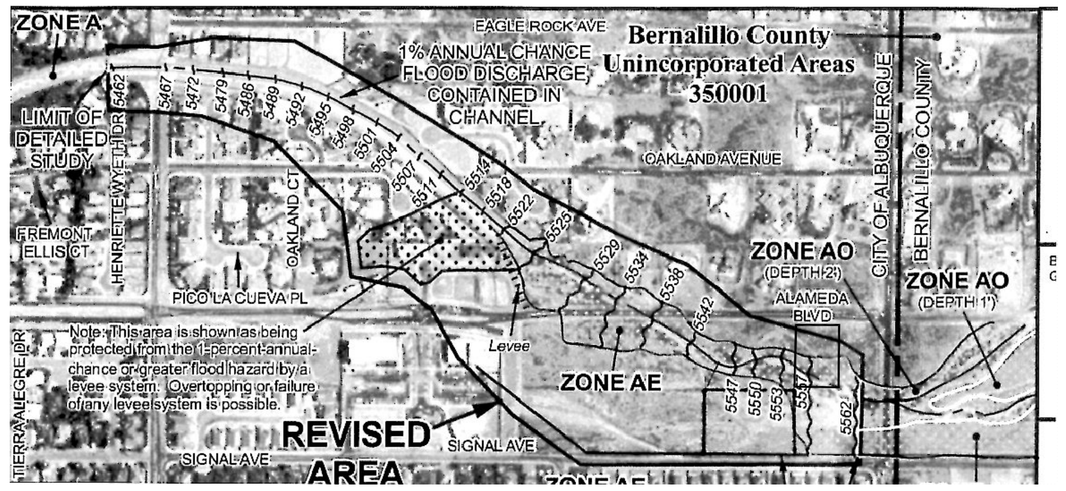


FIRM PANEL, REVISION NOVEMBER 2012 Per LOMR Case 11-06-2877P

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 AND DRAINAGE SCHEME HEREON IS IN COMPLIANCE WITH THE BERNALILLO COUNTY FLOOD HAZARD ORDINANCE, NO. 88-46, AND CITY STORM DRAINAGE ORDINANCE. THE PLAN IS REQUIRED IN ORDER TO FACILITATE THE OWNER'S REQUEST FOR BUILDING PERMIT. THE PLAN SHOWS:

1. EXISTING CONTOURS, SPOT ELEVATIONS, AND EXISTING DRAINAGE PATTERNS.
2. PROPOSED IMPROVEMENTS: 1 RESIDENTIAL HOME SITE, GRAVEL-CONCRETE DRIVEWAY, WELL AND SEPTIC SYSTEM, AND NEW GRADE ELEVATIONS.
3. CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS.
4. QUANTIFICATION AND ACCEPTANCE OF UPSTREAM OFFSITE FLOWS WHICH CONTRIBUTE TO THE DEVELOPED FLOWS GENERATED BY THE IMPROVEMENTS.
5. UPSTREAM ANALYSIS AS TO WATER SURFACE MODEL AND EROSION SETBACK AND EROSION CONTROL.

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, WEST AND SOUTH BY UNDEVELOPED PROPERTY. ALAMEDA AVENUE ON THE NORTH IS AN IMPROVED, ASPHALT ROADWAY ALONG THE PROJECT FRONTAGE. THE SITE GENERALLY FALLS FROM EAST TO WEST AT APPROX. 3.5 PERCENT ALL OFFSITE FLOWS ARE QUANTIFIED ON THE PLAN, AND ADDRESSED IN THE CALCULATIONS.

A PORTION OF THE SITE IS ENCUMBERED BY A DESIGNATED FEMA FLOODPLAIN.

HISTORICAL SITE RUNOFF OUTFALL LOCATIONS WILL REMAIN UNCHANGED IN DEVELOPMENT. SINCE ALAMEDA AVE IS IMPROVED MINIMAL GRADING IS PROPOSED WITHIN THE CITY R.O.W. LIMITED FREE DISCHARGE OF DEVELOPED FLOW IS ACCEPTABLE SINCE DOWNSTREAM CAPACITY (LA CUEVA CHANNEL) EXISTS, AND THE TOTAL DEVELOPED RUN-OFF DOES NOT EXCEED THE ZONE 3 MAXIMUM ESTABLISHED IN THE NAA MASTER DRAINAGE PLAN.

