

<b>CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM</b>		<b>DATE: April 17, 2025</b>	
<b>TO:</b> Land Development Services Department of Community Development – Building & Safety Division		<b>FROM:</b> Stanley Fong, P.E. Flood Control Sr. Eng. Associate Department of Public Works	
<b>SUBJECT:</b> Drainage Study for: <b>Alpine Ridge West 10</b>		<b>COPIES TO:</b> Westwood Professional Services	
<b>Cross Streets:</b>	Alpine Ridge Way and Radley Ave	Tri-Pointe Homes Nevada	
<b>File Number:</b>	F:\Depot\DSMemos\DS5853A.doc	CCPW	
<b>Parcel Number:</b>	126-01-401-005 & 006		
<b>Zoning Action:</b>	24-0588-TMP1		
<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	3/31/25	4/17/25	See Comments Below	\$400.00	6179777: \$400
<b>TOTAL FEES (LDDRS):</b>				<b>\$400.00</b>	<b>----</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 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. The site is also adjacent to Clark County jurisdiction to the north. The engineer must coordinate with Clark County Public Works Department (CCPW) and incorporate any concerns for boundary conditions. CCPW concurrence is required prior to final approval of the study.
2. A review of the grading plan shows an elevation difference of approximately 4-feet of cut adjacent to (un)developed properties. Sites with a grade difference of 2 feet above or below existing are required to have approval from the City 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 Planning approval with the next submittal.
3. Structural plans for the drainage improvements must be submitted for review. Coordinate the Structural submittal requirements with the Department of Community Development, Building & Safety Division for processing. The engineer must provide a copy of Building & Safety Division approval of the structures to Flood Control prior to final acceptance of the drainage study.
4. This site proposes off-site improvements that accepts offsite flows and conveys them through the site. Provide a “Public Drainage Easement to be Privately Maintained” for all improvements outside of the project 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.

- a. On all plan sheets with Public drainage easement noted, add to the callout "TO BE PRIVATELY MAINTAINED"
5. On Exhibit D, on table named "Potential Condition Flow Rate Summary" the  $Q_{100}$  for CP6 is 871 cfs. The existing condition map referenced from Alpine Ridge East, Exhibit E, CP4, shows 876 cfs. The Soldo project is cutting off a small area of OFF3-E but otherwise the total contributing area to CP6 is increasing from 2.23 sqmi to 2.26 sqmi. How is the flow decreasing to this location when modelling existing condition to developed condition? Provide explanation.
6. On Exhibit E,
  - a. For E4 update depth and velocity to match the FlowMaster calculations.
  - b. Update E3 and E4 widths. Plans show widths of 12.5' and 13'.
7. The E3 FlowMaster cross section calculation does not match the section location depicted on Exhibit E. Update location of E3 on exhibit or update correct sections which would look similar to E4 FlowMaster section.
8. Update the following for ALL the FlowMaster inlet capture calculations:
  - a. Gutter Width, plans show 18" 'L' curb.
  - b. Gutter Cross Slope, 11.33% appear to be too high for standard 24" or 18" 'L' curb.
  - c. Local Depression Width, 24" doesn't seem correct for Type "CM2" inlet.
  - d. Grate Type, should this be curved vane grate?
9. For the nomograph of DI#2, update so that it goes through 33 cfs.
10. For the WSPG Summary of model MAIN D1-BLM ( $n=0.015$ ) and MAIN D2-BLM ( $n=0.013$ ), update the transition section to clarify that it is for the transition from 12'x10' to 12'x5'.
11. For WSPG of SOUTH SYSTEM, provide the plans that built this facility as a reference material so that the inverts, etc can be verified.
12. For the FF check spread sheet, all  $FF_{Design}$  elevation are off by 0.1' except lot 21 and 22.
13. Based on comment 2 from Clark County for Alpine Ridge East study:
  - a. Update and provide update of referenced nomograph for 12'x10' RCB as HW/D should be 0.95 which would put the headwater at 9.5'.
  - b. What are the backwater implication within the easement channels base on this headwater depth? Will it overtop the high point flow lines which are less than 9.5' above the RCB entrance? Provided analysis.
14. Revise control of access for all the public drainage easement to follow Clark County Area Standard Drawing No. 425.S1. Callout bollards, wrought iron fencing, and wrought iron gate per 425.S1. Only use chain link fencing for the temporary or interim facilities and callout to be replace with wrought iron fencing with the future development/phase.
  - a. On sheet G-2, the fence at the end of the easement on the north side of the project is chain link. Should this be revised to note 16 or is this temporary?
15. At all inlet locations, the inlet is connecting to existing pipes. Do these pipes have existing headwalls or end section that need to be removed? If so, show them being removed as well as any pipe so that the connection can be made into the proposed inlet.
16. On sheet G-1:
  - a. Type 1 manhole won't work for RCB connection. May require special detail of manhole with no base and connection to top of RCB.
  - b. The area within the easement that is unhatched is also concrete. Should this be hatched too?

c. Cross section flag 10/D-1, the arrow is pointing in the wrong direction. Revise

17. On sheet G-2:

- a. DI#2 is in a sump condition but the FL grade from the low point to the end of the development is 0.04' which is less than the flow depth calculated. Will this flow be captured by the inlet or flow east in the undeveloped area north of the project site?
- b. The 0.04' grade difference from the low point to the edge of project limits doesn't appear to meet the minimum 0.4% roadway slope requirement.

18. On sheet G-3, there is a graded cul-de-sac at the southwest corner of the project. Will the existing wash be graded around to get to the easement or are the small graded swales around the cul-de-sac expected to convey this flow?

19. On sheet G-4, the proposed half street cross gutter at Radley Ave and Alpine Ridge Way needs to also reference CCAUSD# 229.

20. On sheet SD-1, the Q100 tags for SDDI #1 and SDDI #2 should be 14 cfs and 33 cfs, respectfully, according to the study.

21. On sheet SD-2,

- a. At station 10+05.25, the invert appear to be incorrect. Should it be 2931.19?
- b. As noted above in comment 12, the headwater should be at 9.5' above the invert.
- c. Why is the grading in the easement channel so much higher than the RCB invert? There doesn't appear to be a drop but the invert is at 2931.19 and the concrete is at 2935.19. Check this and all the grading that could be impacted by this.

22. Provide quantity estimate of all drainage improvements within Public Drainage Easements (concrete channel, flood walls, fence, etc.).

23. Add a note in all pertinent sheets for the construction of all storm drain drop inlets per a newly adopted USDCCA Drawing No. 421 (*Stormwater Quality Management Stamp and Sign Detail*).

**\*\*\* 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**  
CA/SF/OSK

T/R/S: T19S/R59E/S1  
AREA F1