

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: May 20, 2024
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:
Caldwell Park – Summerlin Village 29 - Parcel EF		Westwood Professional Services
Cross Streets:	SWC of Far Hills Drive & Grand Park Blvd.	KB Homes
File Number:	F:\Depot\DSMemos\DS5767A.doc	Bart Anderson, P.E., DevCo
Parcel Number:	137-28-511-001 & 137-28-611-001	CCRFCD
Zoning Action:	24-0125-TMP1	
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	4/30/2024	5/20/2024	See Comments Below	\$400.00	5739433: \$400
TOTAL FEES (LDDRS):				\$400.00	----

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.

1. Provide a copy of the zoning/planning conditions associated with this site (**24-0125-TMP1**) with the next submittal to verify compliance with conditions. *Flood Control* will not issue conditional approval of the drainage study without the associated zoning/planning conditions (issued by the *City Council*). Any associated conditions of approval that revise the site drainage parameters will require that the drainage study be revised and resubmitted.
2. The site is adjacent to or crosses an existing or 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>

3. The proposed project is premised on the flood protection provided by the perimeter streets and the associated storm facilities (*Far Hills Avenue, Grand Park Boulevard, Spring Run Drive and Park Drift Trail*). The subject drainage study will not be approved prior to the posting of construction bonds of the stated perimeter street improvements and the storm facilities.

4. During the mass grading condition, the project proposes to build temporary drainage swales. Prior to final plan approval, the developer must complete a maintenance and liability agreement for the interim drainage improvements 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. Sites with a grade difference of 2 feet above or below existing grades are required to have approval from the City of Las Vegas Planning and Development Department. The engineer must submit copies of the grading plans and detail sheet with a letter justifying the grade difference to the City Planning Department (229-6301). The engineer must provide City Planning approval with the next submittal.
6. **Exhibit H:** The 100-Year Street Flow Summary table values do not match the calculated values provided. For *Section 5-2*, *Section 10*, and *Section 12*, the Q_{100} , depth and velocity do not match the calculations provided. *Section 11* the Q_{100} and velocity do not match the calculations provided.
7. **Exhibit H:** The ROW widths for *Sections 2-2b*, *2-2c*, *2-1e*, and *2-1f* do not match the calculations provided.
8. **Exhibit H:** The calculations for DI#2 account for 13 cfs, not 12 cfs as intended by the description.
9. **Exhibit H:** The calculations for DI#3 account for 9 cfs, not 8.5 cfs as intended by the description, the bypass for this inlet is therefore calculated as 4 cfs, not 3.5 cfs as shown in the table.
10. **Exhibit H:** The description for the Inlet Control Facility Summary for DI#2 and DI#3 indicate bypass from Inlet 14, but should account for bypass from DI#11.
11. **Exhibit H:** The calculations for DI#4 account for 10.5 cfs, not 10.25 cfs as shown in the table, the bypass for this inlet is therefore calculated as 5 cfs, not 4.75 cfs as shown in the table. The description of the flow indicate bypass from DI#10, but should account for bypass from DI#6.
12. **Exhibit H:** The total flow considered collected by proposed inlets is 91 cfs, not the full site flow of 92 cfs. Evaluate inlet flow calculations to show that the full onsite flow is collected.
13. **Exhibit H:** The Master Plan assumed that 54 cfs would be directed to enter the Grand Park storm drain system, not the proposed 67 cfs. Therefore, it's necessary to extend the Water Surface Profile Grade (WSPG) analysis of the Grand Park Drive alignment. This extension will confirm whether there are any potential adverse impacts on the existing Hydraulic Grade Line (HGL).
14. **Exhibit H:** The flow in *Kings Creek Place* is above the back of sidewalk and is erosive. Provide erosion protection for the landscape area in the form of a stem wall, riprap, or approved alternate as required in the Regional Flood Control District Manual in section 904.3. Revise the grading plan and sections accordingly.
15. **Exhibit H:** It is not clear what the long slender blue color boxes are on the map. Explain what they are in the next submittal.

Mass Grading Plans:

16. **Sheet D-2:** Revise *Detail Section 10/D-2* to provide 3-course of 8"-CMU to be solid grouted above the adjacent grade.

