

CITY OF ALBUQUERQUE



September 22, 2015

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

**Re: Signal Pointe Subdivision
Signal/Ventura
Grading and Drainage
Engineers Stamp Date 8/20/2015 (C20D070)**

Dear Mr. Clark,

Based upon the information provided in your submittal received 8/21/2015, the above referenced Grading and Drainage Plan is approved based on the following conditions:

PO Box 1293

Albuquerque

New Mexico 87103

- The wall should remain in place once the erosion occurs. Please design the flood control structures accordingly. The wall detail/calculations/specifications must be clearly shown on the DRC plans.
- Provide plan and profile sheets for the flood control structure including the top and bottom elevations.
- Clearly show the limits (including stations) of Riprap Erosion Control Lining shown on Section A and the proposed floodwall on the DRC plan.
- Grading Certification will be required prior to release of Financial Guarantee, Workorder and building permits.

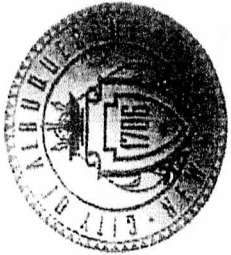
If you have any questions, you can contact me at 924-3999 or Rudy Rael at 924-3977.

www.cabq.gov

Sincerely,

Shahab Biazar, P.E.
City Engineer, Planning Dept.
Development Review Services

C: RR/SB
email



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

→ Attn: **Shahab B.**

Sh. B.

*** C20 D070**

City Drainage #: C20/D070

Project Title: _____

DRB#: _____

Legal Description: _____

IPC#: _____

Building Permit #: _____

Work Order#: _____

Signal Pointe

Engineering Firm: Clark Consulting Engineers

Address: 19 Ryan Rd., Edgewood NM 87015

Phone#: 281-2444

Fax#: _____

Same

Contact: Phil

E-mail: CCEA16@AOL.COM

Owner: _____

Address: _____

Phone#: _____

Fax#: _____

E-mail: _____

Architect: N/A

Address: _____

Phone#: _____

Fax#: _____

E-mail: _____

Surveyor: Philip Turner

Address: _____

Phone#: _____

Fax#: _____

Contact: 379-4301

E-mail: _____

Contractor: _____

Address: _____

Phone#: _____

Fax#: _____

E-mail: _____

TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT

☐ DRAINAGE PLAN 1st SUBMITTAL

☒ DRAINAGE PLAN RESUBMITTAL

☐ CONCEPTUAL G & D PLAN

☒ GRADING PLAN

☐ EROSION & SEDIMENT CONTROL PLAN (ESC)

☐ ENGINEER'S CERT (HYDROLOGY)

☐ CLOMR/LOMR

☐ TRAFFIC CIRCULATION LAYOUT (TCL)

☐ ENGINEER'S CERT (TCL)

☐ ENGINEER'S CERT (DRB SITE PLAN)

☐ ENGINEER'S CERT (ESC)

☐ SO-19

☒ OTHER (SPECIFY)

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

☐ FINANCIAL GUARANTEE RELEASE

☐ PRELIMINARY PLAT APPROVAL

☐ S. DEV. PLAN FOR SUB'D APPROVAL

☐ S. DEV. FOR BLDG. PERMIT APPROVAL

☐ SECTOR PLAN APPROVAL

☐ FINAL PLAT APPROVAL

☐ CERTIFICATE OF OCCUPANCY (PERM)

☐ CERTIFICATE OF OCCUPANCY (TCL TEMP)

☐ FOUNDATION PERMIT APPROVAL

☒ BUILDING PERMIT APPROVAL

☐ GRADING PERMIT APPROVAL

☐ PAVING PERMIT APPROVAL

☐ WORK ORDER APPROVAL

☐ GRADING CERTIFICATION

SO-19 APPROVAL

ESC PERMIT APPROVAL

ESC CERT. ACCEPTANCE

OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED: 6/19/15

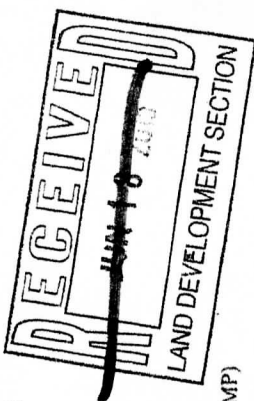
DATE SUBMITTED: 6/19/15

By: [Signature]

