

<b>CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM</b>		<b>DATE:</b> July 2, 2024
<b>TO:</b> Land Development Services Department of Community Development Building & Safety Division		<b>FROM:</b> Tyler Key Flood Control Engineering Associate Department of Public Works
<b>SUBJECT:</b>	Drainage Study for:	<b>COPIES TO:</b>
<b>Summerlin West Village 27 – Debris Basin and Outlet (Western boundary of V27, Portion of Parcel COS-1)</b>		Atkins
<b>Cross Streets:</b>	V27 Sunset Run Dr. & V22 Lake Mead Blvd.	Howard Hughes Company, LLC
<b>File Number:</b>	F:\Depot\DSMemos\DS5576C.doc	Bart Anderson, P.E., DevCo
<b>Parcel Number:</b>	Portion of 137-15-401-003	CCRFCD
<b>Zoning Action:</b>	N/A	
<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	5/26/2022	6/24/2022	See Comments Below	\$400.00	4805619: \$400
2 <sup>nd</sup> Submittal & Supplemental	11/28/2022, 2/2/2023, 4/10/2023 & 8/16/2023	1/18/2023, 2/2/2023, 5/18/2023 & 9/22/2023	See Comments Below	\$400.00	5051498: \$400
3 <sup>rd</sup> Submittal	6/5/2024	7/2/2024	See Comments Below	\$400.00	5796981: \$400
<b>TOTAL FEES (LDDRS):</b>				<b>\$1,200.00</b>	----

**REMARKS:** The proposed update is acceptable in concept, but comments from CCRFCD must be addressed and approved by the City prior to issuing conditional approval.

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.

The following Summerlin West Master Drainage facilities that shall be substantially complete prior to the Permitting of Homes within the shadow of protection of these proposed facilities: Construction of the Village 27 Debris Basin:

- Summerlin West Village 31 Detention Basin
- Summerlin West Village 27 Debris Basin and Outlet
- Summerlin West Village 27, Parcel E Boundary Channel

**Flood Control requests an interim review meeting with updated progress plans prior to the submittal of the Improvement Plan package to the Building and Safety Division – Land Development. This interim review is due to the complex nature of this project and to assist in streamlining the review and approval process.**

Flood Control understands that the following parameters are proposed for the V27 Debris Basin:

Debris Basin 100-year Water Surface Elevation (WSE) = 3773.77

Debris Basin 100-year WSE with included 11.1 AF of Sediment/Debris Storage = 3779.0

Debris Basin Spillway Elevation = 3781.0

Debris Basin provides 2-foot Freeboard when accounting for Sediment/Debris during 100-year event.

Debris Basin Spillway Weir calculations are based upon a 60-foot width at an elevation of 3781.0. The included concrete access road that serves as the spillway provides for a longer spillway width than the minimum required per the calculations.

Debris Basin Embankment Elevation = 3783.5

Debris Basin Outlet Invert Elevation = 3767.0

Debris Basin Outfall is comprised of four - 12' x 6' RCB's

Any changes to the above Debris Basin design parameters shall require a Drainage Study Update.

1. The Debris Basin outfall includes 4 - 12'x6' RCB's with associated outlet protection for the interim condition. Flood Control understands that the downstream facility will be a separate submittal and that these debris basin improvements are a "stand alone" facility. The interim improvements include maintenance access with a concrete apron and grouted rip-rap to reduce the flow velocity. The proposed interim outlet discharge facility will be the maintenance responsibility of the Developer.
2. This proposed Debris Basin is adjacent to the Red Rock Canyon National Conservation Area (RRCA), a critical area of no disturbance. No grading impacts are allowed within the RRCA and an appropriate buffer has been identified on the plans. Previous projects have utilized a minimum 10-foot buffer. Typically, block and cable fencing has been provided to secure the regional facilities next to the RRCA. Provide Details and show a maximum 5-foot spacing between blocks. See attached marked-up Overall Site Plan.
3. The provided Construction Phasing Plan Exhibit, Figure 1-3, clearly identifies the facility construction sequence needed prior to downstream Parcel/Pod development.
4. Flood Control takes no exception to the Debris Basin design that includes 11.1 acre feet of storage that accounts for sediment and debris during the 100-year event. The WSE with sediment storage is 3779.0, and provides 2-foot of freeboard to the spillway elevation of 3781.0.
5. Flood Control understands that the intent of Howard Hughes Company is to construct *Summerlin West Village 27 Debris Basin* with the associated collection facilities, to update the CCRFCD Master Plan facilities and then dedicate them to the City of Las Vegas upon completion. *Summerlin West Village 27 Debris Basin* shall be dedicated to the City as *Flood Control Right-of-Way*. The provided Overall Site Plan dated August 14, 2023 shows the area of the dedication and is of the sufficient size to meet the public operational needs. The dedication needs to include the entire impact area of the construction as well as incorporate access and maintenance activities for this debris basin to function as intended. The maintenance activities include staging for equipment and a temporary storage area for debris removal.

