completed using curved forms or multiple angled segments. This needs to be explained within the Specifications. This information is needed to allow for the use of precast RCB's as well as cast in place construction. *The storm drain is an 8' x 4' RCB, we have added the radius and PC/PT point locations.*
8. **In Report:** The hydraulic calculations provided are for an 8'x4' RCB but the revised plans reflect a 96" RCP. Revise plans/calculations accordingly and provide new Unit 2 SD Sheets that match the revised Grading Plans. *The original report calculation for the 8' X 4' RCB are correct there was and error on one of the drawings have it labeled incorrectly.*
9. **In Report:** The inverts, slopes, and lengths entered in the Storm Drain Hydraulic Calculations Tables do not match the storm drain information presented on the SD and PP Sheets. Revise accordingly. *These have been back checked and revised as necessary.*
10. Provide manhole stationing information on Storm Drain Profile sheets. *Has been added to all sheets.*
11. Storm drain pipe sizes and lengths are missing from the Grading Plans. Review and revise Grading Plans to correctly shown proposed storm drain line work. *This information has been added to the plans.*
12. Storm drain drop inlet lengths, stations/offsets are missing from the Grading Plans. *This information has been added to the plans.*
13. Provide a copy of the Detail Sheet for the Unit 1 plans. *Details have been included in both sets of plans.*
14. Section Detail callout for La Mancha Avenue is missing from the Unit 2 Grading Plans. *This information has been added to the plans.*
15. Show HGL on storm drain profiles and complete all missing ("XXXX") data on profile sheets. *This information has been added to the plans.*
16. Remove all references to Clark County Public Works. *This information has been added to the plans.*

**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**  
HDR/JKS

T/R/S: T19S/R59E/S25&36  
AREA F-25

# HYDROLOGIC CRITERIA AND DRAINAGE MANUAL

## DRAINAGE STUDY INFORMATION FORM

Name of Development: Montalado North Date: 07/02/2021

Location of Development: a) Descriptive (Cross Streets) North/South: Shaumber Road  
East/West: Ann Road

b) Section: 25 & 36 Township: 19S Range: 59E  
c) APN : 126-25-401-007, 126-25-401-008, 126-36-101-001, & 126-36-101-002

Name of Owner: International LLC c/o WLB Group

Telephone No.: (702) 458-2551 Fax No.: (702) 434-0491 E-Mail Address: pvalentine@wlbgroup.com  
Address: 3663 E. Sunset Road, Las Vegas, Nevada 89120

Contact Person-Name: Peter Laas Telephone No.: 702-815-0720  
\* E-Mail Address: plaas@ImpulseCivil.net Fax No.: 702-478-8535  
Firm: Impulse Civil Engineering  
Address: 7485 West Azure Avenue, Suite 226, Las Vegas NV 89130

Type of Land Development/Land Disturbance Process:

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

1. Total Owned Land Area: At Site: 20 AC+- Being Developed/Disturbed: 20 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.): Single Family Residential

5. Approximate upstream land area which drains to the subject site: 150 ACRES

6. Has the site drainage been evaluated in the past?  YES  NO If yes, please identify documentation: \_\_\_\_\_

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: \_\_\_\_\_  
The northeast corner of the site into the existing wash

8. Briefly describe your proposed schedule for the subject project: As soon as possible this project will begin construction around August of 2021



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
DS-5458 Local Entity File No.		

REFERENCE: STANDARD FORM 1

### Summary of Results

STATION	INVERT	SOFFIT	EGL	HGL	(Optional)			HGL with respect to FG	Pressure Gasket Required?
					GRADE	LOCATION	DESCRIPTION		
19296.71	2889.58	2893.58	2896.93	2893.58	2897.20		Outlet	OK	NO
19392.17	2891.32	2895.32	2898.67	2895.32					NO
19397.17	2891.32	2895.32	2898.72	2895.37	2900.35		End Bend	OK	NO
19475.97	2892.78	2896.78	2900.45	2897.10					NO
19480.97	2892.78	2896.78	2900.50	2897.15	2902.10		Begin Bend	OK	NO
19629.07	2895.47	2899.47	2902.82	2899.47					NO
19634.07	2895.47	2899.47	2902.88	2899.53	2906.20		SDMH #10	OK	NO
19886.53	2905.67	2909.67	2913.02	2909.67					NO
19891.53	2905.67	2909.67	2913.08	2909.73	2916.70		SDMH #9	OK	NO
20042.06	2910.52	2914.52	2917.87	2914.52					NO
20047.06	2910.52	2914.52	2917.92	2914.57	2922.00		End Bend	OK	NO
20125.11	2911.77	2915.77	2919.64	2916.29					NO
20130.11	2911.77	2915.77	2919.69	2916.35	2923.73		Begin Bend	OK	NO
20235.98	2913.64	2917.64	2920.99	2917.64					NO
20240.98	2913.64	2917.64	2921.05	2917.70	2923.90		Inlet	OK	NO

$$I = \int F \cdot dt$$



### Summary of Results

STATION	INVERT	SOFFIT	EGL	HGL	(Optional)			HGL with respect to FG	Pressure Gasket Required?
					GRADE	LOCATION	DESCRIPTION		
19296.71	2909.71	2911.71	2912.69	2911.71	2919.50		outlet	OK	NO
19395.03	2912.17	2914.17	2915.15	2914.17					NO
19400.03	2912.37	2914.37	2916.52	2915.54	2920.10		SDMH #6	OK	NO
19498.61	2916.13	2918.13	2919.11	2918.13					NO
19503.61	2916.33	2918.33	2919.31	2918.33	2924.95		SDMH #5	OK	NO
19872.88	2932.02	2934.02	2934.68	2934.02					NO
19877.88	2932.22	2934.22	2935.60	2934.94	2937.23		SDMH #4	OK	NO
19948.96	2936.68	2938.68	2938.76	2938.68					NO
19953.96	2936.88	2938.88	2938.96	2938.88	2941.81		SDMH #3	OK	NO
20313.36	2958.34	2959.84	2959.92	2959.84					NO
20318.36	2958.54	2960.04	2960.12	2960.04	2963.19		SDMH 2	OK	NO
20437.74	2964.48	2965.98	2966.06	2965.98					NO
20442.74	2964.68	2966.18	2966.26	2966.18	2971.10		EX SDMH	OK	NO

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