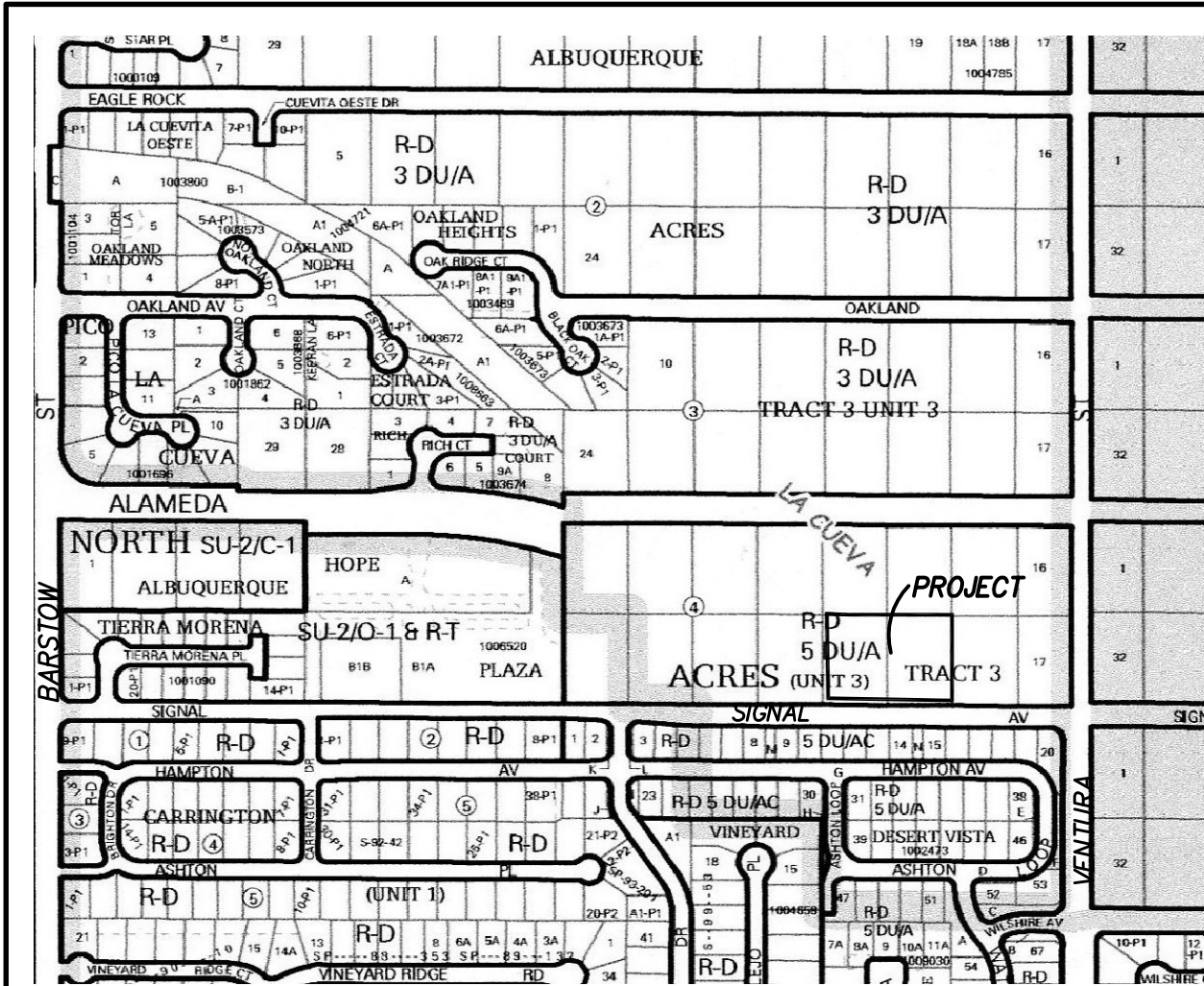
Yes ☒ No ☐ Copy Provided

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

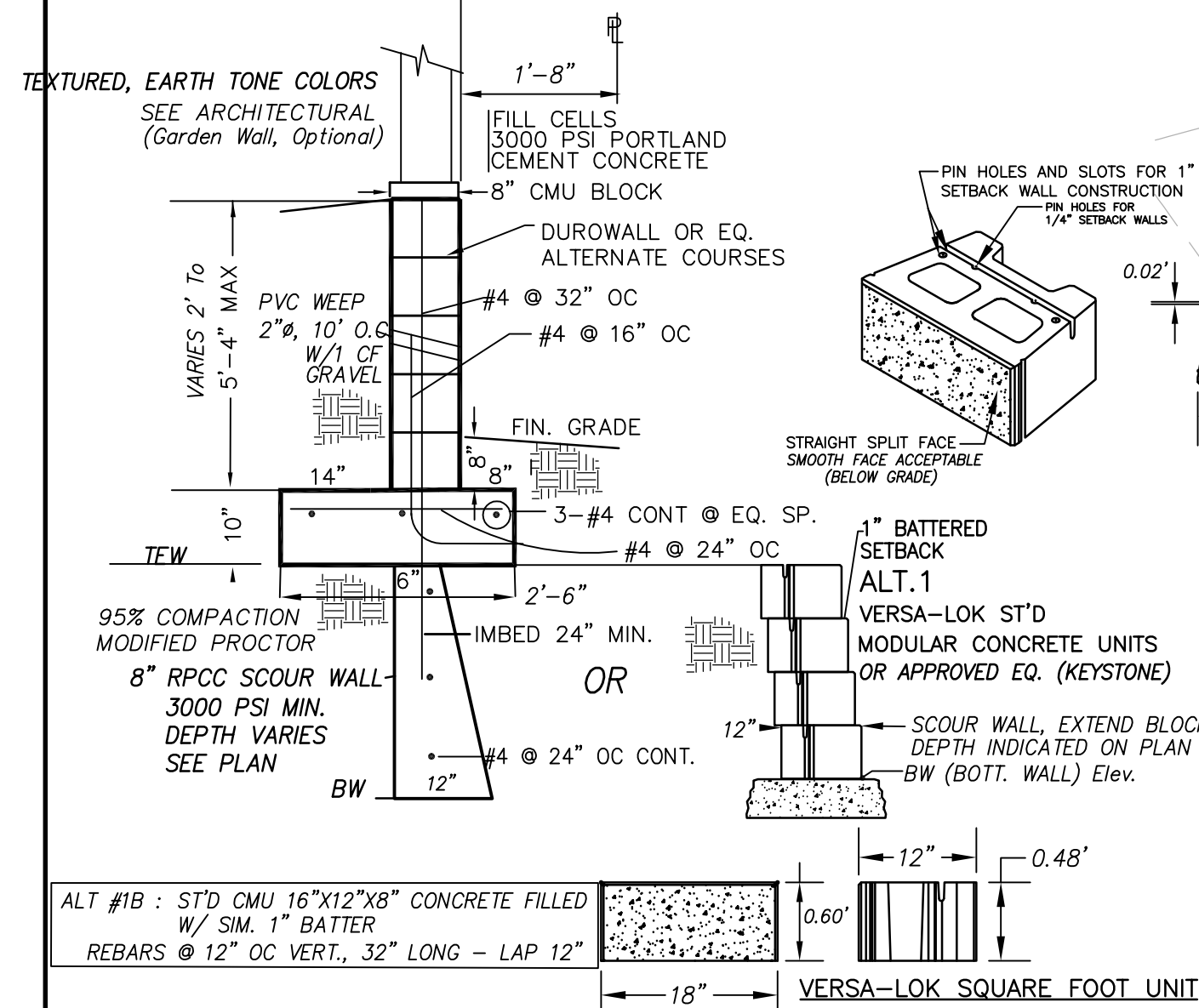
1. Conceptual Grading and Drainage Plan: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans
2. Drainage Plans: Required for building permits, grading permits, paving permits and site plans less than five (5) acres
3. Drainage Report: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more
4. Erosion and Sediment Control Plan: Required for any new development and redevelopment site with 1-acre or more of land disturbing area, including project less than 1-acre that are part of a larger common plan of development