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 SIGNIFICANT EARTHWORK OF ANY KIND, NOR DISTURBANCE OF THE EXISTING GROUND HAS OCCURRED ON THIS SITE SINCE THE CONTOURS WERE DETERMINED.

PHILIP W. CLARK NMPE #10265

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=QPEAK x AREA.. "Peak Discharge Rates For Small Watersheds"
VOLUMETRIC DISCHARGE: VOLUME = EWeighted x 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

HISTORIC CONDITIONS PER EXIST. LOT 100% A

PROJECT AREA = 0.89 ACRES, WHERE EXCESS PRECIP. 'Weighted' =0.66 In. [0.19]
PEAK DISCHARGE, Q100 = 1.7 CFS [0.51] WHERE UNIT PEAK DISCHARGE 'A' = 1.9 CFS/AC. [0.60]
THEREFORE: VOLUME 100 = 2123 CF [611]

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

	AREA	LAND TREATMENT	Q Peak	E
UNDEVELOPED	0.43 Ac.(48%)	A	1.87[0.58]	0.66[0.19]
LANDSCAPING	0.17 Ac.(20%)	B	2.60[1.19]	0.92[0.36]
COMPACTED SOIL & Slopes >	0.14 Ac.(15%)	C	3.45[2.00]	1.29[0.62]
ROOF - PAVEMENT	0.15 Ac.(17%)	D	5.02[3.39]	2.36[1.50]
	0.89 Ac.			

THEREFORE: $E_{Weighted}$ = 1.09 In.[XXX] &
Q100 = 2.5 CFS VOLUME 100 = 3506 CF
Q10 = 1.24 CFS VOLUME 10 = XXXX CF

CALC. 1ST FLUSH, P(4-6MO.) = 0.6" Per Table 2 Water Qual. Storm
PRO-RATE: 17%/20%=0.85 X 0.09 = 0.0765 INCHES X 0.88 (43560/12) = 244 CF
ADDITIONAL DE-SILTATION PROVIDED IN RIPRAP EROSION CONTROL PADS

- UPSTREAM ANALYSIS - SEE HEC-RAS WATER SURFACE MODEL OF LA CUEVA, ON FILE WITH CITY HYDROLOGY (Ref: C-20/D35) (REVISED11.8.12)
PER RTI STUDY, Q100 = 3090 CFS AT VENTURA ST. (SEE LOMR2012)

EROSION SET BACK ANALYSIS - PER SEDIMENT EROSION DESIGN GUIDE (SEDG)

