

CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		December 21, 2022
TO: Land Development Services Department of Community Development - Building & Safety Division		FROM: Peter Jackson, CFM Senior Engineering Associate Department of Public Works
SUBJECT:	Drainage Study for:	COPIES TO:
Skye Canyon Parcel 5.06 Phase 1 & Mass Grade		Westwood Professional Services
Cross Streets:	SWC of Sheep Mountain Pkwy & Iron Mountain Rd	Century Communities of Nevada, LLC
File Number:	F:\Depot\DSMemos\DS05623A.doc	CCRFCD
Parcel Number:	126-12-101-004	
Zoning Action:	22-0412-TMP1	
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	11/14/2022		See Comments Below	\$400	5036431: \$400
TOTAL FEES (LDDRS):				\$400	----

REMARKS: 1st Submittal shows partial improvements for Phase 1 with additional Mass Grading proposed for the site.

Per 22-0412-TMP1: No permits shall be issued for this site and no Final Maps for this site shall record until all remaining Master Developer Infrastructure identified in the Skye Canyon Development Agreement is constructed or guaranteed to the satisfaction of the Director of Public Works.

No Mass Grading Permit is allowed on this site. Permit Hold is requested.

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. No permits shall be issued for this site and no Final Maps for this site shall record until all remaining Master Developer infrastructure identified in the Skye Canyon Development Agreement is constructed or guaranteed to the satisfaction of the Director of Public Works.
2. Update #5 to DS4813 (Skye Canyon Detention Basin #2) sets the parameters for the required Buffer between the Existing Detention Basins (DB #1 & DB #2) and Parcel 5.06. This Drainage Study needs to incorporate the required Buffer with any development of Parcel 5.06. The Grading and Improvement Requirements for Parcel 5.06 shall include the construction of the 25-foot Buffer as shown on Sheet TY-1 of Update #5 to DS4813. These modifications are required to be constructed adjacent to both Detention Basins with any development of Parcel 5.06. Update the

Plans and the Report to reflect these required improvements. Provide sufficient sections and details. A copy of TY-1 is attached to this Memo.

3. Update the Drainage Study Hydrology to reflect the higher CN Values per the Drainage Manual – Section 600, Table 603 and 602A - Note #3. The Cluster and Townhomes need a minimum CN value of 95 based upon the high impervious area. The CN values need to be higher than the individual residential lots. Justify the CN value that you want to use for the Cluster and Townhomes. The required Buffer area with slope impacts shown on TY-1 needs to show the newly graded CN value of 94.
4. Update the comparison to the Master Drainage Study and discuss any impacts to the overall flow rate from Parcel 5.06. Discuss any changes in the sub-basin areas as compared to Basins WL1A and WL1B in the Master Study. Any changes that increase the flows from the Master Study will require an Update to the Master Drainage Study to verify that there are no downstream impacts.
5. Drainage Study Exhibits need some QC. Exhibit E & F (11 x 17 in the report) show comments for correction. Remove North Las Vegas reference. Review and revise accordingly.
6. Adjust the basin area of Basin ON3 or include a separate basin to account for the southernmost area of the project site, east of the Detention Basin #1 and west of Sheep Mountain Parkway. The comparison of basins should include the entire area of referenced Master Study Basin WL1B for comparison purposes.
7. The nomographs and WSPG models do not match the improvement plans in RCP sizes, inverts, or flow. Show the proposed HGLs on the storm drain profiles. Review and revise accordingly based upon the revised flow calculations.
8. Provide an Exhibit that shows the limits of ponding at SDDI #1 & #2. Show the proposed overflow path and identify any impacts. All adjacent Finish Floor Elevations shall be a minimum of 18-inches above the ponding depth or overflow path, whichever is greater.
9. Provide an Exhibit that shows the limits of ponding at SDDI #3 & #4. Provide additional storm drain and inlets to reduce the maximum length to 20-feet. Show the proposed overflow path and identify any impacts. All adjacent Finish Floor Elevations shall be a minimum of 18-inches above the ponding depth or overflow path, whichever is greater
10. 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.
11. The site is adjacent to or crosses an existing or proposed Clark County Regional Flood Control District (CCRFCD) master planned facility. Therefore, CCRFCD concurrence is required prior to final approval of the drainage study.

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

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

Please note that effective April 6, 2020, only electronic submittals to the CCRFCD will be accepted for regional concurrence. Contact cwang@regionalflood.org for direction.

When it's applicable, structural calculations of facilities must be approved by the City prior to submittal to the Clark County Regional Flood Control District for their review and concurrence.

12. Grading Plans indicate that a stockpile is being built in the northwest portion of the project site. Stockpiles require a separate submittal to establish it will meet all requirements of the stockpile permit process. Coordinate the Stockpile Permit process with Land Development. This can be included as a part of this Drainage Study as long as all Stockpile requirements are met and specifically discussed in the Drainage Study. Provide plans and sections detailing the size, height, BMP's etc. with the next submittal.

