

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: December 26, 2024
TO: Land Development Services Department of Community Development – Building & Safety Division		FROM: Tyler Key Flood Control Engr. Associate Department of Public Works
SUBJECT: Drainage Study for: CSN Center For Excellence in Public Safety		COPIES TO: GCW, Inc.
Cross Streets:	Durango Dr. & Elkhorn Rd.	Nevada System of Higher Education
File Number:	F:\Depot\DSMemos\DS5826A.doc	Bart Anderson, P.E., DevCo
Parcel Number:	125-17-801-009	
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	12/9/2024	12/26/2024	See Comments Below	\$400	6042923: \$400
TOTAL FEES (LDDRS):				\$400	----

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 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. *City of Las Vegas* does not allow HDPE pipe in public right-of-ways or public drainage easements. Note that *City of Las Vegas* only allows the use of HDPE storm drain pipes for privately owned and privately maintained storm drain systems which serve and are located exclusively on private properties. Any proposed HDPE storm drain pipes must also meet all design criteria established by the *Clark County Regional Flood Control District* and must be installed per *Clark County Regional Transportation Commission Uniform Standard Drawings and Specifications*.
3. For parking lot LID and storm water quality, the engineer must provide calculations (per *Section 1500 of the CCRFCD Hydrologic Criteria and Drainage Design Manual*) to justify that the length, width and depth of the landscape swales are meeting the design guidelines in an effective disconnected impervious areas layout.
4. A review of the grading plan shows an elevation difference of approximately 3-feet of cut/fill 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.

5. Revise Stormwater Management Note No. 6:

Post-Construction BMPs (PCBMPs) / Control Measures noted on the Grading Plans are mandatory permanent regulatory stormwater pollution controls. These PCBMPs must be installed per the approved plans and must be permanently maintained.

6. **Figure 8:** DIV-2 shows 73 cfs flowing south in Durango Dr. but does not show where the 73 cfs comes from. Provide upstream flow arrows to justify flow in Durango Dr.
7. **Figure 8:** The Drainage Basin Summary Table shows DIV- through DIV-4, but the plan only shows DIV-2. Add the other 3 elements to the plan.
8. **Figure 9:** The Drainage Basin Summary Table shows 43 cfs for the DVSD-2 10-year flow. The HEC-1 output for that basin shows 27 cfs. Review and revise accordingly.
9. **Figure 9:** The Proposed Condition Concentration Point Summary Table is inconsistent with the referenced values in HEC-1 and the summed tributary source flows. For example, the flows shown for CP1 match the values calculated in the HEC-1, but not the summed values from DIV-1 + ST1, while CP6 does not match the flows calculated in HEC-1, but does equal the sum of FS** + ST5 + PSC***.
10. **Figure 9:** The inlet calculations for DI 9 assume 16 cfs, but the Drainage Facility Summary shows 26 cfs. Review and revise accordingly.
11. **Figure 9 and 10:** The Prorated Flow Summary charts show two columns of Q100 flow. Revise one column to the Q10 flow.
12. **Figure 10:** Show Cross Section D at the downstream end of ON1F. The onsite section flow summary is calculated for ON1F.
13. The flow in Durango Dr. and Elkhorn Rd. is above the top of curb at an erosive velocity (greater than 5 cfs). Provide flood protection along Durango & Elkhorn.
14. There are several inlet calculations that are missing. Provide inlet calculations for all inlets that are shown on the basin plans.
15. Provide surface call outs to show the different materials used for each area of the project site (concrete, A/C pavement, landscape, etc.)
16. A Drainage Study Update will be required for all future structures to be constructed to ensure appropriate drainage and finish floors.
17. Clearly show the Right-Of-Way line on all Grading Plan sheets.
18. **Sheet G2:** Move the HP call out to the west of the proposed building to the spot elevation just above the current call out.
19. **Sheet G3:** Use Construction Note 29 for the proposed storm drain connecting into the existing drop inlet.

20. **Sheet G4:** Show the Finish Floors of all existing structures shown on the plans.
21. **Sheet G5:** The arrows of the C/D1 cross section call outs are pointing in opposite directions. If they are referring to the same detail, they should match with one another.
22. **Sheet G5:** The 89.71 FL call out, within the rip rap swale, is a low point and does not convey positive drainage. Review and revise accordingly.
23. **Sheet D1:** Cross Section E shows the A/C pavement sloping away from the curb, but the plans show the flow toward the curb. Review and revise accordingly.
24. **Sheet D1:** Cross Section E shows an A-curb along the A/C pavement, but the plans show an L-curb. If flow is travelling toward or along the curb, it is required to be an L-curb to help convey flow.
25. **Sheet PP1:** Show and use the Q100 for flow within the proposed storm drain.
26. Provide Plan & Profiles for all proposed storm drain.

***** 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
TJK

T/R/S: T19S/R60E/S17
AREA G17