

November 13, 2017

Town of Paradise Valley
Planning and Development Department, Hillside Development Committee
6401 East Lincoln Drive
Paradise Valley, AZ 85253

RE: 6837 North Lost Dutchman Drive
APN: 169-32-026

To Whom It May Concern,

This brief statement of the existing and proposed site grading and drainage improvements has been prepared in support of the proposed development at 6837 North Lost Dutchman Drive on behalf of Regal American Homes, LLC. The analysis will demonstrate the site maintains consistency with existing drainage patterns in the area and provides storage, as requested, for storm water run-off generated on-site.

The project site is currently developed with a single-family residence, pool, patio and drive areas consisting of both concrete and decomposed granite. Located at the southerly base of Mummy Mountain the prevailing slope across the lot does exceed 10%. Per the Town's Zoning Ordinance the lot is to be developed as a hillside lot. Two small storm drains are present that allow storm water run-off to cross the driveway in an effort to maintain existing drainage patterns. The proposed development will raze all existing improvements and develop the site with a new custom, single family residence including a negative edge pool, attached guest casita and paver drive. The proposed development will make necessary provisions to convey off-site storm across the project and provide on-site storm water retention for run-off developed on-site.

The project sit is impacted by a relatively small water shed originating at the ridge of Mummy Mountain north of the project site and draining towards the site. A significant portion of the 14 acre, give or take, water shed is intercepted and channelized to the east by the improved Indian Bend Road. Only approximately 6 acres of the drainage area directly impact the site. The anticipated peak run-off impacting the site is 35 cfs. See the attached Off-Site Drainage Map and DDMS data sheets for

additional information regarding the water shed and analysis. Once on-site the storm water will be routed through two 18" corrugate metal culverts with a combined capacity of 44 cfs. The two new culvert replacing the existing single convert crossing the driveway and provide a factor of safety should clogging occur. The discharge point of the new culverts is located at the same point as the existing culvert. An analysis of the storm drain system's capacity is attached for additional information.

The proposed grading will maintain historic drainage patterns and site improvements are designed to mitigate any potential impact to adjacent properties due to storm water run-off. The maximum anticipate water surface elevation in the proximity of the residence is 1434 compared to the proposed finished floor elevation of 1435. I certify the finished floor is sufficiently elevated to be free from inundation during the design storm even.

Should you need any additional information regarding this matter please do not hesitate to contact me directly at (480) 350-9590.

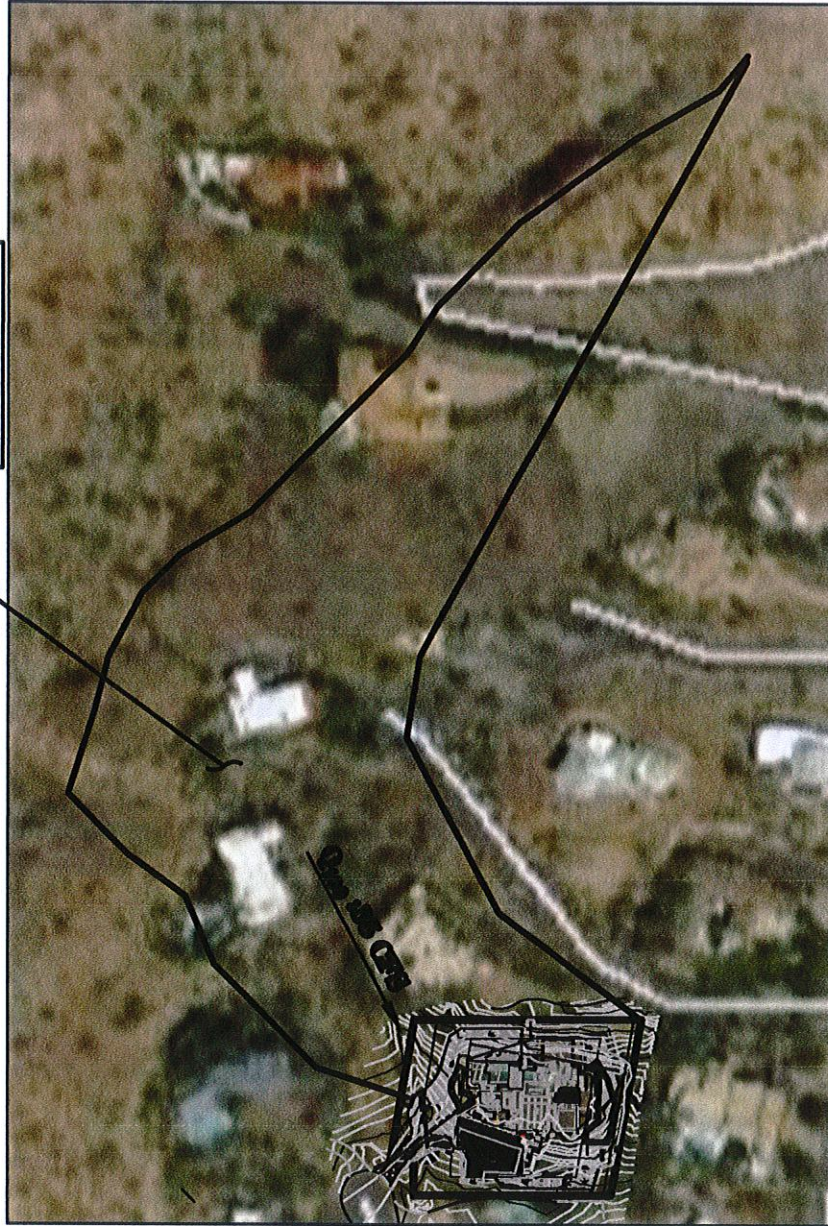
Sincerely,



EXPIRES: 3/31/20
Steven W. Bargeloh, P.E.
Attachments: 3

DRAINAGE AREA 1

SUB-BASIN: 1
AREA: 6.3 ACRES
REACH: 1,244 FT
UPSTREAM GRADE: 2,110
DOWNSTREAM GRADE: 1,436



GRAPHIC SCALE

0 100 200



(IN FEET)

1 INCH = 200 FT

CLIENT/PROJECT
REGAL AMERICAN HOMES
LOST DUTCHMAN DRIVE

TITLE
DRAINAGE MAP

SHEET
1 OF 1



D & M ENGINEERING
Duran Thompson, P.E.
1020 East Gilbert Drive, Suite D
Tempe, AZ 85281
Ph: (480) 350-9590
Fax: (480) 350-9486
engineer@dmengineer.com

Flood Control District of Maricopa County
 Drainage Design Management System
 SUB BASINS

7/7/2017

Project Reference: 170112

Page 1

ID	Sub Basin Data					Sub Basin Hydrology Summary						
	Area (acres)	Length (ft)	USGE	DSGE	Slope (ft/mi)	Kb	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
1	6.3	1,244	2,110.00	1,436.00	2,860.7	0.035	13.6	18.4	22.1	27.1	31.0	34.8
							0.95	0.95	0.95	0.95	0.95	0.95
							5.99	5.99	5.99	5.99	5.99	5.99
							0.2501	0.3383	0.4064	0.4983	0.5700	0.6399
							10	10	10	10	10	10
							2.27	3.07	3.69	4.52	5.17	5.81
							Q (cfs)					
							C					
							CA (ac)					
							Volume (ac-ft)					
							Tc (min)					
							i (in/hr)					

Major Basin ID: 01

* Non default value

(sSubBasRat.rpt)

Manning's Calculator - Pipe

Diameter (in)	18
Manning's n	0.013
Slope (ft/ft)	0.0460
Q (cfs)	22.53 Per Pipe
Velocity (fps)	12.75
Area (sq ft)	1.77
Wetted Perimeter (ft)	4.71