Handwritten notes and signatures:
* I.H. PCRAS
* Summary Sheets (2)
* 3/4 + 9000
* 1700 CD P
* 1700 CD P



VICINITY MAP



CMU RETAINING WALL / SCOUR WALL

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: $Q = \text{PEAK} \times \text{AREA}$, "Peak Discharge Rates For Small Watersheds"
VOLUMETRIC DISCHARGE: $\text{VOLUME} = E_{\text{weighted}} \times \text{AREA}$
 $P100 = 2.60$ 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
PROJECT AREA = 0.89 ACRES, WHERE EXCESS PRECIP. "Weighted" = 0.66 in. [0.19]
PEAK DISCHARGE, $Q100 = 1.8$ CFS [1.06] WHERE UNIT PEAK DISCHARGE "A" = 1.9 CFS/AC. [0.60]
THEREFORE: $\text{VOLUME } 100 = 2132$ CF [614]

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

	AREA	LAND TREATMENT	Q_{Peak}	E
UNDEVELOPED	0.11 AC.	A	1.87 [0.58]	0.66 [0.19]
LANDSCAPING	0.29 AC. (17%)	B	2.60 [1.19]	0.92 [0.36]
COMPACTED SOIL & Slopes >	0.29 AC. (16%)	C	3.45 [2.00]	1.29 [0.62]
ROOF - PAVEMENT	1.20 AC. (67%)	D	5.02 [3.39]	2.36 [1.50]
	1.78 AC.			

THEREFORE: $E_{\text{weighted}} = 1.95$ in. [1.16] &
 $Q100 = 7.75$ CFS
 $Q10 = 5.0$ CFS

UNIT DISCHARGE = 7.75 CFS/1.78 AC. = 4.35 CFS/AC.

CALC. 1ST FLUSH, $P(4-6\text{MO.}) = 0.6"$ Per Table 2 Water Qual. Storm
PRO-RATE: $7/20 = 0.35 \times 0.09 = 0.03 + 0.27 = 0.3$ INCHES $\times 1.78$ (43560/12) = 1938 CF

UPSTREAM ANALYSIS - SEE HEC-RAS WATER SURFACE MODEL OF LA CUEVA, ON FILE WITH CITY HYDROLOGY (Ref: C-20/D35) (REVISED 11.8.12)
PER RTI STUDY, $Q100 = 3090$ CFS AT VENTURA ST. (SEE LMR2012)

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

$Q_{100} = 3090$ CFS...LA CUEVA ARROYO
 $Q_{10} = 0.20 = 618$ CFS $WD = 4.6 \times 10^4 = 60$ FEET
 $LAMDA = [0.8 + 40C_{100}] W_{10} = 718$ FEET BANK SETBACK = $LAMDA/4 = 179$ FEET

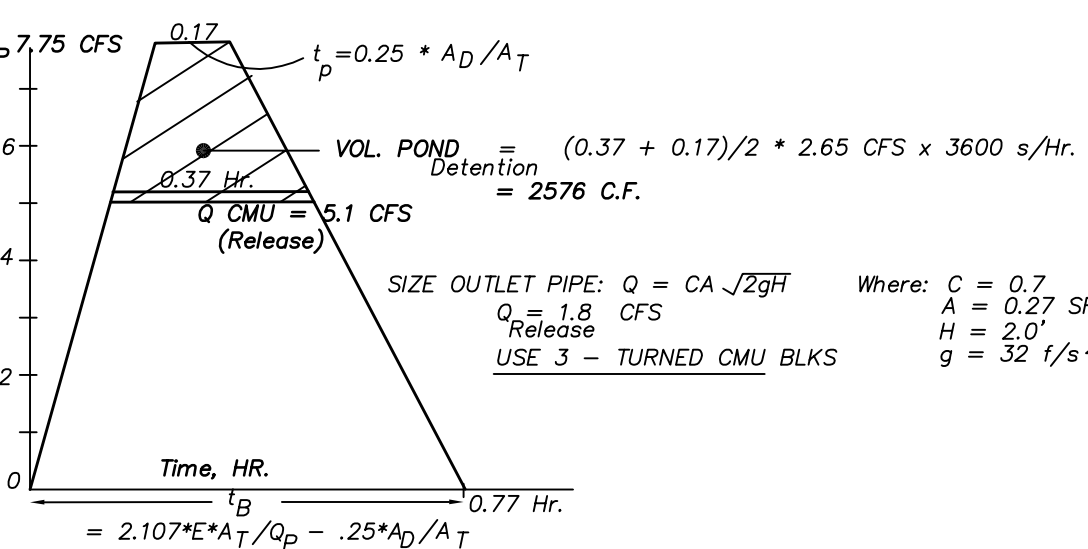
CENTER LINE SETBACK = $BSB + W_{10}/2 = 190$ FEET

