

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM			DATE: February 9, 2023
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:
	Summerlin Village 27 Parcel M Custom Lots Phase 1 & 2		GCW Engineering
Cross Streets:	NEC of Lake Mead Blvd. & Salt Springs Trail		Howard Hughes Company
File Number:	F:\Depot\DSMemos\DS5644A.doc		Bart Anderson, DevCo
Parcel Number:	137-21-510-001		CCRFCFCD
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	1/19/2023	2/8/2023	See Comments Below	\$400.00	5108859: \$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 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 subject project is based on the premise that a *Clark County* regional facility "GOL3" being constructed for flood protection. The subject drainage study will not be finally approved prior to at a minimum the posting of the construction bonds for the "*Summerlin West Village 27 Parcel M & E Drainage Improvement*" project.
3. The site is adjacent to or crosses an existing or proposed Clark County Regional Flood Control District (CCRFCFCD) master planned facility. Therefore, CCRFCFCD concurrence is required prior to final approval of the drainage study.

Please note that effective March 15, 2019, the CCRFCFCD adopted new requirements for drainage study concurrence submittal. Follow the link below for specific guidance.

<http://gustfront.ccrfcd.org/LandDev/LandDev.aspx>

4. **Standard Form 1:** Revise the APN number to 137-21-510-001. Revise the "Section" to **21**, "Township" to **20S** and the "Range" to **59E**. Provide better quality control in the future submittals.
5. **Sheet MG:** Provide a cross section for the interim condition swale (along Lots 56 to 60 in Phase 2) and show how the flow is intended to be collected at the 2 sump inlets (SDDI #3 and #9). The flow appears to be collected in a graded swale along the parcels and then overtop the sidewalk curb and gutter to enter the proposed roadway.
Extend and add sump inlet at the end of the interim swale at Lot 60 to better capture the flow.
6. **Interim/Developed/Ultimate Condition Exhibit:** Section 5, ST1F, the *Interim Condition 100-year Hydraulic Summary Table* shows a slope of 3.0%, but the calculations provided are for a 4% slope. Review and revise accordingly.
7. **Interim/Developed/Ultimate Condition Exhibit:** SDDI#6 shows that 16 cfs is collected in the Drop Inlet Summary, but the calculations provided are for 17 cfs.
8. **Developed Condition Exhibit:** SDDI#20 shows that 9 cfs is collected with 6 cfs of bypass, but the calculations show that 11 cfs is collected with 7 cfs of bypass.
9. **Developed Condition Exhibit:** SDDI#21 shows that 11 cfs is collected with 7 cfs of bypass, but the calculations show that 9 cfs is collected with 6 cfs of bypass.
10. **Ultimate Condition Exhibit:** The concentration point summary shows that UCP3 has a 10-year flow of 26 cfs, but the HEC-1 provided shows that the 10-year flow is 46 cfs.
11. Per **Figure 8** and **Figure 9**, a number of drop inlets are in sump condition. Address in the next submittal for each proposed sump inlet whether there is any emergency overflow path is provided in case of a worst scenario that the inlet is totally clogged. Note that the maximum allowed ponding in the streets is 1'.
12. The referenced *Summerlin West Village 27 Parcel M Mass Grading Study* and project proposed a debris basin in the vicinity of the southeast corner of Parcel M. However, the subject grading plans do not reflect such facility. Address in the next submittal.
13. **Sheet GD1:** The onsite lots are lower than the adjacent street grades. The first block wall must be 8"-CMU thickness and to be solid grouted to three courses above the adjacent street grade. Revise all pertinent detail sections such as **5/DT2**. Review all pertinent details sections with the same situation and revise as such in the next submittal.
14. **Sheet GD1:** A 1'-high berm is proposed in front of Lot 5 and Lot 8. With the berm in front of the lot, it is not understood where the driveway entrance is? Review all pertinent lots with the same berm design and remove the berm accordingly.
15. **Sheet GD2:** The proposed utility easement between *Street C* and *Twilight Run Drive* must be also dedicated as a *Public Drainage Easement to be Privately Maintained by the HOA*.
16. **Sheet PP15:**
 - Provide a connection detail between the new and the existing 54"-RCP pipes.
 - It appears that the proposed SDDI #1 (60"x60" Jensen Precast) is provided to collect local flows in the vicinity. However, in the profile, the top of the inlet is exposed out of the proposed surface. Review and revise accordingly.
17. **Sheet PP16:** It is not understood why PP15 and PP16 showed the same location but with different grading and profile design. Clarify in the next submittal.

18. Apply the same above comments #13 to #15 to **Phase 2** Improvement plans and address accordingly.
19. **Phase 2 Sheet GD3:** The portions of the storm drains between existing SDMH #12 and SDMH #110 appear to be too close to the adjacent curb. Provide and label a minimum of 3'-clearance between the lip of curb and the edge of the storm drain pipe in the next submittal.
20. **Phase 2 Sheet GD3:** The 30'-Utility Easement between Lot 53 and Lot 54 must also be dedicated as a public drainage easement to be privately maintained by the HOA.
21. **Phase 2 Sheet GD6:** The 50'-Utility Easement between Lot 74 and Lot 75 must also be dedicated as a public drainage easement to be privately maintained by the HOA.
22. 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.
23. All storm drain 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. SDMH#18, SDMH#3, SDMH#4, SDMH#5, SDMH#2, SDMH#1
24. Minimum allowable spacing between inlets is 600', the proposed inlet spacing shown does not meet this requirement, for example between the offsite inlets on the western side of the development and SDDI#20 and SDDI#21 is approximately 1300'.
25. 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.
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. The following finish floors do not meet the Regional Flood Control District minimum criteria of twice the Q_{100} depth of flow up to 18-inches above the water surface (CCRFCD Manual Section 304.4.E.1) or 6-inch minimum above the highest adjacent top of curb (CCRFCD Manual Section 1602 304.4.E.1). The following finish floors should be revised or alternate flood protection provided.

PHASE 1 (If BERM is not acceptable)

LOT	FF shown	Min FF
1	65.50	72.51
5	59.00	63.37
44	71.00	73.93
23	63.50	67.07
28	50.50	54.49

PHASE 2 (If BERM is not acceptable)

LOT	FF shown	Min FF
58	31.10	33.46
80	99.00	100.38
81	92.00	93.28
69	41.00	42.73

71	20.00	22.99
73	93.00	94.94
75	88.00	88.05 (regardless of berms)
76	97.00	104.90

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/AYS

T/R/S: T20S/R59E/21
AREA K-21