

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Redpoint Arroyo - Phase 2 Improvemtns (Fox Hill Drive to Desert Foothills) Date: November 2021

Location of Development: a) Descriptive (Cross Streets) North/South: Desert Foothills Drive

East/West: Redpoint Drive

b) Section: 27 Township: 20S Range: 59E

c) APN : 137-27-515-001 & 137-27-510-002

Name of Owner: Howard Hughes Company, LLC

Telephone No.: 702.791.4300 Fax No.: _____ E-Mail Address: chris.anderson@howardhughes.com

Address: 10801 Charleston Blvd. 3rd Floor, Las Vegas, Nevada 89146

Contact Person-Name: Cody Beck, PE Telephone No.: 702.804.2089

* E-Mail Address: cbeck@gcwengineering.com Fax No.: 702.804.2299

Firm: GCW, Inc.

Address: 1555 South Rainbow Boulevard, Las Vegas, NV 89146

Type of Land Development/Land Disturbance Process:

☐	Rezoning	☐	Subdivision Map	☐	Clearing and Grading Only
☐	Parcel Map	☐	Planned Unit Development	☒	Other (Please specify below)
☐	Large Parcel Map	☐	Building Permit	☐	Park Amenities, Walking Pathways

1. Total Owned Land Area: At Site: +/- 8.24 Acres Being Developed/Disturbed: +/- 8.24 Acres

2. Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? ☐ Yes** ☒ No

3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☒ Yes** ☐ No

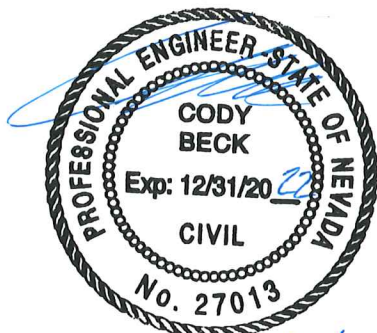
4. Proposed type of development (Residential, Commercial, Etc.): Local Park/Preserved Wash

5. Approximate upstream land area which drains to the subject site: 0-acres due to Fox Hills Cutoff

6. Has the site drainage been evaluated in the past? ☒ YES ☐ NO If yes, please identify documentation: Flood Control Master Plan Update - Summerlin West Planning Area and subsequent Updates.

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Existing 10'x10' RCB at the southeast corner of Desert Foot Hills Drive and Redpoint Drive

8. Briefly describe your proposed schedule for the subject project: The Client intends to construct the project as soon as practical. Any expediting of the process is appreciated.



Engineer's Seal 11/4/21

Submit this form as part of the required drainage study to the local entity which has jurisdiction over the subject property. This form may provide sufficient information to serve as the Conceptual Drainage Study.

***New Required Field**

****Review and concurrence of the Clark County Regional Flood Control District is required.**

Revision	Date

Local Entity File No. _____

REFERENCE:

STANDARD FORM 1

639-660-2

November 4, 2021

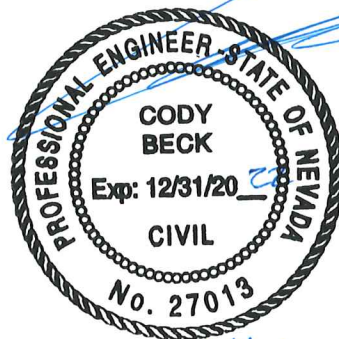
Oh Sang Kwon, P.E.
City of Las Vegas, Public Works
495 South Main Street
Las Vegas, NV 89101

Re: 1st Response to Comments for the Technical Drainage Study for Summerlin Village 21 Arroyo Phase 2

Dear Mr. Kwon,

This letter is to certify that all documents provided with the electronic submittal (CD) match the hard copy submittal of the study.

Cordially,



Cody Beck, P.E.
GCW, Inc.

11/4/21



Subject: 1st Response to City of Las Vegas Comments for the Technical Drainage Study for Redpoint Arroyo - Phase 2 Improvements (Fox Hill Drive to Desert Foothill Drive) (DS5503A)

This report addresses City of Las Vegas (CLV) review comments dated October 7, 2021 included in Appendix A, regarding the project in its entirety.

Comment 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.

Response:

Noted. A copy of the zoning/planning conditions are included in Appendix A.

Comment 2:

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>

Response:

Noted. The study will be submitted to CCRFCD following conditional approval by the City of Las Vegas.

Comment 3:

Standard Form 1 must be stamped and sealed by the engineer.

Response:

The Standard Form 1 was mistakenly not stamped with the previous study. The stamped Standard Form 1 for the Response to Comments has been provided with this submittal.

Comment 4:

Figure 5 (Proposed Condition Drainage Map): Label the name of all surrounding streets on the map.

Response:

The surrounding streets have been labeled on the revised Figure 5 located in Appendix B.

Comment 5:

Sheet GD1: Show the finished surface elevation of the pedestrian bridge and label the minimum clearance between the soffit of the bridge and the bottom of the wash.