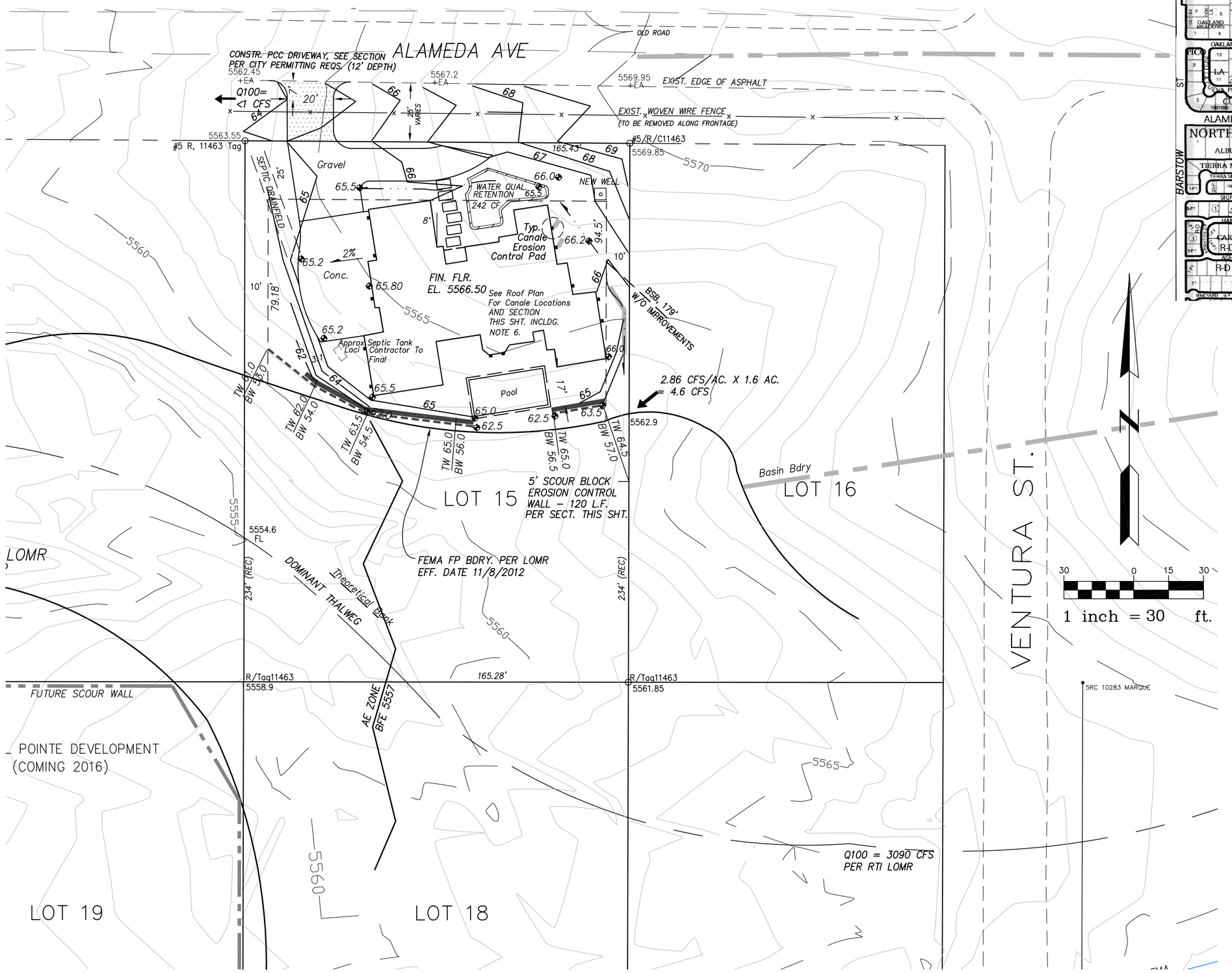
Q_{100}= 3090 CFS....LA CUEVA ARROYO

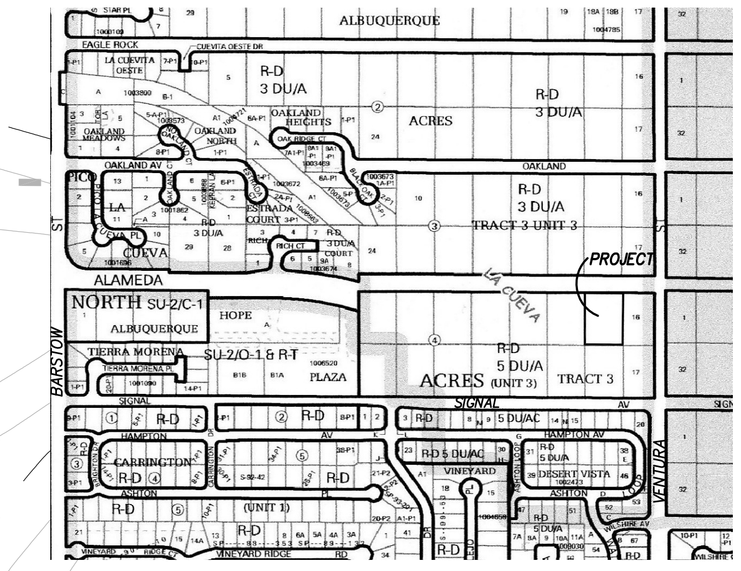
$Q_D = 0.20_{100} = 618$ CFS $WD = 4.6 Q_D^{0.4} = 60$ FEET

LAMDA = [0.8 + 4LOGQ_D] W_D= 718 FEET BANK SETBACK = LAMDA/4 = 179 FEET

CENTER LINE SETBACK = BSB + W_D/2 = 209 FEET

THEREFORE: EROSION CONTROL IMPROVEMENTS REQUIRED - PER DISCUSSION WITH CITY AND AMAFCA CONSTRUCT SCOUR WALL ON SOUTH SIDE OF FOOTPRINT





VICINITY MAP ZONE C-20

NOTES

ALL WORK WITHIN THE CITY R.O.W. SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, W/ 8 UPDATES.