6. Provide complete structural details for the concrete embankment inletting structure including cutoff walls.
7. Maintenance access shall be provided to all facilities including access to the top of the inletting structure concrete embankment and the toe of embankment. Maintenance access roads are limited to a 10% maximum slope.
8. The Debris Basin outfall of 4 - 12'x6' RCB's shows a velocity above 25 fps. The plans provide 6,000-psi concrete with 2" sacrificial concrete. A Special Construction Note has been added to the Plan and Profile Sheet that calls out the special construction requirement for the additional sacrificial concrete.
9. Provide complete details and cross sections of the sediment wall at the outlet structure. Provide concrete apron at the entrances to the outlet structure and include proposed minimum access dimensions. Provide structural details.
10. Provide complete details for the outlet structure. Include an enlarged scale drawing of the outlet structure and sediment berm as part of the grading plans.
11. The cross sections shows the access road acting as a spillway. Provide design analysis for the spillway and show limits of spillway and downstream protection of embankment as necessary.
12. Provide plan and profiles of all maintenance access roads.
13. Flood Control understands that the proposed *Summerlin West Village 27 Debris Basin* does not require approval by the State of Nevada, Division of Water Resources Dam Safety (DWR) based upon a meeting with DWR on August 17, 2022.
14. **This drainage study is acceptable in concept;** however, *City of Las Vegas* will not formally accept the study until the *Clark County Regional Flood Control District (CCRFCD)* has issued a letter of concurrence. The engineer should address the CCRFCD comments issued on March 7<sup>th</sup> in the RFCN No. 24-14538 review.
15. Provide complete *Plans and Project Specifications* for approval by the *City of Las Vegas*. The Structural Plans and Details shall be a part of the Civil Improvement Plan set. This project is considered as a *Capital Improvement Project (CIP)* with developer funding.
16. Structural plans for the proposed storm drain improvements and pertinent flood control facilities must be submitted for review. Provide soils report, structural calculations, specifications, structural plans, and a grading plan to the Building Department for processing. Coordinate the submittal requirements with the Building Department. The engineer must provide a copy of Building Department approval of the structures to Flood Control prior to final acceptance of the drainage study.
17. All proposed improvements associated with *Summerlin West Village 27 Debris Basin* shall be bonded and inspected. This project, as an MPU facility, shall require that the inspection personnel be approved by the City. This project shall require Special Inspection. Coordinate the requirements of and the Agreements needed for Special Inspection with the Building Department.
18. Prior to the release of the Improvement Bonds, 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 Maintenance Bond shall be submitted for approved by Flood Control. The maintenance bond will be released upon acceptance of the improvements as a regional facility by the City.
19. Once this drainage study is approved, provide a legal description and exhibit for the easement dedication of the debris basin and collection facilities. This easement shall be recorded and would be subsequently replaced with the dedication of the facilities *as Flood Control Right-of-Way*. Coordinate the easement submittal with Flood Control. The easement shall record prior to issuance of the permits for the construction of the debris basin.

20. Prior to the adoption of the debris basin as a regional facility by the *City of Las Vegas*, City Council and the final inspection and acceptance by the *City of Las Vegas Public Works Department*, the proposed *Summerlin West Village 27 Debris Basin* shall remain a private facility owned and maintained by the master developer.
21. Provide the legal description with an exhibit of the proposed debris basin to City Right-of-Way Section for the dedication as *Flood Control Right-of-Way* to the City of Las Vegas after final acceptance of the debris basin by the City Public Works Department.
22. Access roads shown for City use shall be dedicated access easements. The easements shall be dedicated prior to acceptance of facilities by the City.
23. This proposed Regional Debris Basin shall be secured. Show the proposed Control of Access measures for the debris basin per the Manual requirements. Provide a section and details of the fencing and access gates. The gates have been shown as chain link fencing while other fencing is block & chain or wrought iron. Coordinate the desired fencing type with HHC.
24. Continue to the coordinate of monitoring station details and requirements with Regional Flood. Provide detailed grading for the monitoring station and include the monitoring station details & required fencing to secure the monitoring station as a part of the improvement plans.
25. Show the limits of the "Flood Control ROW" on all Grading Plans
26. Install a gate or control of access at the entrance of all access roads.
27. Add 6" PVC pipes within the basin for all low flow drainage.
28. Show the 100-year Q of each proposed storm drain on Plan & Profile Sheets.
29. Construction notes 3 and 19 are both referring to Detail D of Sheet 32. Review and revise accordingly.
30. **Sheet 6:** Provide lot numbers on Parcel E.
31. **Sheet 8:** Revise the call outs at the northern rip-rap to show the EG elevation. The call outs currently read "EG=???"
32. **Sheet 11 & 32, J/32:** Provide fall protection along the concrete pavement.
33. **Sheet 16:** Show the concrete pavement in at the end of the outfall pipe in profile view.
34. **Sheet 32 Section D/32:** The total width from the edge of the retaining wall to the edge of the sediment wall should be 28' as shown in the grading plan.

**\*\*\* 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**  
OSK/PBJ/TJK/JRT

T/R/S: T21S/R59E/15  
AREA K-15