

FIRM MAP PANEL # 329 G

## GRADING & DRAINAGE PLAN

THE 6-LOT RESIDENTIAL SUBDIVISION IS LOCATED IN THE SOUTHWEST AREA OF ALBUQUERQUE APPROXIMATELY 3 MILES SOUTHWEST OF 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 THE CITY STORM DRAINAGE ORDINANCE. 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 AND EXISTING IMPROVEMENTS, INCLUDING VACANT LOT
- PROPOSED IMPROVEMENTS: 6-2600 SF TOTAL SUB-GRADE PAD AREA(S), NEW CONCRETE DRIVEPADS AND ON-SITE PARKING, NEW GRADE ELEVATIONS, WALLS, FLATWORK AND LANDSCAPING.
- CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS.
- QUANTIFICATION AND ACCEPTANCE OF UPSTREAM OFF-SITE FLOWS WHICH CONTRIBUTE TO THE DEVELOPED FLOWS GENERATED BY THE IMPROVEMENTS.

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 AND WEST BY RESIDENTIAL USE. BRIDGE AND EUCARIZ DR. ON THE SOUTH AND NORTH ARE PAVED. EUCARIZ AVE. ON THE NORTH, HAS EXISTING CURB, GUTTER AND SIDEWALK, WHILE BOTH EUCARIZ AND BRIDGE ARE MAINTAINED BY THE CITY OF ALBUQUERQUE. THE SITE CURRENTLY DOES NOT DRAIN OR DISCHARGE RUNOFF.

HISTORICAL SITE RUNOFF OUTFALL LOCATIONS WILL REMAIN UNCHANGED. SINCE BOTH STREETS ARE IMPROVED ONLY MINIMAL GRADING (DRIVEPAD RECONSTRUCTION) IS PROPOSED WITHIN THE CITY R.O.W. FREE DISCHARGE OF A PORTION OF DEVELOPED IS ACCEPTABLE SINCE THE TOTAL INCREASE OF DEVELOPED FLOW IS MINIMAL, WHILE RUNOFF ROUTED TO LANDSCAPING AND WATER HARVESTING IS RECOMMENDED.

THE SITE IS NOT IMPACTED ADVERSELY BY ANY OFF-SITE DRAINAGE FLOWS.

## 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:  $VOLUME = E_{WEIGHTED} \times AREA$   
 $P100 = 2.20$  Inches, Zone 1 Time of Concentration,  $TC = 10$  Minutes  
DESIGN STORM: 100-YEAR/6-HOUR, 10-YEAR/6-HOUR [ ] = 10 YEAR VALUES

### EXISTING CONDITIONS

TOTAL AREA = 2.09 ACRES, WHERE EXCESS PRECIP. 'A' = 0.49 in. [0.08]  
PEAK DISCHARGE,  $Q100 = 2.7$  CFS [0.51], WHERE UNIT PEAK DISCHARGE 'A' = 1.29 CFS/AC. [0.24]  
THEREFORE:  $VOLUME_{100} = 3717$  CF [607]

### DEVELOPED CONDITIONS

DETERMINE LAND TREATMENTS, PEAK DISCHARGE AND VOLUMETRIC DISCHARGE FOR STUDY AREA

	AREA	LAND TREATMENT	$Q_{Peak}$	E
UNDEVELOPED/HARVEST POND	0.84 AC (40%)	A	1.29 [0.24]	0.49 [0.08]
LANDSCAPING	0.42 AC (20%)	B	2.03 [0.76]	0.67 [0.22]
GRAVEL & COMPACTED SOIL	0.48 AC (23%)	C	2.87 [1.49]	0.99 [0.44]
ROOF - PAVEMENT	0.36 AC (17%)	D	4.40 [2.90]	1.97 [1.24]
	2.09 AC			

THEREFORE:  $E_{WEIGHTED} = 0.89$  in. [0.38] &

$Q100 = 4.89$  CFS  
 $Q10 = 2.28$  CFS

$VOLUME_{100} = 6752$  CF  
 $VOLUME_{10} = 2883$  CF

RECOMMEND: ROUTE DEVELOPED RUNOFF THROUGH EXISTING/UPGRADED SOFT LANDSCAPING INCLUDING DEPRESSED LANDSCAPING IN THE NEW REAR YARDS AS SHOWN