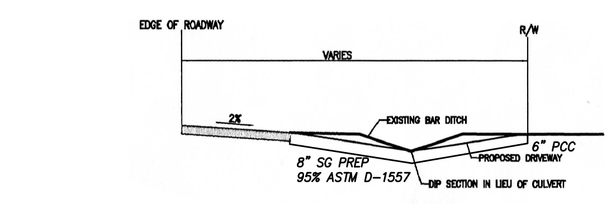
1. PERIMETER FENCING AROUND THE PROPERTY IS NOT PROPOSED. CONSTRUCTION OF FUTURE FENCING SHALL PERMIT THE PASSING OF DRAINAGE TO AND FROM HISTORIC OUTFALL AND ENTRANCE LOCATIONS. OWNER SHALL MAINTAIN FENCING AND KEEP FREE OF ALL DEBRIS, WEEDS, AND/OR OBSTRUCTIONS.
2. THIS PLAN SHOWS A FIXED PERCENTAGE OF LAND TREATMENT A REMAINING IN AN UNDISTURBED CONDITION. IF A GREATER AREA IS DISTURBED A REVISED PLAN MAY BE REQUIRED PER CITY PLANNING/ENGINEERING DEVELOPMENT UNLESS THE COMPOSITE TREATMENT IS < ALLOWABLE).
3. CONTACT THE CITY OF ALBUQUERQUE PLANNING FOR ACCESS PERMIT @ PLAZA DEL SOL . 924-3991
4. REVEGETATE ALL AREAS DISTURBED DUE TO CONSTRUCTION PER CITY OF ALBUQ. SPEC. 1012, NATIVE SEED MIX.
5. MAXIMUM SITE GRADING WITHOUT EROSION PROTECTION: 3 HORIZONTAL TO 1 VERTICAL, 3:1.
6. RIPRAP STONE SHOWN ON THIS PLAN IS SMOOTH RIVER-RUN COBBLES, TYPE VVL IN COMPLIANCE WITH AMAFCA GUIDELINES, 4" AVERAGE DIA. NATIVE STONE, AND BURIED TO 6" DEPTH (UNO). SEE EROSION CONTROL PAD, THIS SHEET. SEE ROOF PLAN FOR CANALE LOCATIONS.
7. CONTRACTOR SHALL ENSURE THAT NO SITE SOILS/SEDIMENT OR SILT ENTER THE RIGHT-OF-WAYS DURING CONSTRUCTION.

LEGEND

+24.0	EXIST. SPOT ELEVATION
10	EXIST. CONTOUR
24.0	NEW SPOT ELEVATION
12	NEW CONTOUR
	EXIST. CURB & GUTTER
	NEW SWALE
EXISTING	DRAINAGE DIRECTION
	NEW P.C.C. CONCRETE
	NEW RIPRAP, BURIED
	NEW RETAINING & SCOUR WALL
TW	TOP OF WALL, RETAINING
BW =	BOTTOM ELEV. OF SCOUR WALL
BFE	BASE FLOOD ELEVATION (SEE FEMA REV'SD MAP NOV. 08, 2012)
FL	FLOWLINE
EG	EXIST. GRADE

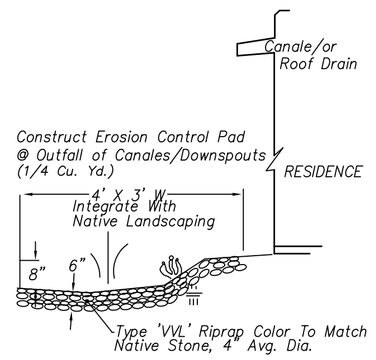
7/22/15
Rev.8/28/15
" 9/2/15

PHILIP W. CLARK NEW MEXICO 10265 REGISTERED PROFESSIONAL ENGINEER



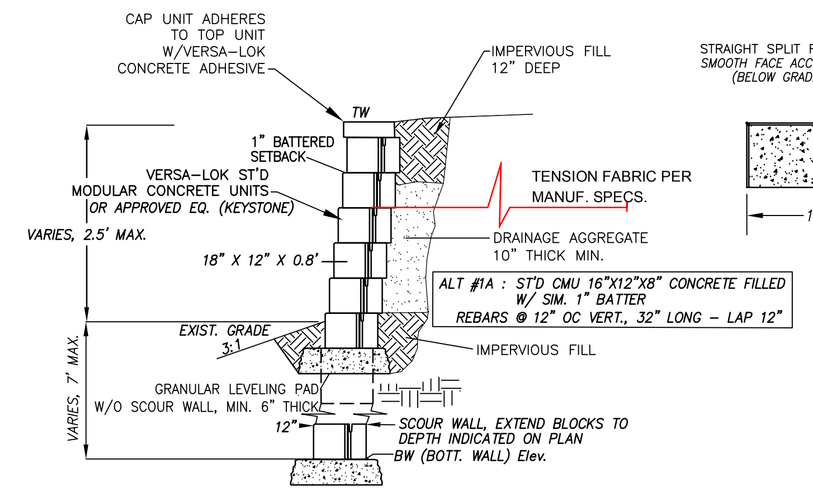
SECTION A'-A'