THEREFORE, EROSION CONTROL IMPROVEMENTS REQUIRED - PER DISCUSSION WITH CITY AND AMAFCA CONSTRUCT SCOUR WALL ON EAST/NORTH SIDES OF DEVELOPMENT

CLASSIFICATION AND GRADATION OF RIPRAP

TYPE VAL	70-100	35-50	2-10
SMALLER THAN BY WEIGHT	9	6	4
INTERMEDIATE DIMENSION (IN.)	4	6	2
MAX. PARTICLE SIZE (IN.)	9	6	4

DETERMINE POND SIZE
DETENTION POND PER HYDROGRAPH & DPM, Section A.8
STORAGE VOLUME (Required) = VOLUME AREA ABOVE ALLOWABLE RELEASE



LEGEND

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

KEYED NOTE(S)

- NEW PCC SDWK PER COA STD 2430.
- NEW STD CURB/GUTTER PER COA STD 2415A.
- NEW ROLL CURB PER COA STD 2415A.
- BUILD NEW PRIVATE ENTRANCE PER COA STD 2420 AND 2026
- NEW PCC WHEEL CHAIR RAMP PER COA STD 2441
- PROVIDE 3' WIDE ADA PATHWAY, 2% MAX. CROSS SLOPE W/ TRUNCATED DOMES

PROJECT DATA

LEGAL DESCRIPTION

LOTS 19/20, 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

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:

- EXISTING CONTOURS, SPOT ELEVATIONS, AND EXISTING DRAINAGE PATTERNS.
- PROPOSED IMPROVEMENTS: 8 RESIDENTIAL HOME PAD SITES, NEW PERIMETER SOLID WALL, CONCRETE DRIVEWAYS, AND NEW GRADE ELEVATIONS.
- CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS.
- QUANTIFICATION AND ACCEPTANCE OF UPSTREAM OFFSITE FLOWS WHICH CONTRIBUTE TO THE DEVELOPED FLOWS GENERATED BY THE IMPROVEMENTS.
- UPSTREAM ANALYSIS AS TO WATER SURFACE MODEL AND EROSION SETBACK.