### REAR YARD HARVEST CALC. (TYP.)

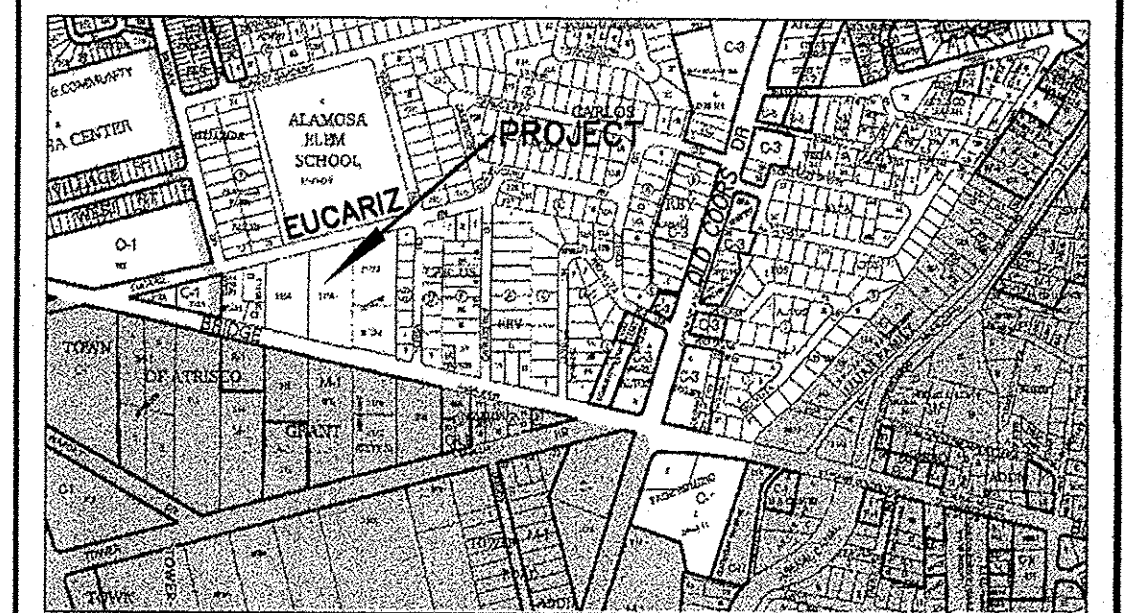
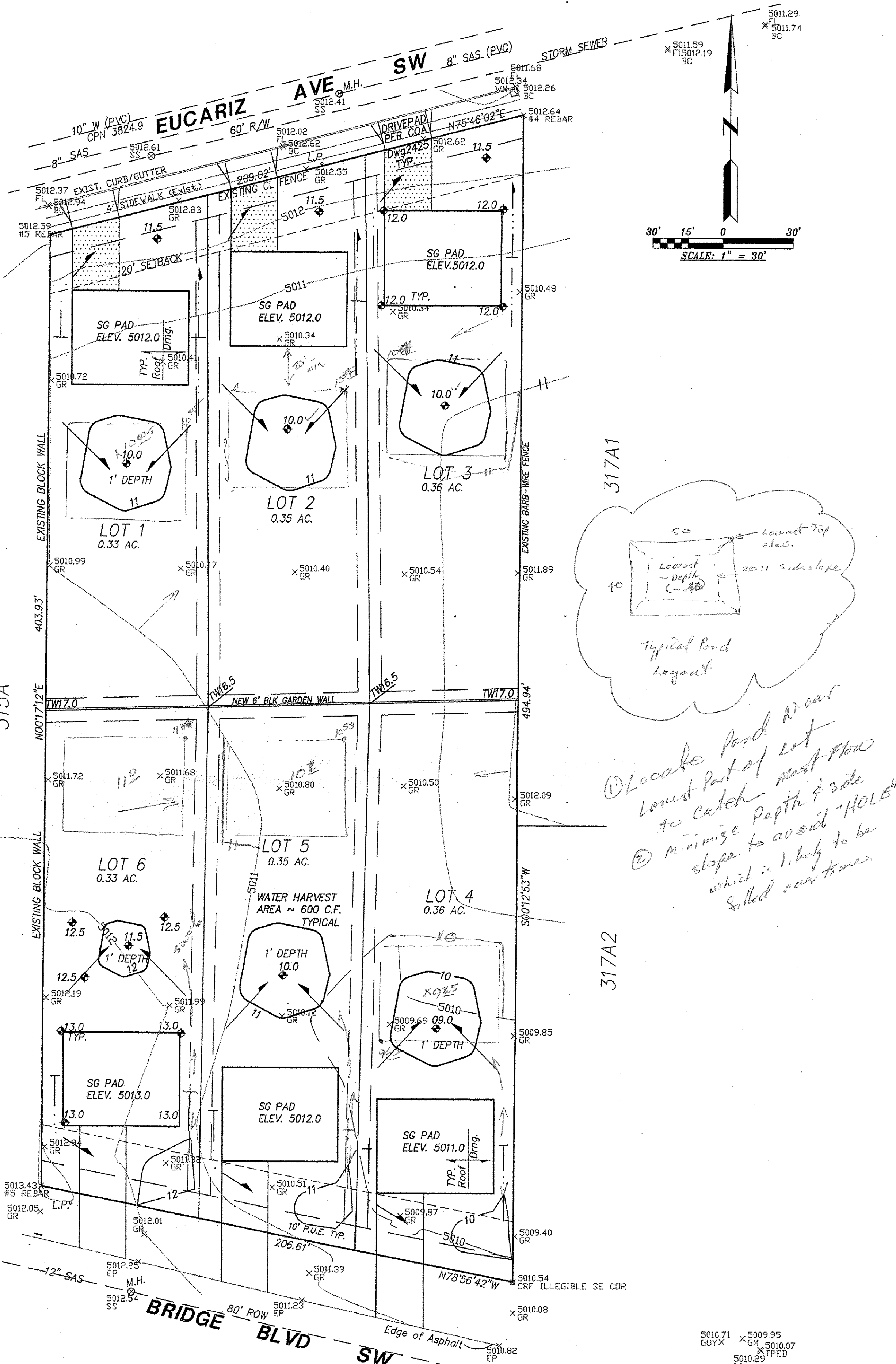
170' X 70' = 0.27 AC. PER LOT

