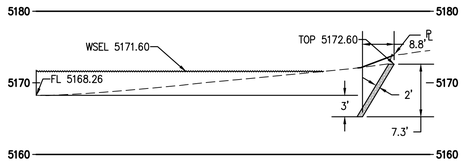
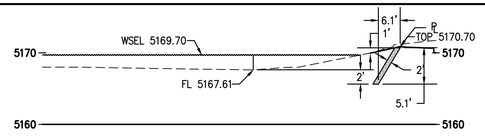
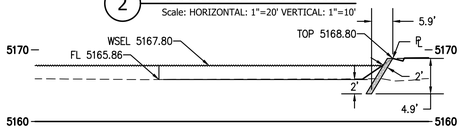


1 SCOUR WALL SECTION
Scale: HORIZONTAL: 1"=20' VERTICAL: 1"=10'

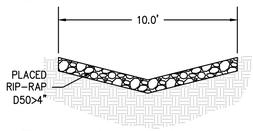


2 SCOUR WALL SECTION
Scale: HORIZONTAL: 1"=20' VERTICAL: 1"=10'

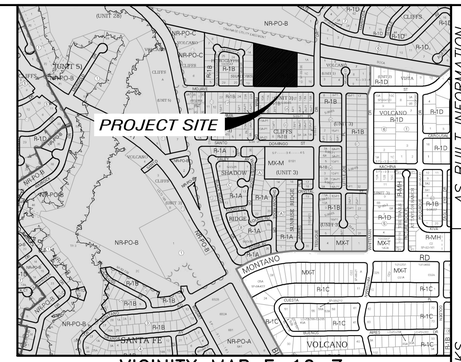


3 SCOUR WALL SECTION
Scale: HORIZONTAL: 1"=20' VERTICAL: 1"=10'

4 SCOUR WALL DETAIL
Scale: 1"=5'



5 DISCHARGE SECTION
Scale: 1"=4'



VICINITY MAP E-10-Z

NOTES

THE ENGINEER HAS UNDERTAKEN LIMITED FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UNDERGROUND UTILITY LINES. MAKES NO REPRESENTATION PERTAINING THERETO AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFORE. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY, AND PRESERVE ANY AND ALL EXISTING UTILITIES. THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES IN PLANNING AND CONDUCTING EXCAVATION, WHETHER BY CALLING OR NOTIFYING THE UTILITIES, COMPLYING WITH "BLUE STAKES" PROCEDURES, OR OTHERWISE.

THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR.

THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, ARE INTENDED FOR USE ON THIS PROJECT AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF THE GROUP. IN THE EVENT OF UNAUTHORIZED USE, THE USER ASSUMES ALL RESPONSIBILITY AND LIABILITY WHICH RESULTS.

GENERAL NOTES:

1. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER THIS CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREIN, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2020 EDITION.

2. THE EROSION PROTECTION SPECIFIED ON THIS PLAN IS THE MINIMUM RECOMMENDED. THE OWNER IS ENCOURAGED TO INCORPORATE EROSION RESISTANT LANDSCAPING ON AREAS WHERE EROSION MAY OCCUR SUCH AS SLOPES AND SWALES. THE OWNER IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL FEATURES NECESSARY TO PRESERVE THE DESIGN INTENT OF THE GRADING PLAN.

3. THE DRAINAGE INFRASTRUCTURE SHOWN ON THIS PLAN IS THE RESPONSIBILITY OF THE PROPERTY OWNER.

4. ALL DISTURBED AREAS OUTSIDE THE BUILDING ENVELOPE MUST BE RESEED IN ACCORDANCE WITH THE SEED MIX INDICATED IN THE OXBOW GUIDELINES.

5. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, (260-1990) FOR LOCATION OF EXISTING UTILITIES.

6. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS AND EXISTING PAVEMENT. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR SURVEYOR SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM OF DELAY.

EROSION CONTROL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.

LEGEND

- FLOW ARROW
- EL 11.28 — PROPOSED ELEVATION
- × EL 11.28 — EXISTING ELEVATION
- GRADE BREAK/WATER BLOCK
- 9999 — EXISTING CONTOUR
- 9999 — EXISTING CONTOUR
- PROPOSED EASEMENT
- 4.00% — PROPOSED GRADE
- EXISTING WALL
- RETAINING WALL
- PRIVACY WALL