Unit 1 Improvement Plans:

- 17. Printed **Sheets G-1, G-2** and **Sheets PP-4 to PP-7** are missing in the last submittal. Further comments will be provided when those sheets are available in the next submittal.
- 18. Per *Hydraulic Sections 8, 9, 10, 11* and *12*, the 100-year flow depths in *Kings Creek Place* are above the top of curb and erosive. Provide erosion protective measures in the front yard of those lots in the next submittal.
- 19. It appears that there are not just one type of lot drainage throughout the development:
 - a) Standard Type A Drainage on lots with 20'-driveway;
 - b) Standard Type A Drainage on lots with 5'-driveway and
 - c) Cross-lot drainage on Triplexes, Quadraplexes, Pentaplexes and even Sexaplexes.

Provide typical lot drainage detail for each of the above cases in the next submittal. Dedicate public drainage easement (privately maintained by HOA) in each of the case of (c) above.

- 20. Explain whether there are walls between the lots within the multi-plexes. If yes, provide notes for wall openings from lot to lot.

Unit 2 Improvement Plans:

- 21. **Sheet G-1:** Area between Lot 12 and Lot 13 must be dedicated as a public drainage easement to be privately maintained by the HOA on pertinent grading plans, detail sections and the Final Map.
- 22. The following garage finish floors do not meet the Regional Flood Control District minimum criteria of twice the Q₁₀₀ depth of flow up to 18-inches above the water surface (CCRFCD Manual Section 304.4.E.1). The following garage finish floors should be revised or alternate flood protection provided.

LOT	GFF shown	Min GFF
50	3654.40	3654.43
52	3655.50	3555.55
55	3657.30	3657.35
94	3699.40	3699.51
95	3700.40	3700.47
106	3693.20	3693.38
121	3687.10	3687.22
138	3678.70	3678.76
139	3677.50	3677.70
140	3677.00	3677.03
141	3676.40	3676.46
143	3675.30	3675.34
147	3672.50	3672.53
153	3668.80	3668.89
155	3670.10	3670.26
156	3670.90	3670.94
157	3671.50	3671.71
159	3673.20	3673.27
161	3674.30	3674.35
165	3677.10	3677.13

173	3668.70	3668.85
174	3667.70	3667.85
176	3666.40	3666.47
178	3665.10	3665.22
179	3664.00	3664.16
180	3663.30	3663.41
182	3662.00	3662.16
183	3661.50	3661.54
185	3659.50	3659.61
187	3658.05	3658.37
188	3657.70	3657.74
189	3656.30	3656.59
191	3655.50	3655.52
193	3654.70	3654.76
194	3654.30	3654.42
195	3655.40	3655.53
197	3657.40	3657.46
198	3658.30	3658.41
199	3659.30	3659.35
200	3660.20	3660.29
202	3662.10	3662.17
204	3664.00	3664.06
205	3664.90	3665.00
206	3665.90	3665.94
207	3666.80	3666.83
210	3669.30	3669.32

As an alternate each lot must be discussed in the drainage study, shown to be flood protected, and any necessary flood improvements shown on the grading plan.

23. All storm drain inlets that are more than 10'-deep require a special structural detail and calculations. Submit structural design and calculations to *City Building & Safety Department* for review and approval prior to the final approval of the drainage study.
24. All manholes that are more than 18'-deep require a special structural detail and calculations. Submit structural design and calculations to *City Building & Safety Department* for review and approval prior to the final approval of the drainage study.
25. Private streets must be public drainage easements. Provide a note on the grading plans "Note: All private streets are P.U.E., Public Sewer Easements and Public Drainage Easements to be privately maintained by HOA".
26. 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.
27. All drainage easements must be public drainage easements to be privately maintained and common lots to be labeled on the grading plans and to be dedicated as such in the final map.
28. Clearly specify all proposed wrought iron fence/gate to be constructed per Uniform Standard Drawing 425.S1.

***** 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:

1st Submittal DS and Plans (for first and original submittal);

2nd Submittal DS and Plans (for second submittal (addendum #1)) etc.

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

1st Submittal DS (for the report of the drainage study)

1st Submittal Plan 1 (could be the drainage condition maps)

1st 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/AYS

T/R/S: T20S/R59E/28
AREA K-28