Response:

The finished surface elevations of the pedestrian bridge have been shown and the minimum clearance has been shown on the plans.

Comment 6:

Sheet GD3: Section Details D/DT1 and E/DT1 shows crossing material like riprap on the plan but are not reflected in the section. Provide construction note for the riprap and sizing information. Extend D/DT1 and E/DT1 to show clearly all pertinent features in the next submittal.

Response:

Section D/DT1 and E/DT1 have been revised per comment and construction notes added per comment request.

Comment 7:

Provide a note on the grading plans: "All onsite storm drain and the associated facilities are privately owned and to be privately maintained by Summerlin".

Response:

The requested note has been added to the plans.

Comment 8:

Add a note in all pertinent sheets for the construction of all storm drain drop inlets per a newly adopted USDCCA Drawing No. 421 (Stormwater Quality Management Stamp and Sign Detail).

Response:

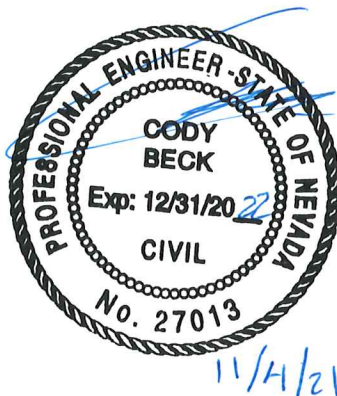
The requested note has been added to the plans.

If you have any questions or require additional information, please do not hesitate to contact GCW at (702) 804-2000.

Respectfully,

GCW, INC.

Cody Beck, P.E.



APPENDIX A

CITY OF LAS VEGAS		DATE:
INTER-OFFICE MEMORANDUM		October 7, 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:
Redpoint Arroyo - Phase 2 Improvements (Fox Hill Drive to Desert Foothill Drive)		GCW Inc.
Cross Streets:	Redpoint Drive & Desert Foothill Drive	Howard Hughes Corporation
File Number:	F:\Depot\DSMemos\DS5503A.doc	Bart Anderson, P.E., DevCo
Parcel Number:	137-27-510-002	CCRFCD
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	9/23/2021	10/7/2021	See Comments Below	\$400.00	4461916: \$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 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>

3. **Standard Form 1** must be stamped and sealed by the engineer.
4. **Figure 5 (Proposed Condition Drainage Map):** Label the name of all surrounding streets on the map.

5. **Sheet GD1:** Show the finished surface elevation of the pedestrian bridge and label the minimum clearance between the soffit of the bridge and the bottom of the wash.
6. **Sheet GD3:** Section Details D/DT1 and E/DT1 shows crossing material like riprap on the plan but are not reflected in the section. Provide construction note for the riprap and sizing information. Extend D/DT1 and E/DT1 to show clearly all pertinent features in the next submittal.
7. Provide a note on the grading plans: "All onsite storm drain and the associated facilities are privately owned and to be privately maintained by Summerlin".
8. Add a note in all pertinent sheets for the construction of all storm drain drop inlets per a newly adopted USDCCA Drawing No. 421 (*Stormwater Quality Management Stamp and Sign Detail*).

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
AYS

T/R/S: T20/R59E/27
AREA K-27



**LAS VEGAS
CITY COUNCIL**

CAROLYN G. GOODMAN
Mayor

MICHELE FIORE
Mayor Pro Tem

STAVROS S. ANTHONY
CEDRIC CREAR
BRIAN KNUDSEN
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SCOTT D. ADAMS
City Manager

DEPARTMENT OF PLANNING

ROBERT SUMMERFIELD
DIRECTOR

**DEVELOPMENT
SERVICES CENTER**

333 N. RANCHO DRIVE
3RD FLOOR
LAS VEGAS, NV 89106
702.229.6301 | VOICE
702.474.7463 | FAX
711 | TTY



cityoflasvegas
lasvegasnevada.gov

May 19, 2020

Mr. Vincent Esposito
Howard Hughes Company, LLC
10845 Griffith Peak Drive
Las Vegas, Nevada 89135

Re: CRG-78649 [PRJ-78644] - CITY REFERRAL GROUP

Dear Mr. Esposito:

The City Referral Group administratively **APPROVED** your request for a for a Summerlin Site Development Plan Review FOR VILLAGE 21 REDPOINT ARROYO PHASE TWO on 9.66 acres at the northeast corner of Redpoint Drive and Fox Hill Drive (APNs 137-22-301-004 and 137-27-510-002), P-C (Planned Community) Zone, Ward 2 (Seaman) [PRJ-78644].

This approval is subject to the following conditions:

Planning

1. This approval shall be void two years from the date of final approval, unless exercised pursuant to the provisions of LVMC Title 19.16. An Extension of Time may be filed for consideration by the City of Las Vegas.
2. All development shall be in conformance with the site plan and landscape plan date stamped 04/07/2020, except as amended by conditions herein.
3. All necessary building permits shall be obtained and final inspections shall be completed in compliance with Title 19 and all codes as required by the Department of Building and Safety.
4. These Conditions of Approval shall be affixed to the cover sheet of any plan set submitted for building permit.

5. A technical landscape plan, signed and sealed by a Registered Architect, Landscape Architect, Residential Designer or Civil Engineer, must be submitted prior to or at the same time application is made for a building permit. A permanent underground sprinkler system is required, and shall be permanently maintained in a satisfactory manner; the landscape plan shall include irrigation specifications. Installed landscaping shall not impede visibility of any traffic control device.
6. A fully operational fire protection system, including fire apparatus roads, fire hydrants and water supply, shall be installed and shall be functioning prior to construction of any combustible structures.
7. All City Code requirements and design standards of all City Departments must be satisfied, except as modified herein.

Public Works

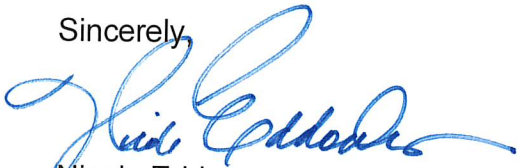
8. Construct a pedestrian ramp on Repoint Drive opposite one of the returns for the driveway for Parcel E of Summerlin Village 25 and provide a sidewalk connection from the path/sidewalk to that ramp.
9. Landscape and maintain all unimproved rights-of-way, if any, adjacent to this site. All landscaping and private improvements installed with this project shall be situated and maintained so as to not create sight visibility obstructions for vehicular traffic at all development access drives and abutting street intersections.
10. An update to the previously approved Drainage Plan and Technical Drainage Study must be submitted to and approved by the Department of Public Works prior to the issuance of any building or grading permits or submittal of any construction drawings, whichever may occur first. Provide and improve all drainageways recommended in the updated drainage plan/study. Alternatively, a Drainage Plan and Technical Drainage Study must be submitted to and approved by the Department of Public Works prior to the issuance of any building or grading permits or submittal of any construction drawings, whichever may occur first. Provide and improve all drainageways recommended in the approved drainage plan/study. The developer of this site shall be responsible to construct such neighborhood or local drainage facility improvements as are recommended by the City of Las Vegas Neighborhood Drainage Studies and approved Drainage Plan/Study concurrent with development of this site.

Mr. Vincent Esposito
Howard Hughes Company, LLC
CRG-78649 [PRJ-78644] – Page Three
May 19, 2020

11. Site development to comply with all applicable conditions of approval for Summerlin Village 21 (TMP-73332), Summerlin Village 25 (TMP-76354), CRG-78277 and all other applicable site-related actions.

This administrative action by the City Referral Group on May 19, 2020 is final unless a written appeal is filed with the Director of the Department of Planning within ten (10) days of the date of the City Referral Group's decision.

Sincerely,



Nicole Eddowes
Senior Planner
Department of Planning
Case Planning Division

NE:clb

cc: Ms. Jennifer Veras
GCW, Inc.
1555 South Rainbow Boulevard
Las Vegas, Nevada 89146

APPENDIX B

Section ID	Tributary Sources	Slope (%)	Q ₁₀₀ (cfs)	Depth (ft)	Velocity (fps)	D*V
Section 1 Min Slope	*V25-COS3	0.50	8	0.30	1.71	0.51
Section 1 Max Slope	*V25-COS3	12.84	8	0.10	4.78	0.48
Section 2 Min Slope	*V25-COS3+ *COS-3	0.50	25	0.70	2.63	1.84
Section 2 Max Slope	*V25-COS3+ *COS-3	11.75	25	0.30	7.52	2.26

LEGEND:

- *M-R5

REFERENCE SUBBASIN ID

XX/XX CFS

10-YR/100-YR SURFACE FLOW

REFERENCE BASIN BOUNDARY (XX/XX CFS)

10-YR/100-YR STORM DRAIN FLOW

*CCOS-1

PRORATED BASIN ID

→

FLOW DIRECTION

PRORATED BASIN BOUNDARY
- NOTE:
- "**" REFERS TO REFERENCE MATERIAL FROM FLOOD CONTROL MASTER PLAN UPDATE FOR SUMMERLIN WEST PLANNING AREA
-
-
- PROJECT NO.

639-660-2

DESIGN:

DRAWN:

CHECK:

PLOT DATE: 11-04-21

DESIGN:

DRAWN:

CHECK:

PLOT TIME: 08:24:14

1555 S. RAINBOW BLVD.

LAS VEGAS, NV 89146

T: 702.804.2000

F: 702.804.2299

gowingengineering.com

GCW

ENGINEERS SURVEYORS

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Cody Black
- HOWARD HUGHES COMPANY, LLC

VILLAGE 21 ARROYO PHASE 2

PROPOSED CONDITION DRAINAGE MAP

DRAWING

FIGURE 5

1 OF 1 SHTS

PW19-
- % COMPLETE
- DATE:
- GCW APP
- DATE
- AGEN APP
- DATE
- DESCRIPTION
- REV
- DATE