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 12/05/22
BY: Ronald C. Bohannan
HydroTrans # E10D024
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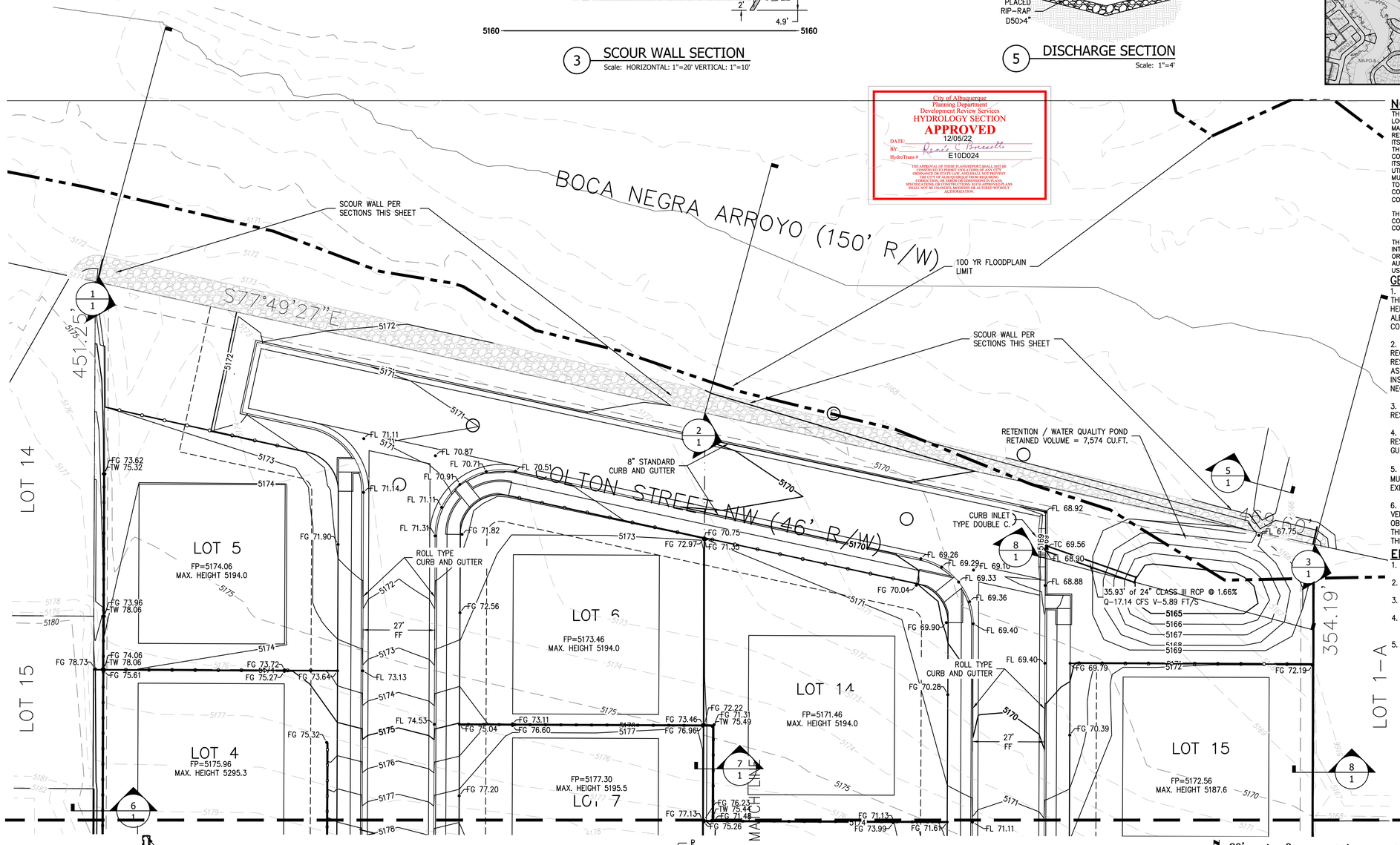
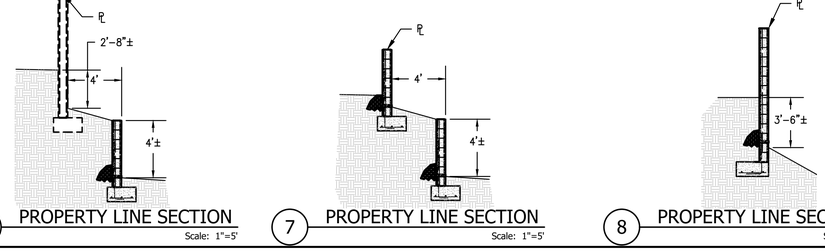
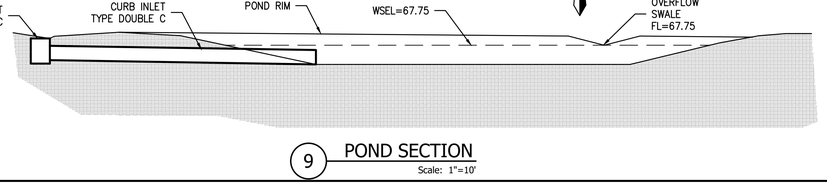




6 PROPERTY LINE SECTION
Scale: 1"=5'

7 PROPERTY LINE SECTION
Scale: 1"=5'

8 PROPERTY LINE SECTION
Scale: 1"=5'



9 POND SECTION
Scale: 1"=10'

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED ON
ACCEPTANCE BY
VERIFICATION BY
DRAWINGS
CONSTRUCTED BY
DATE
DATE
DATE
DATE
DATE

BENCH MARKS
"ACS BM 27-E10" LOCATED ON THE NORTH SIDE OF MOJAVE STREET NW, 12' FEET WEST OF THE CENTERLINE OF MOON SHADOWS DRIVE NW. THE STATION IS SET IN THE TOP OF THE CONCRETE CURB. ELEVATION (NAVD 1988) = 5201.604

MICRO-FILM INFORMATION
RECORDED BY
DATE
NO.

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
RON E. HENSLEY
NEW MEXICO
21850
REGISTERED PROFESSIONAL ENGINEER
11/14/22

NO.	DATE	REMARKS	BY	DATE
		DESIGN	DESIGNED BY REH	4-12-16
		REVISIONS	DRAWN BY REH	4-12-16
			CHECKED BY REH	4-12-16

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

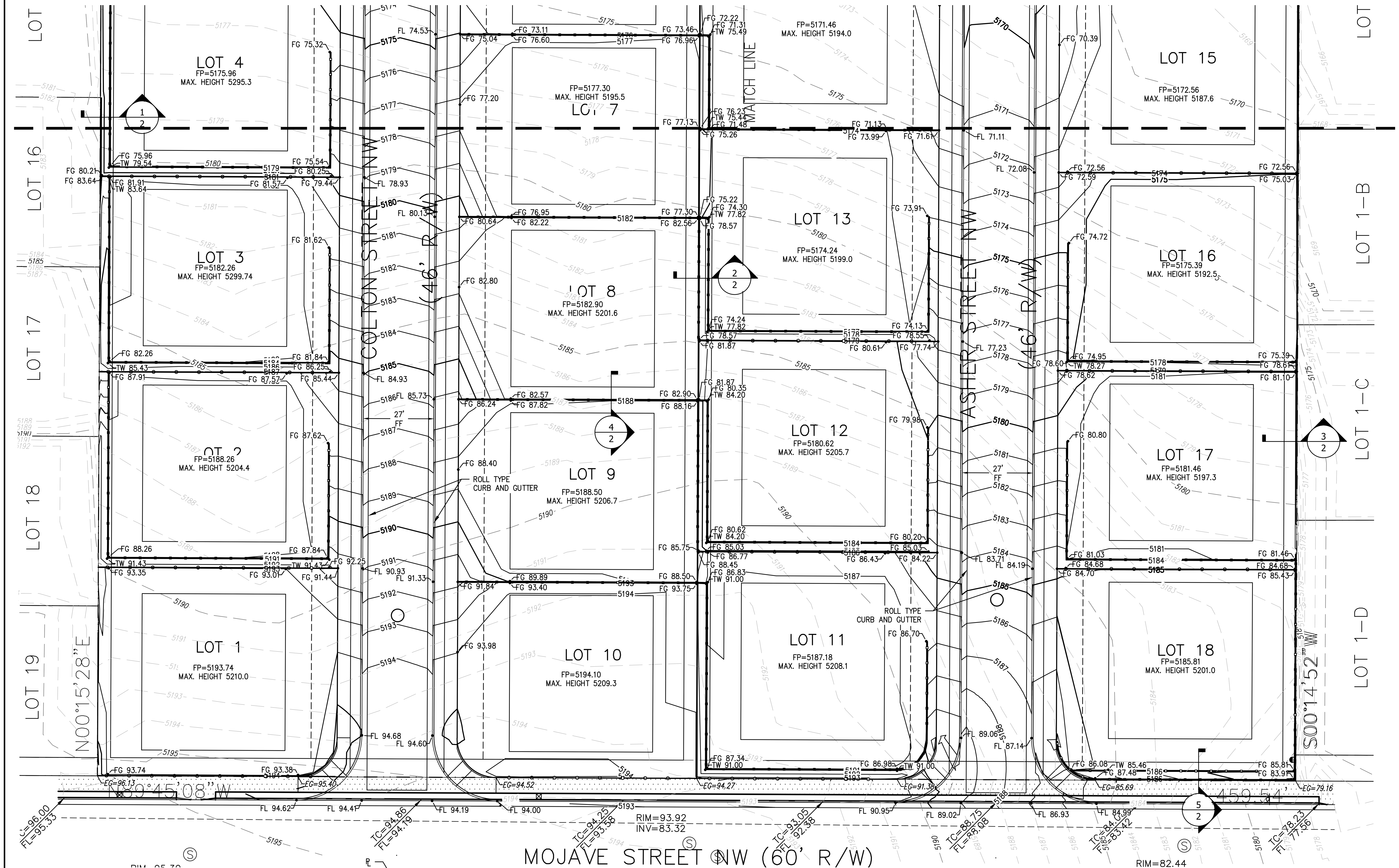
MOJAVE SUBDIVISION
GRADING AND DRAINAGE
GRADING PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	Mo./DAY/YR.	Mo./DAY/YR.

CITY PROJECT No.

ZONE MAP NO. E-10

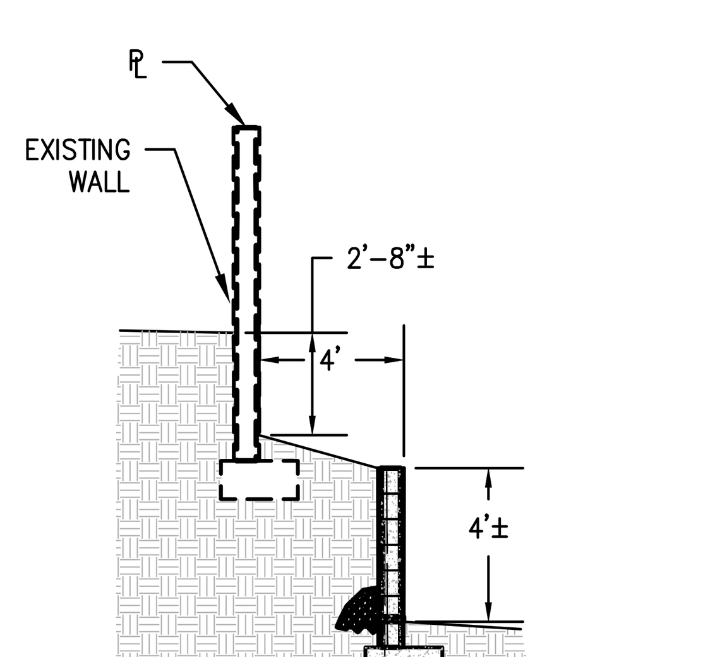
SHEET 1 OF 3



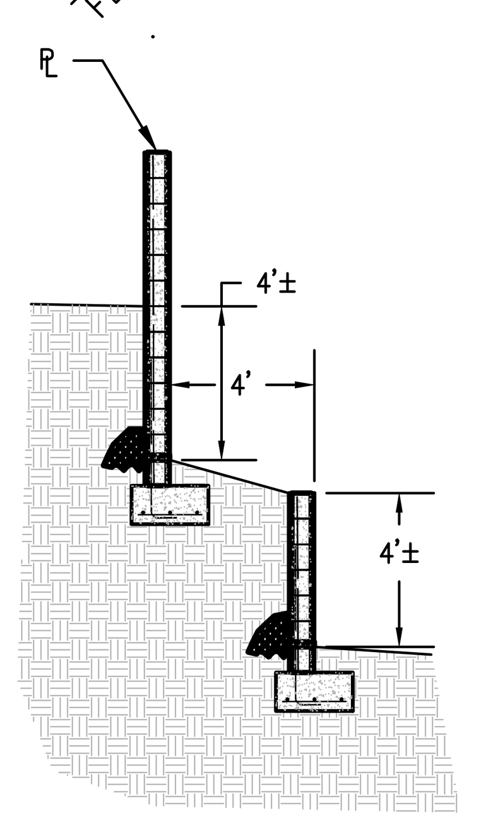
LEGEND

	FLOW ARROW
EL 11.28	PROPOSED ELEVATION
× EL 11.28	EXISTING ELEVATION
	GRADE BREAK/WATER BLOCK
9999	EXISTING CONTOUR
9999	EXISTING CONTOUR
	PROPOSED EASEMENT
4.00%	PROPOSED GRADE
	EXISTING WALL
	RETAINING WALL
	PRIVACY WALL

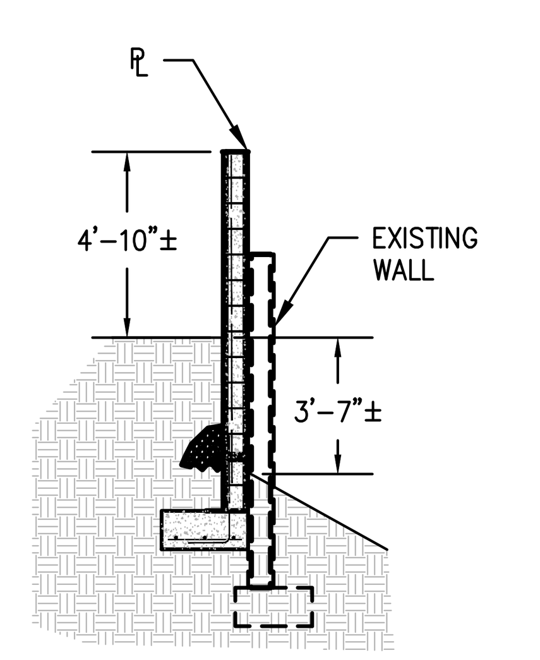
SCALE: 1" = 20'



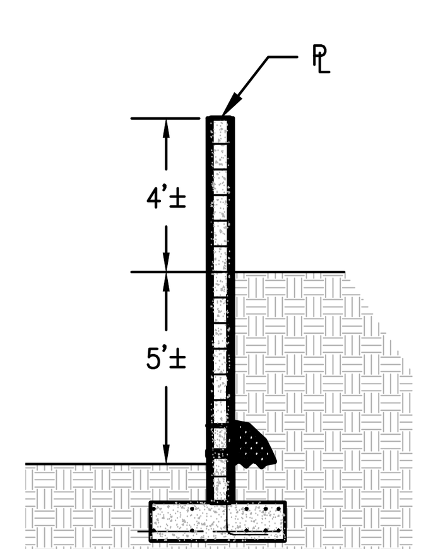
1 PROPERTY LINE SECTION
Scale: 1"=5'



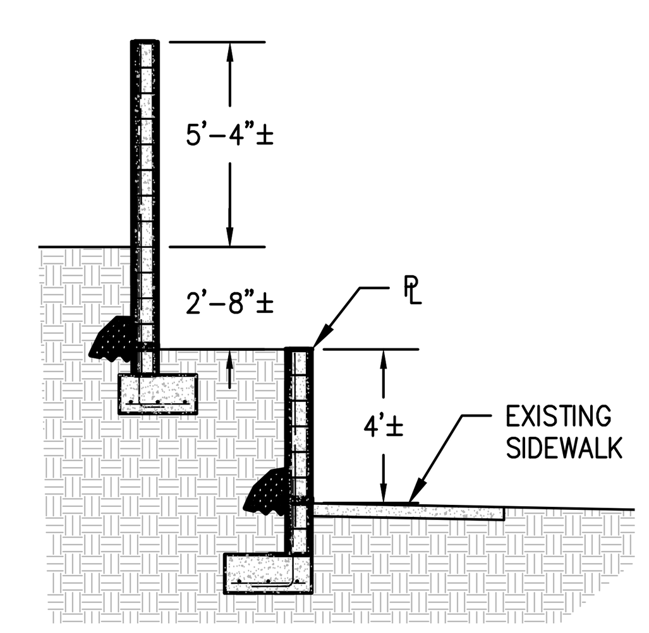
2 PROPERTY LINE SECTION
Scale: 1"=5'



3 PROPERTY LINE SECTION
Scale: 1"=5'



4 PROPERTY LINE SECTION
Scale: 1"=5'



5 PROPERTY LINE SECTION
Scale: 1"=5'

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 12/05/22
BY: Renée C Brissette
HydroTrans # E10D024

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AS BUILT INFORMATION

CONTRACTOR	
WORK STAKED BY	DATE
INSPECTOR'S ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE

MICRO-FILM INFORMATION

RECORDED BY	DATE
NO.	

BENCH MARKS

"ACS BM 27-E10" LOCATED ON THE NORTH SIDE OF MOJAVE STREET NW, 12* FEET WEST OF THE CENTERLINE OF MOON SHADOWS DRIVE NW. THE STATION IS SET IN THE TOP OF THE CONCRETE CURB. ELEVATION (NAVD 1988) = 5201.604

SURVEY INFORMATION

FIELD NOTES		
NO.	BY	DATE

ENGINEER'S SEAL

RON E. HENSLEY
NEW MEXICO
21850
LICENSED PROFESSIONAL ENGINEER
11/14/22

REVISIONS			
NO.	DATE	REMARKS	BY
		DESIGN	

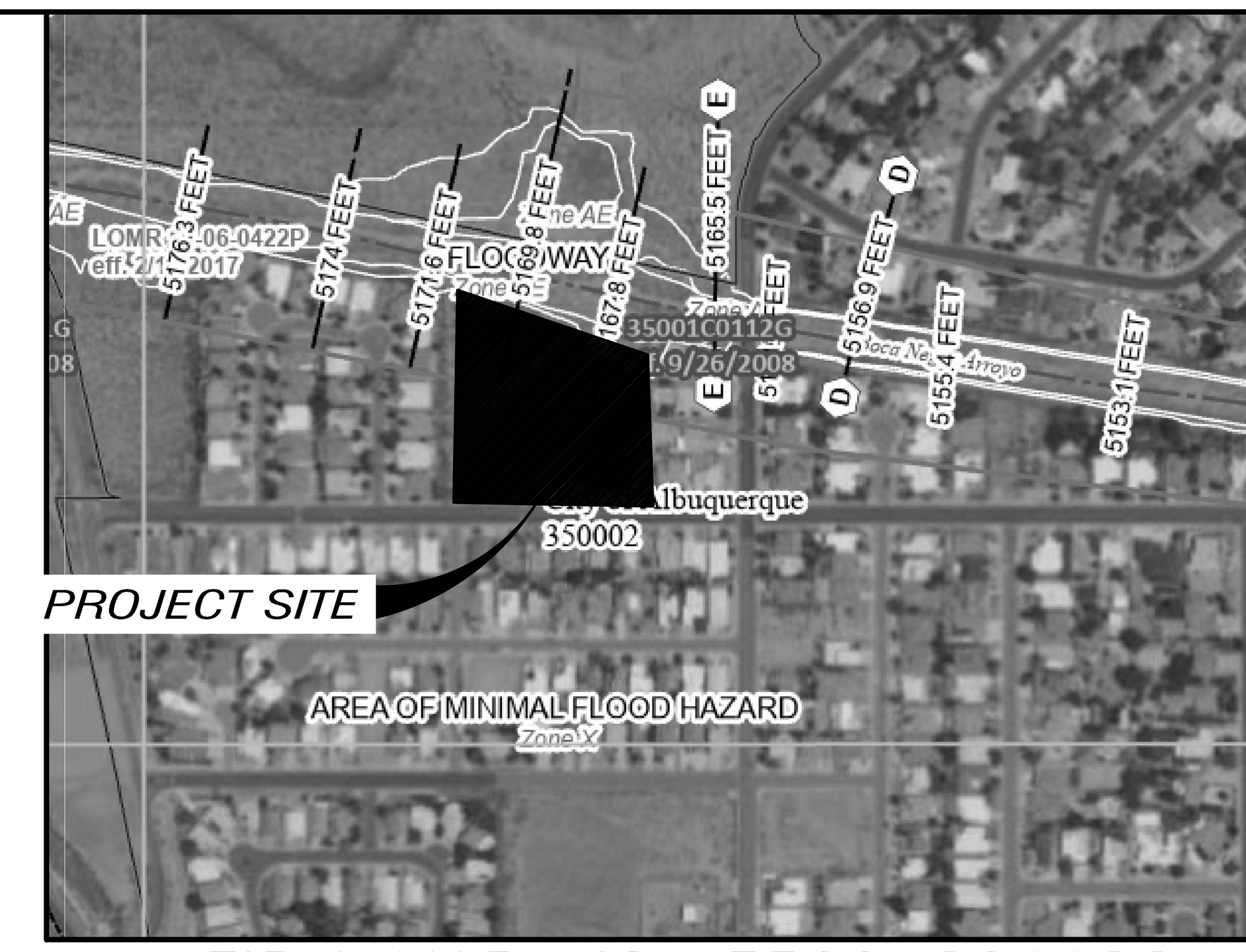
DESIGNED BY	REH	DATE 4-12-16
DRAWN BY	REH	DATE 4-12-16
CHECKED BY	REH	DATE 4-12-16

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

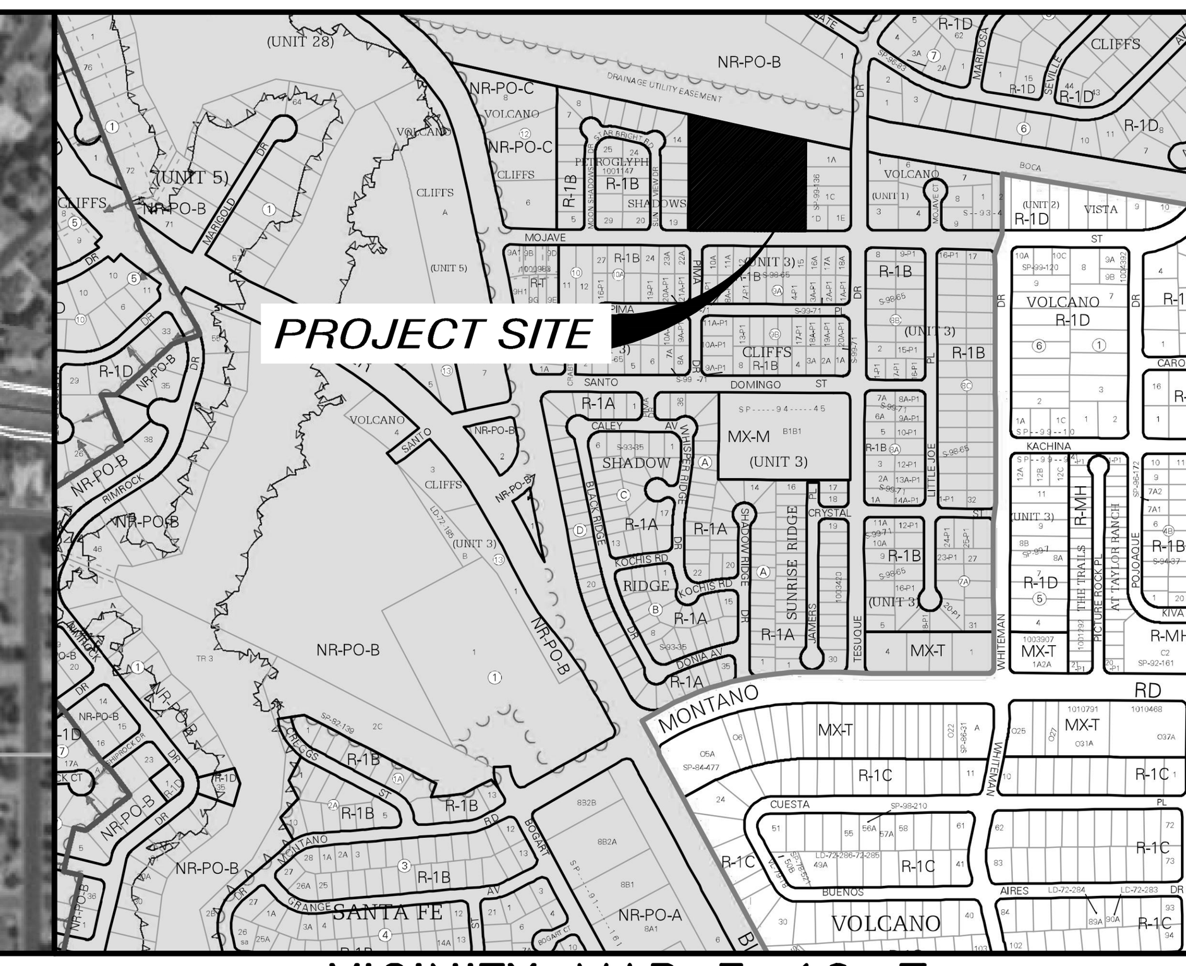
MOJAVE SUBDIVISION
GRADING AND DRAINAGE
GRADING PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	Mo./DAY/YR.	Mo./DAY/YR.

CITY PROJECT No.	ZONE MAP NO. E-10	SHEET 2 OF 3



FIRM MAP NO. 35001C0112G



VICINITY MAP E-10-Z

LOCATION & DESCRIPTION

THE PROPOSED SITE IS 0.32 ACRES LOCATED ON THE NORTH SIDE OF MOJAVE ROAD AS SEEN ON THE VICINITY MAP.

FLOODPLAIN STATUS

THE CONSTRUCTION OF THIS PROJECT, AS SHOWN ON FEMA'S FLOOD INSURANCE RATE MAP 35001C0112G, DATED SEPTEMBER 26, 2008 IS NOT WITHIN FLOODPLAIN ZONE X WITH MINIMAL FLOOD HAZARD. AN EXHIBIT WITH THE SITE SHOWN ON THE FIRM PANEL IS INCLUDED ON THIS SHEET. THE SITE IS NOT WITHIN A FLOOD ZONE.

METHODOLOGY

EQUATIONS:
WEIGHTED E = Ea*Aa + Eb*Ab + Ec*Ac + Ed*Ad / (Total Area)
FLOW = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad
WHERE FOR 100-YEAR, 6-HOUR STORM(ZONE1)
Ea= 0.44 Qa= 1.29
Eb= 0.67 Qb= 2.03
Ec= 0.99 Qc= 2.87
Ed= 1.97 Qd= 4.37

BASIN	AREA (sf)	TREATMENT A %	TREATMENT A sf	TREATMENT B %	TREATMENT B sf	TREATMENT C %	TREATMENT C sf	TREATMENT D %	TREATMENT D sf	WEIGHTED E	VOLUME (cu.-ft.)	FLOW (cfs)
EXISTING	185051	100%	185051	0%	0	0%	0	0%	0	0.7600	11720	8.88
PROPOSED	185051	0%	0	0%	0	54%	100738	46%	84313	2.1750	33541	17.14

PRECIPITATION

THE 100-YR 6-HR DURATION STORM WAS USED AS THE DESIGN STORM FOR THIS ANALYSIS. THIS SITE IS WITHIN ZONE 1 AS IDENTIFIED IN THE DEVELOPMENT PROCESS MANUAL, SECTION 6.

EXISTING DRAINAGE

THE SITE IS WITHIN THE NORTHWEST MESA AREA OF ALBUQUERQUE. THE SITE IS TO MAINTAIN HISTORIC DRAINAGE PATTERNS TO THE BOCA NEGRA ARROYO. THERE ARE NO FLOWS THAT ENTER THE SITE. THE HISTORIC DRAINAGE IS TO THE NE CORNER.

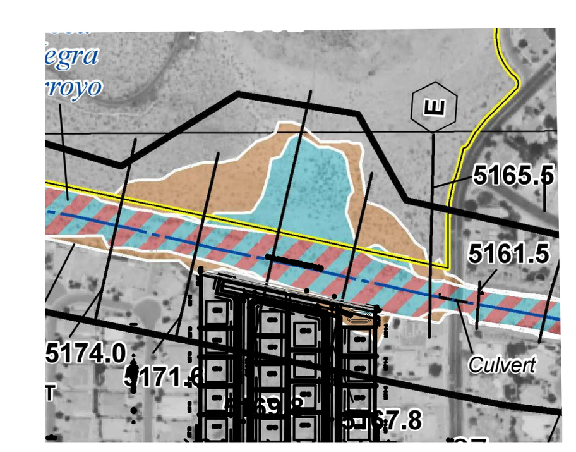
DEVELOPED CONDITION

THIS SITE WILL BE DEVELOPED AS A 18 SINGLE FAMILY HOMES WITH DEVELOPED RUNOFF ROUTED TO A RETENTION / OVERFLOW POND. THE CONDITIONS OF THE BOCA NEGRA ARROYO PER FEMA LOMR 16-06-0422P-350002 EFFECTIVE FEBRUARY 16, 2016.