LAND TREATMENT	$E_{100}$
A 74%	0.36
B 15%	0.10
D 11%	0.22
	0.68 in.

THEREFORE:  $VOL_{100} = 0.18$  AC-FT.  
 $= 664$  C.F.

1200 SF X 1' DEPTH/2 = 600 CF

CHECK 1st 1/2" RETAINED  
2.09 AC X 43560 X 1/2" = 3600 CF  
PER LOT 3600/6 = 600 CF, OK



ZONE L-11

## VICINITY MAP

## NOTES

- ALL WORK WITHIN THE RIGHT-OF-WAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECS. FOR PUBLIC WORKS CONSTRUCTION, 8TH EDITION W/ UPDATES.
- AN EXCAVATION/CONSTRUCTION PERMIT IS REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY R.O.W. AN APPROVED COPY OF THIS PLAN MUST BE SUBMITTED AT THE TIME OF APPLICATION.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES, AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- ALL LANDSCAPING AREA SHALL BE SOFT-LINED WITH NATIVE VEGETATION AND/OR GRAVEL.
- CONTRACTOR SHALL ENSURE THAT NO SITE SOILS/SEDIMENT OR SILT ENTER THE RIGHT-OF-WAYS DURING CONSTRUCTION.
- 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. ALL DIMENSIONS TO FACE OF CURB, UNLESS NOTED OTHERWISE.

## LEGEND

EXIST. SPOT ELEVATION	+24.0
EXIST. CONTOUR	10
NEW SPOT ELEVATION	+24.0
NEW CONTOUR	12
NEW SWALE	
DRAINAGE DIRECTION, EXISTING	
NEW CONCRETE CURB (0.5' HEIGHT)	
NEW P.C.C., CONCRETE	
TOP OF CURB, EXISTING	TC
FLOWLINE	FL
EXISTING POWER POLE	O
FACE OF CURB/FACE OF CURB	F-F

## PROJECT DATA

### LEGAL DESCRIPTION (CONCURRENT PLATTING)

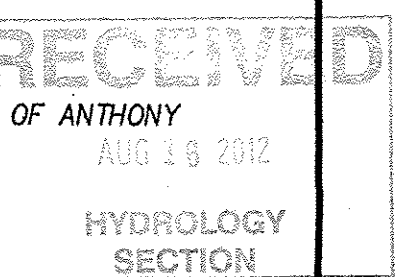
LOTS 1-6, LOPEZ WEST SUBDIVISION  
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

### PROJECT BENCHMARK

TOP OF REBAR/CAP AT THE PROJECT SOUTHEAST CORNER MSL  
ELEVATION = 5010.54, AS TIED FROM COA 3-1/4" DIAMETER ALUM  
DISK, 8-10, NAVD 88, MSL ELEV. 5069.58, LOCATED AT THE NE  
INTERSECTION OF 75TH ST. AND BRIDGE BLVD.

### TOPOGRAPHIC DESIGN SURVEY

PROVIDED BY THE SURVEY OFFICE UNDER THE DIRECTION OF ANTHONY  
HARRIS, N.M.P.S., DATED JULY 2012.



Clark Consulting Engineers  
19 Ryan Road  
Edgewood, New Mexico 87015

DATE	REVISION	LOT 316A, UNIT 3, TOWN OF ATRISCO GRANT ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO
8/15/12	Add COA 440 Comments Page	BRIDGE BLVD / EUCARIZ LOPEZ WEST Grading & Drainage Plan
DESIGNED BY: PWC	DRAWN BY: CCE	JOB # LOPEZ_F
CHECKED BY: PWC	DATE 7/2012	FILE # 6/D