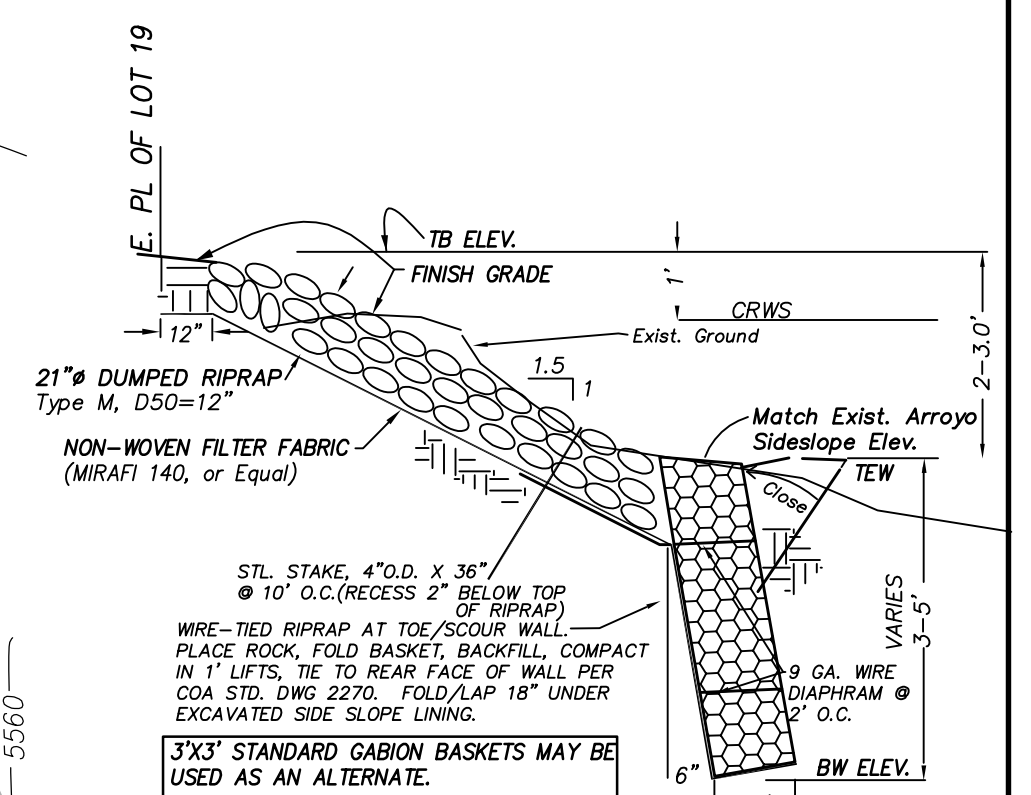
THE PURPOSE OF THE PLAN IS TO ESTABLISH CRITERIA FOR CONTROLLING STORM RUNOFF AND EROSION, AND ESSENTIALLY ALLOWING HISTORIC FLOWS TO CONTINUE TO DRAIN THROUGH THE PROPERTY. PRESENTLY, THE SITE IS BOUNDED ON THE EAST, WEST AND NORTH BY UNDEVELOPED PROPERTY. SIGNAL AVENUE ON THE SOUTH IS A 15' IMPROVED 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 ENCOMBERED BY A DESIGNATED FEMA FLOODPLAIN.

HISTORICAL SITE RUNOFF OUTFALL LOCATIONS WILL REMAIN UNCHANGED IN DEVELOPMENT. SINCE SIGNAL AVE IS IMPROVED MINIMAL GRADING IS PROPOSED WITHIN THE CITY R.O.W. FREE DISCHARGE OF DEVELOPED FLOW IS ACCEPTABLE SINCE DOWNSTREAM CAPACITY (LA CUEVA CHANNEL) EXISTS.

NOTES

- ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, W/ 8 UPDATES.
- AN EXCAVATION/CONSTRUCTION PERMIT IS REQUIRED BEFORE BEGINNING ANY WORK WITHIN WORK AREA. 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.
- CONTRACTOR SHALL ENSURE THAT NO SITE SOILS/SEDIMENT OR SILT ENTER THE RIGHT-OF-WAYS DURING CONSTRUCTION.
- AREAS DISTURBED DUE TO CONSTRUCTION PER CITY OF ALBUQ. SPEC. 1012 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.



RIPRAP EROSION CONTROL LINING

NO SCALE SECTION A

APPROVED FOR ROUGH GRADING ONLY

8/20/15
PHILIP W. CLARK
NEW MEXICO
1985
PROFESSIONAL ENGINEER

Clark Consulting Engineers 19 Ryan Road Edgewood, New Mexico 87015 Tel: (505) 281-2444 Fax: (505) 281-2444	
DATE	REVISION
6/12/15	ADDR. CITY ENGR.
(2/8/19/15)	COMMENTS
LOTS 19 & 20, BLK. 4, TR. 3, UNIT 3 NORTH ALBUQ. ACRES, ALBUQ. NEW MEXICO SIGNAL POINTE SUBDIVISION Grading & Drainage Plan	
DESIGNED BY: PWC	DRAWN BY: CCE
CHECKED BY: PWC	DATE: 2/26/15
JOB #: SignPointe	SHEET 1 OF 1