DRIVEWAY SECTION



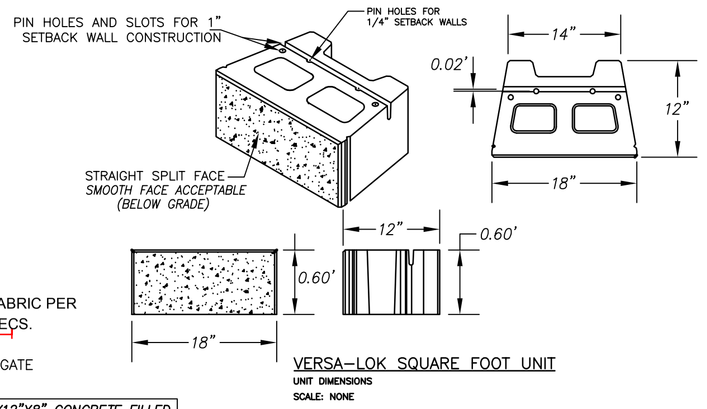
EROSION CONTROL PAD

NO SCALE



RETAINING WALL SECTION W/ SCOUR WALL

NTS



VERSA-LOK SQUARE FOOT UNIT
UNIT DIMENSIONS
SCALE: NONE

PROJECT DATA

LEGAL DESCRIPTION

LOTS 15, BLOCK 4, TRACT 3, UNIT 3
NORTH ALBUQUERQUE ACRES, ALBUQUERQUE, NEW MEXICO

PROJECT BENCHMARK

THE BASIS OF ELEVATIONS FOR THIS SURVEY IS ACS BENCHMARK 7-C19, ELEVATION OF WHICH IS 5485.72. BENCHMARK IS LOCATED AT THE INTERSECTION OF BARSTOW ST. AND MODESTO AVE.

TOPOGRAPHIC DESIGN SURVEY

COMPILED BY CLARK CONSULTING ENGINEERS FROM DESIGN SURVEY BY PHILIP W. TURNER P.S., DATED JULY 2014, NAVD88 DATUM.

Clark Consulting Engineers
19 Ryan Road
Edgewood, New Mexico 87015
Tele: (505) 281-2444 Fax: (505) 281-2444

DATE	REVISION
8/20/15	ADDR. CITY COMM.
8/28/15	" " " RND. 2
9/2/15	ADD T. FABRIC

LOT 15, BLK. 4, TR. 3, UNIT 3
NORTH ALBUQ. ACRES, ALBUQ. NEW MEXICO
THE JONES HOME
Grading, Site, and Drainage Plan w/ On-Site Erosion Control Berm Plan / Section

DESIGNED BY: PWC	DRAWN BY: CCE	JOB #: J. Jones	SHEET 1 OF 1
CHECKED BY: PWC	DATE: JUL2015	FILE #: G/D	

CITY OF ALBUQUERQUE

September 2, 2015

Philip W. Clark, PE
Clark Consulting Engineers
19 Ryan Rd
Edgewood, NM 87015

Re: The Jones's Home
9000 Alameda Ave NE
Grading and Drainage
Engineers Stamp Date 9/2/2015 (C20D073)

Dear Mr. Clark,

Based upon the information provided in your submittal received 9/2/2015, the above referenced Grading and Drainage Plan is approved for Grading Permit and Building Permit.

Please attach a copy of this approved plan dated 9/2/15 to the construction sets in the permitting process prior to sign-off by Hydrology.

Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required along with an elevation Certificate provided by a registered surveyor.

If you have any questions, you can contact me at 924-3999 or Rudy Rael at 924-3977.

Sincerely,

Shahab Biazar, P.E.
City Engineer, Albuquerque
Planning Department

RR/SB
C: email

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov