

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM			DATE: 12/11/2021		
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:	
		Thrive Townhomes		Blue Diamond Civil Engineering	
Cross Streets:		Shaumber Road and Hammer Lane		Ann Road I-215 Interchange LLC	
File Number:		F:\Depot\DSMemos\DS05527A.doc		Bart Anderson, P.E., DevCo	
Parcel Number:		126-36-101-008			
Zoning Action:					
FEMA Flood Zone		YES	NO	X	
Proposed Storm Drain		YES	NO	X	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	12/02/2021	12/11/2021	See Comments Below	\$400	496382: \$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.

The following are comments pertaining to the subject site specific drainage study and grading plans:

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. **A review of the grading plan shows an elevation difference of approximately 6-feet of cut/fill adjacent to undeveloped properties.** 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.
3. The site is also adjacent to the Clark County. The engineer must coordinate with *Clark County Public Works Department (CCPW)* and incorporate any concerns for boundary conditions along the northern border. CCPW concurrence is required prior to final acceptance of the study.
4. 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.

5. 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. The minimum width for a public drainage easement is 10' if the 100-year flow is less than 20 CFS.
6. *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*.
7. The *City Council* of the *City of Las Vegas* adopted an amendment to Title 20 of the Municipal Code in which Section 20.10.030 requires all public drainage easements to be concrete lined. Revise the grading plan and *Detail Section G/DT1* and all pertinent plans and construction notes accordingly.
8. Provide "City of Las Vegas Minimum Drainage Study Criteria Standard Form 2 Checklist Supplement".
9. Show the sub-basin delineations on the Basin Map Figures 10 and 11 used to estimate the flows for the street hydraulic cross sections, and inlet calculations.
10. Provide inlet calculations for the 4" area drains to determine ponding depth at these area's to adequately determine finished floor elevations.
11. Unclear what the hydraulic calculation "Worksheet for 4' Rectangular Channel" represents. The channels proposed on the grading plans are 3.3' and 5'. Clearly indentify the cross-section in the FlowMaster cross-sections and in the basin maps.
12. Clarify how 12 cfs was determined to be contained in the "Eastern Channel Flowing South" in the hydraulic sections. Additionally, clarify how 45 cfs was determined for "Eastern Channel Flowing North." Add additional cross-sections in the basin maps.
13. The Worksheet for NW Easement is calculated for 3.00 cfs however per the basin maps this should convey CU1 which is 18 cfs. Clarify. Provide additional cross-sections in the basin map.
14. Confirm the existing 36" storm drain system that the site is outletting into (per the Epic Storage at Ann Rd Study) is currently constructed or will be constructed prior to construction of this site.
15. Provide a 6" hump at the site entrance from the cross-gutter flowline elevation to the highpoint.
16. Provide station equation for the WSPG analysis. Also, WSPG is missing segment from inlet headwall to the first drop inlet. Provide missing WSPG analysis.
17. Provide Headwall inlet calculation.
18. Provide minimum of 20-ft wide "Public Drainage Easement to be privately maintained by HOA" for the proposed 24-inch storm drain. Also, label HDPE in the profile sheet and grading plan as "Private".
19. Provide maintenance access to the upstream and downstream ends of the proposed 24-inch storm drain. Provide maintenance access to the proposed easement at the northwest corner of proposed project site. Provide maintenance access for the 10-ft drainage easement along INTOF2.
20. Provide a minimum of 10-ft wide "Public Drainage Easement to be privately maintained by HOA" for the drainage easement along the basin INTOF2.
21. Concrete channels along the west and east of the site need to be solid concrete U-channels, the CMU walls are not adequate channel walls.
22. Label Public Drainage Easement in Sections E, F, G, and K on Sheet DT1.
23. **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

T/R/S: T19S/R59E/S36
AREA F-36