

THIS PROJECT  
DOES LIE WITHIN A SPECIAL FLOOD HAZARD AREA

FIRM MAP PANEL # 3501C0141 G

## CALCULATIONS

### DESIGN CRITERIA

HYDROLOGIC METHODS PER SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL (DPM)  
REVISED JANUARY 1993 FOR CITY OF ALBUQUERQUE ADOPTED BY THE COUNTY OF BERNALILLO  
DISCHARGE RATE:  $Q = Q_{PEAK} \times AREA$ , "Peak Discharge Rates For Small Watersheds"  
VOLUMETRIC DISCHARGE:  $VOLUME = E_{WEIGHTED} \times AREA$   
 $P100 = 2.60$  Inches, Zone 3 Time of Concentration,  $TC = 10$  Minutes  
DESIGN STORM: 100-YEAR/6-HOUR, 10-YEAR/6-HOUR [ ] = 10 YEAR VALUES

### EXISTING CONDITIONS

LOT AREA = 0.73 ACRES, WHERE EXCESS PRECIP. 'A' = 0.66 In. [0.19]  
PEAK DISCHARGE,  $Q100 = 1.4$  CFS [0.4], WHERE UNIT PEAK DISCHARGE 'A' = 1.9 CFS/AC. [0.6]  
THEREFORE:  $VOLUME 100 = 1749$  CF [503]

### DEVELOPED CONDITIONS

DETERMINE LAND TREATMENTS, PEAK DISCHARGE AND VOLUMETRIC DISCHARGE

	AREA	LAND TREATMENT	$Q_{Peak}$	$E$
UNDEVELOPED	0.31 Ac. (43%)	A	1.87 [0.58]	0.66 [0.19]
LANDSCAPING	0.15 Ac. (20%)	B	2.60 [1.19]	0.92 [0.36]
GRAVEL & COMPACTED SOIL	0.15 Ac. (20%)	C	3.43 [2.00]	1.29 [0.82]
ROOF - PAVEMENT	0.13 Ac. (17%)	D	5.02 [3.39]	2.36 [1.50]

THEREFORE:  $E_{WEIGHTED} = 1.12$  In. [0.53] &  
 $Q100 = 2.14$  CFS VOLUME 100 = 2968 CF  
 $Q10 = 1.10$  CFS VOLUME 10 = 1404 CF

### QUANTIFY UPSTREAM RUNOFF IMPACTING THE PROPERTY

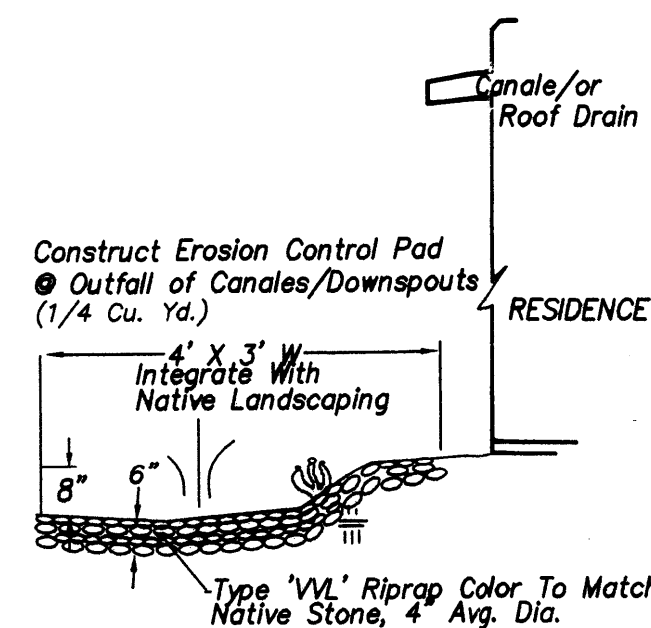
Using Similar Unit Discharge Obtained Above

2.9 CFS / Ac.

See Plan @ EAST BDRY & RTI STUDY - 500' x 150'

CHECK/SIZE OPENINGS USING ORIFICE EQ.

$$Q = CA(2gh)^{1/2}$$
$$g = 32.2 \text{ FT PER } S^2$$
$$H = 1' \text{ (ASSUME)}$$
$$C = 0.7$$
$$1-5" \times 10" / 144 = 0.35 \text{ SF (1-STD CMU BLK W/ 2 OPENINGS)}$$



## EROSION CONTROL PAD

NO SCALE

## GRADING & DRAINAGE PLAN

THE RESIDENTIAL HOME PROJECT IS LOCATED IN UNIT 3 OF NORTH ALBUQUERQUE ACRES APPROXIMATELY 11 MILES FROM THE DOWNTOWN CORE OF ALBUQUERQUE, NM. THE GRADING & DRAINAGE SCHEME HEREON IS IN COMPLIANCE WITH THE BERNALILLO COUNTY FLOOD HAZARD ORDINANCE, NO.88-46, AND STORM DRAINAGE ORD. THE PLAN IS REQUIRED IN ORDER TO FACILITATE THE OWNER'S REQUEST FOR BUILDING PERMIT. THE PLAN SHOWS:

- EXISTING CONTOURS, AND SPOT ELEVATIONS AND EXISTING DRAINAGE PATTERNS & DRAINAGE EASEMENTS (IF KNOWN)
- PROPOSED IMPROVEMENTS: RESIDENCE(S), WELL AND SEPTIC SYSTEM, ASPHALT/CONCRETE DRIVEWAY, FLATWORK AND NEW GRADE ELEVATIONS
- CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS.
- QUANTIFICATION AND ACCEPTANCE OF UPSTREAM OFF-SITE FLOWS WHICH CONTRIBUTE TO THE DEVELOPED FLOWS GENERATED BY THE IMPROVEMENTS.
- UPSTREAM ANALYSIS AS TO WATER SURFACE MODEL AND EROSION SETBACK.

THE PURPOSE OF THE PLAN IS TO ESTABLISH CRITERIA FOR CONTROLLING STORM RUNOFF AND EROSION, AND ESSENTIALLY ALLOWING HISTORIC FLOWS TO CONTINUE TO DRAIN THROUGH THE PROPERTY. PRESENTLY, THE SITE IS BOUNDED ON THE EAST & CITY NORTH BY DEVELOPED PROPERTY. VENTURA ST. NE IS PAVED & CITY MAINTAINED R.O.W. EAGLE ROCK AVE ON THE SOUTH IS AN IMPROVED, 26' WIDE COUNTY MAINTAINED ASPHALT ROADWAY. THE SITE GENERALLY SLOPES FROM EAST TO WEST AT 4%+. A 3-ACRE MINOR DRAINAGE BASIN ENTERS ON THE EAST AND CONVEYS WEST ON THE SITE. ALL OFF-SITE FLOWS ARE QUANTIFIED ON THE PLAN/CALCULATIONS.

THE SITE IS NOT ENCOMBERED BY A DESIGNATED FEMA FLOODPLAIN.

HISTORICAL SITE RUNOFF OUTFALL LOCATIONS WILL REMAIN UNCHANGED. SINCE THE STREETS ARE IMPROVED ONLY MINIMAL GRADING IS PROPOSED WITHIN THE COUNTY R.O.W. FREE DISCHARGE OF DEVELOPED FLOWS IS ACCEPTABLE SINCE THE PROJECT IS WITHIN THE ALLOWABLE RUNOFF ESTABLISHED FOR NORTH ALBUQUERQUE ACRES. See RTI STUDY.

VENTURA ST.

EAGLE ROCK AVE

(60' R.O.W.)

Scale: 1" = 20'

VICINITY MAP  
W/CURRENT FLOODPLAINS

ZONE C-20  
1" = 750'

## NOTES

- PERIMETER FENCING AROUND THE PROPERTY IS PROPOSED. CONSTRUCTION OF FUTURE FENCING SHALL PERMIT THE PASSING OF DRAINAGE TO AND FROM HISTORIC OUTFALL AND ENTRANCE LOCATIONS. OWNER SHALL MAINTAIN FENCING AND KEEP FREE OF ALL DEBRIS, WEEDS, AND/OR OBSTRUCTIONS.
- THIS PLAN SHOWS A FIXED PERCENTAGE OF LAND TREATMENT A REMAINING IN AN UNDISTURBED CONDITION. IF A GREATER AREA IS DISTURBED A REVISED PLAN MAY BE REQUIRED PER COUNTY PUBLIC WORKS DEPARTMENT (UNLESS THE COMPOSITE TREATMENT IS < ALLOWABLE).
- CONTACT THE BERNALILLO COUNTY PUBLIC WORKS DEPT. FOR ACCESS PERMIT @ 2400 S. BROADWAY. 848-1529.
- REVEGETATE ALL AREAS DISTURBED DUE TO CONSTRUCTION PER CITY OF ALBUQ. SPEC. 1011, NATIVE SEED MIX.
- MAXIMUM SITE GRADING WITHOUT EROSION PROTECTION: 3 HORIZONTAL TO 1 VERTICAL, 3:1.
- RIPRAP STONE SHOWN ON THIS PLAN IS SMOOTH RIVER-RUN COBBLES, TYPE VVI, IN COMPLIANCE WITH AMAFCA GUIDELINES, 4" AVERAGE DIA. NATIVE STONE, AND BURIED TO 6" DEPTH. SEE EROSION CONTROL PAD, THIS SHEET. SEE ROOF PLAN FOR CANAL E LOCATIONS.

## LEGEND

Exist. Spot Elevation	+24.0
Exist. Contour	-10
New Spot Elevation	+24.0
New Contour	-12
Exist. Edge of Road	---
New Swale	---
Drainage Direction	---
Edge of Gravel	EG
Edge of Asphalt	EA
Existing Power Pole	o PP
New Concrete	---
New Structure	---

## PROJECT DATA

### LEGAL DESCRIPTION

Lot 32, Block 11, Tract 3, Unit 3 North Albuq. Acres  
Bernalillo County, New Mexico

### PROJECT BENCHMARK

Top of Rebar and Cap at Lot 32 SouthEast Corner  
MSL Elevation = 5572.38 (NAVD88)

### TOPOGRAPHIC SURVEY

Compiled From GIS, and Field SUPPLEMENTED By Geometrics  
/Confirmed by Clark Consulting Engineers, Dated November 2012

Clark Consulting Engineers

19 Ryan Road  
Edgewood, New Mexico 87015

Tele: (505) 281-2444 Fax: (505) 281-2444

DATE	REVISION	LOT 32, BLOCK 11, TRACT 3, UNIT 3 NORTH ALBUQUERQUE ACRES A JOHNNY CASADOS HOME
		<b>Grading &amp; Drainage Plan</b>
DESIGNED BY: PWC	DRAWN BY: CCE	JOB #: Casados12
CHECKED BY: PWC	DATE: NOV '12	FILE #: G/D

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I, PHILIP W. CLARK, A PROFESSIONAL ENGINEER LICENSED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT I HAVE VISITED THE SITE SHOWN HEREON, AND THAT THE CONTOURS SHOWN REPRESENT THE EXISTING GROUND CONDITIONS, AND DO FURTHER CERTIFY THAT NO EARTHWORK OF ANY KIND, NOR ANY DISTURBANCE OF THE EXISTING GROUND HAS OCCURRED ON THIS SITE SINCE THE CONTOURS WERE DETERMINED.

Philip W. Clark  
NMPE #10285