13. **No Mass Grading Permits are Approved until Condition #1 is satisfied.** Coordinate the mass grading requirements with Land Development and identify any required BMP's for the site. Update the overall phasing plan (Exhibit A2) for the development of Parcel 5.06 and incorporate the required bench improvements identified in Comment # 2 with the Phase 1 Plans. The Mass Grading also requires the permanent fencing adjacent to the detention basins. Provide updated Grading Plans reflecting these improvements.
14. The drainage discharge points of the Buffer areas and the associated slopes needs to be clearly shown on the Grading Plans. Review and revise the drainage plans accordingly.
15. Sites with a grade difference of 2 feet above or below existing are required to have approval from the Department of Community Development, Planning Division. The engineer must submit copies of the grading plans and detail sheet with a letter justifying the grade difference to the Planning Division (229-6301). The engineer must provide Planning Division approval with the next submittal.
16. This study addresses the development of Phase 1 and shows Mass Grading. A separate study is required to address the full development of future phases.
17. The study assumes the storm drain infrastructure proposed by the Technical Drainage Study for Iron Mountain is in place. Substantial completion of the Iron Mountain infrastructure facilities is required prior to approval of the improvement plans for this study.
18. Need construction detail for SDDI 3 and SDDI 4, heights are greater than 10-ft. All storm drain inlets that are more than 10'-deep require a special structural detail and calculations. Submit structural design and calculations to Building & Safety Division for review and approval prior to the final approval of the drainage study.
19. **Exhibit F, Ultimate Conditions Map:** Phase 1 delineation at Prinell Brook and Royal Meridian is not enclosed and therefore unclear. Widen the phase lines to show past the basin boundaries.
20. **Sheet G-3:** The sidewalk on the east side of the four-plex is meant to provide access to the front of the house, however, there is no noted access to the sidewalk. Label the grades for the sidewalk and provide access to the sidewalk.
21. **Sheet G-4:** The maximum length of a single drop inlet is limited to 20' for conveyance efficiency. Split the proposed 27.5'-D.I.s into two inlets with a minimum clearance between inlets spacing of 20'.
22. **Sheet D-1, Sections J, K, & L:** Show the existing ground in the sections so we may get a clearer picture of how the landscape is changing.
23. **Sheet D-3, Sections 26 & 27:** Flow goes toward the finished floor not toward the flowline. Since the intention of the lot flowline is to direct flow away from the finished floor it should be the lowest point in the lot. Review and revise accordingly.
24. It appears that the driveway can only be 5'-deep versus the standard 20' in respect of the short lot lengths (57' typical). Provide a typical lot layout showing the building footprint and the driveway length and location. Specific comments will be made when such detail becomes available in the next submittal.
25. The flow in Vanhoy Creek Street (Sections 1-1, 1-2, 3-1, 3-2, and 3-3), is above the back of sidewalk and is erosive. Provide erosion protection for the landscape area in the form of a stem wall, riprap, or approved alternate as required in the Regional Flood Control District Manual in Section 904.3. Revise the grading plan and sections accordingly.
26. Provide additional details on the material PBS used for the extension of the trail and the trail itself.
27. Label and show existing in-place improvements like the solid grouted rip-rap and concrete pads at the inlets, the existing access road for the detention basin (Sheet G-9), the monitoring station (Sheet G-9), and the existing access gate and block and chain fencing (Sheet G-22). Indicate what is being removed and replaced with these improvements.
28. It is unclear how flow is conveyed between private properties via the proposed "*Private Drainage Easement*" shown along the backside of the proposed townhomes. These Easements must be

"Public Drainage Easements to be Privately Maintained". Provide a detailed grading plan detail of the townhomes and how they are draining. Include details for each of the building types & sizes 3-plex and 4-plex. Also size the swale or other proposed facilities and provide the appropriate freeboard, for finished floors, above the flow depth. The reduced size of the drainage easements needs to be discussed, as these are non-standard sizes.

29. 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. Label Section 9/D-2 and 17/D-2 as a public drainage easement. All public drainage easements shall be constructed per CCAUSD 425.S1. Label as such on the Grading Plans and include easement dimensions.
30. **The following comments refer to the improvement plans in their entirety:**
- a. Label the proposed finished grade and top-of-wall for the retaining wall and the screen wall along the east end of the project site.
 - b. Correct and add missing line types to the Legend or correct the displayed line types to right type. The boundary between the detention basin and the project site is not a wrought iron fence but a block and chain fence and the guard rail east of Sheep Mountain Parkway is not labeled in the Legend.
 - c. Provide a section at the boundary of the detention basin and the project site detailing the required bench improvements per TY-1. Identify where the block and chain that secures the Detention Basins is being relocating to. The permanent fencing adjacent to the Detention Basins needs to be shown on the Grading Plans with the block and chain fencing to remain within the Detention Basins.
 - d. Label and display the sawcut that will be made when expanding the trail.
 - e. Label the L-curb present for the drop inlets and the transitions to L-curb.
 - f. Update Storm Drain Construction Note SD5 to note which detail and sheet.

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/CAA/PBJ

T/R/S: T19S/R59E/S12
AREA F-02