BOCA NEGRA CONDITIONS

PER FEMA LOMR 16-06-0422P-350002

SECTION E – WSEL=5165.50 Q=1151 cfs
A = 147 sq.ft.
V = 7.8 fps
SECTION E+200' – WSEL=5167.8 Q=1151 cfs
A = 169 sq.ft.
V = Q/A = 6.5 fps
SECTION E+400' – WSEL 5169.8 Q=1151 cfs
A = 137 sq.ft.
V = Q/A = 8.4 fps
SECTION E+600' – WSEL 5171.6 Q=1151 cfs
A = 146 sq.ft.
V = Q/A = 7.9 fps



SCOUR WALL CALCULATION

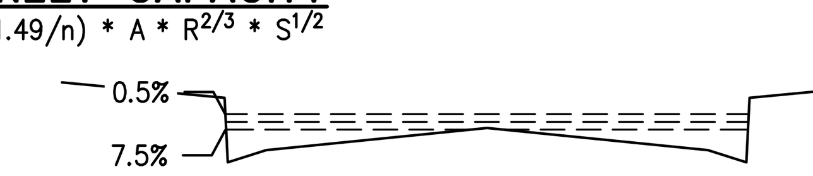
PER AMAFCA SEDIMENT AND EROSION DESIGN GUIDE
y_s=SCOUR DEPTH
$y_s = y * (0.73 + 0.14 * \pi * Fr^2)$ $Fr = v/(gy)^{1/2}$
SECTION 1
v = 7.9 fps
y = 3.5 ft.
$y_s = 3.5 * (0.73 + 0.14 * \pi * 0.53^2) = 3.38$ ft.
SECTION 2
v = 8.4 fps
y = 2.1 ft.
$y_s = 2.1 * (0.73 + 0.14 * \pi * 0.55^2) = 2.50$ ft.
SECTION 3
v = 7.8 fps
y = 2.1 ft.
$y_s = 2.1 * (0.73 + 0.14 * \pi * 0.75^2) = 2.39$ ft.

RIP-RAP PER HEC-11

$D_{50} > C_S * .001 * v^3/y^{1/2}$ $C_S = (2.12/(G_S-1)^{3/2}$ G_S=2.91
$D_{50} > 0.80 * .001 * 4.5^3/2.08^{1/2} = 0.05$ ft

STREET CAPACITY

$Q=(1.49/n) * A * R^{2/3} * S^{1/2}$



Slope (ft/ft)	Depth (ft)	Q (cfs)	Area (sqft)	Veloc (ft/s)	Wp (ft)	Yc (ft)	TopWidth (ft)	Energy (ft)
0.075	0.28	8.5	2.01	4.24	19.59	0.37	19.17	0.58
0.02	0.34	8.5	3.33	2.65	25.71	0.37	25.17	0.44
0.005	0.5	17.14	8.24	2.08	33.05	0.46	32.25	0.57

INLET CAPACITY

PER DPM FIGURE 6.9.11
CAPACITY – DEPTH=0.75 ft. = 11.5 cfs/grate = 2 * 11.5 23.0 cfs
Q=17.14/2 cfs PER GRATE = 8.57 cfs/grate – DEPTH=0.65 ft.

PIPE FLOW

A=Q/V=17.14 cfs/5.89 fps = 2.91 sq.ft.
PIPE AREA = $\pi * r^2 = \pi * 1^2 = 3.14$ sq.ft.
DEPTH = 1.74 ft.

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
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BY: Renée C. Brissette
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AS BUILT INFORMATION
CONTRACTOR | DATE
WORK STAKED BY | DATE
INSPECTOR'S ACCEPTANCE BY | DATE
FIELD VERIFICATION BY | DATE
DRAWINGS CORRECTED BY | DATE

MICRO-FILM INFORMATION
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BENCH MARKS
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FIELD NOTES
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RON E. HENSLEY
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REVISIONS			
NO.	DATE	REMARKS	BY

DESIGN
DESIGNED BY REH DATE 4-12-16
DRAWN BY REH DATE 4-12-16
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CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

MOJAVE SUBDIVISION
GRADING AND DRAINAGE
DRAINAGE PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	Mo./DAY/YR.	Mo./DAY/YR.

CITY PROJECT No. | ZONE MAP NO. D-21 | SHEET 3 OF 3