

CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		April 1, 2022
TO: Land Development Services Department of Building & Safety		FROM: Oh-Sang Kwon, P.E. Flood Control, Project Manager Department of Public Works <i>for</i>
SUBJECT:	Drainage Study for:	COPIES TO:
	Conceptual Drainage Study – Kyle Canyon Gateway	Westwood PS
Cross Streets:	Alpine Ridge Way & Kyle Canyon Road	Tri Pointe Homes
File Number:	F:\Depot\DSMemos\DS5414F.doc	Bart Anderson, P.E., DevCo
Parcel Number:	Various, 12601601..., 12601501..., etc.	CCRFCD
Zoning Action:	N/A	
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	1/20/2021	2/2/2021	See Comments Below	\$400.00	4138484: \$400
2 nd Submittal	2/24/2021	3/4/2021	Conditionally Approved	\$400.00	4179382: \$400
3 rd Submittal	9/27/2021	10/19/2021	Conditionally Approved	\$100.00	4466210: \$100
4 th Submittal	10/19/2021	11/18/2021 & 12/9/2021	Not Approved	\$100.00	4501147: \$100
5 th Submittal	12/22/2021	12/29/2021	Conditionally Approved	\$400.00	4581759: \$400
6 th Submittal	3/8/2022	3/31/2022	Not Approved	\$100.00	4680518: \$100
TOTAL FEES (LDDRS):				\$1400.00	----

REMARKS: The Conceptual Drainage Study sets the parameters for the detailed Technical Drainage Study for the proposed Local Facilities and modifications to the MPU Basins and Facilities identified in the 2018 MPU in the Kyle Canyon area.

6th Submittal: Update #3 to expand analysis for Future Kyle Canyon Gateway (KCG) Unit 4 and minor adjustments to overall Flows.

4th & 5th Submittal: Update #2 and Addendum to expand the areas of analysis to include Kyle Canyon Gateway Unit 2 (Rocky Ave to the South, Trials End Ave to the North, and 340-feet to the east and west of Michelli Crest Way and adjust Interim Condition flow routing.

3rd Submittal: Update #1, Conceptual analysis of storm drain system in Alpine Ridge Way instead of drainage easement channel along Michelli Crest Way.

The Conceptual Drainage Study for the subject project has been reviewed and:

	is Conditionally 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.

Comments 1 – 5 shall be addressed for the Conceptual Drainage Study Update #3 approval:

1. **Exhibit F – Proposed Condition and Exhibit G – Ultimate Condition:** The Proposed Condition for Unit 3 (ON3C) has a 100-year flow of 47 cfs. The Ultimate Condition for Unit 3 (A2 and B2) has a combined flow of 22 cfs based upon the prorated flows. The Proposed Condition for Unit 4 (ON3A and ON3B) has a 100-year flow of 24 cfs. The Ultimate Condition for Unit 4 (C2a and C2b) has a combined flow of 10 cfs based upon the prorated flows. It is apparent that the proposed developments have a higher density than what was developed with the 2018 MPU. This discrepancy in the developed CN values needs to be addressed so that the facility along the Michelli Crest alignment is sized to convey the 100-year flow in the Ultimate Condition to the north and continues to meet the Intent of the 2018 MPU. Update the facility sizes of the “U” facilities on Exhibit G accordingly.
2. The Conceptual Drainage Study Update #3 shall discuss the Updated Exhibits F & G and include the updated Ultimate KCG Units 2, 3, and 4 flow impacts to the Ultimate “U” facilities.
3. **Exhibit F – Proposed Condition:** Update the Exhibit to include the KCG Unit 4 storm drain extension from the proposed Kyle Canyon Gateway East facility near Rocky Ave. and McKinister Rd. to the west side of the proposed Unit 4 improvements.
4. The Conceptual Drainage Study Update #3 shall discuss the extension of the Proposed Storm Drain from the west side of Unit 4 to the 60” RCP proposed with Kyle Canyon Gateway East.
5. Update the Phasing Plan for the Proposed Condition facilities necessary for each Unit as part of Exhibit F. The impacted area of Future Unit #4 needs to include both Concept and Future (Ultimate) facilities.
6. The Conceptual Study identifies changes to the adopted 2018 MPU. ***The proposed changes do not require that the City and Clark County Regional Flood Control District (CCRFCD) approve an Amendment to the Master Plan at this time.*** If an Amendment to the Master Plan is deemed necessary, coordinate the requirements of the Master Plan Amendment with the City and Regional Flood prior to submittal. The Master Plan Amendment shall be approved prior to construction of these facilities to assure compliance with the intent of the Master Plan.
7. The conceptual study proposes Local facility extensions to the *Clark County Regional Flood Control District (CCRFCD)* Master Planned facilities. The conceptual interim and conceptual ultimate facilities needed for this development needs to be included as a part of this study. Therefore, CCRFCD concurrence is required prior to final approval of the technical drainage study.
8. The approval of this *Conceptual Drainage Study* is limited to the scope of the hydrologic aspects such as the conceptual local collection facilities needed to convey the interim flows and how the development will meet the intent of the MPU Basin routing identified in the 2018 MPU. Hydraulic analysis at the conceptual stage is preliminary and requires the future technical drainage study to support the final design of the proposed facilities. A detailed hydraulic analysis shall be included to verify the proposed facilities provide the capacity to capture and carry the design flows as stated in the study. A Phasing Plan shall be provided with each of the technical studies to identify what facilities are necessary for the development to move forward.
9. Development of Unit #3, west of the Michelli Crest alignment, does not change the intent of the MPU boundary. The flows intercepted and routed by the proposed Alpine Way drainage facility and the developed flows from Unit #3 will be conveyed to the Ruston Road & Michelli Crest intersection. The Ultimate Condition facility will convey the flows north as shown on Exhibit G.
10. Development of the portion of proposed Unit #4, west of the Michelli Crest alignment, does not change the intent of the MPU boundary. The flows intercepted and routed by the proposed Alpine Way drainage facility and the developed flows from the portion of Unit #4 will be conveyed to the Michelli Crest alignment. The Ultimate Condition facility will convey the flows north as shown on Exhibit G. Verify the required facility sizes going north of Ruston Rd.

The following comments pertaining to the conceptual drainage study and are provided to assist with the future Technical Drainage Study:

11. The Technical Drainage Studies for KCG Units 2, 3 and 4 shall include the Future Ultimate Storm Drain Facility within the Michelli Crest alignment, from Ruston Road north to Trails End Ave.
12. The concept Storm Drain in KCG Unit 4 identifies high velocity flows that need to be addressed with the Technical Drainage Study.
13. The TDS for each the Proposed Units shall include a Phasing Plan for the Proposed Condition facilities necessary for each Unit and clearly identify any interim facilities.
14. The TDS for each the Proposed Units shall include a Phasing Plan for the Ultimate Condition facilities necessary for each Unit to meet the intent of the MPU. The construction phasing sequence of the Ultimate facility within the Michelli Crest alignment from Ruston north to Rocky and from Rocky north to Trails End needs to be defined within the Phasing Plans to allow for the complete Ultimate Facility.
15. The TDS shall incorporate the Ultimate Condition Facilities into the proposed Unit Improvement Plans in addition to the required Interim (Proposed Condition) Facilities.
16. Flood Control understands that the 2D Model serves as the basis for the flow split percentages that are applied to the Diversions shown in the HEC-1 analysis.
17. The 2D Model has been extended upstream of the flow split from Basin OFF3. The flow split near the intersection of Kyle Canyon Road and Nicholson Street is about a 50/50 split based upon the 2D Model. Based upon the 2D Model information, this result seems reasonable for the Conceptual Study.
18. The extension of the drainage facilities within the Michelli Crest Way alignment north of Ruston to convey flows north toward the Moccasin MPU facility alignment shall be conveyed in a storm drain system within the Michelli Way improvements.
19. The TDS needs to verify that the existing culverts crossing US95 have the appropriate capacity to convey the flows based upon your presented flow rates. These culvert systems shall be evaluated to show the flows in the culverts and flow splits (if any). What are the impacts of possible flow splits along US 95.
20. A TDS Update for the previously approved Kyle Canyon Gateway Unit 1 is required in order to address the revision to remove the 20-foot drainage easement. The Update must also analyze an interim condition and provide interim flood-protection prior to the construction of the Ultimate Condition facility in Alpine Ridge Way.

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
PBJ/OSK/JKS/PBJ

T/R/S: T19S/R59E/S1
AREA F-1