

CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



Mayor Timothy M. Keller

May 28, 2021

Donald Briggs, P.E.
Don Briggs Engineering LLC
5324 Oakledge Ct. NW
Albuquerque, New Mexico 87120

RE: **8500 Glendale Ave. NE**
Permanent CO - Approved
Engineers Stamp Date; 12/4/20
Certification Stamp Date; 5/16/21

Dear Mr. Briggs,

The construction of the scour wall does not match the approved drawings nor do they match City standards. After expressing concern with this you have stated that you are willing to certify this design. Therefore, based solely upon the information provided in your certification received 5/20/2021 this plan is approved for Certificate of Occupancy release by Hydrology.

PO Box 1293

Please note based on our discussion on 5/28/21 this approval is contingent on the slope of the scour wall must be seeded with native seed mix per City specification 1012.2 to help stabilize the slope. Also the property owner is responsible for maintaining the scour wall up to replacing it if necessary.

Albuquerque

NM 87103

Also be aware there is still an active work order regarding this property that must be completed.

If you have any questions, please contact me at 924-3999 or earnijo@cabq.gov.

www.cabq.gov

Sincerely,

Ernest Armijo, P.E.
Principal Engineer, Planning Dept.
Development Review Services



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2018)

Project Title: _____ **Building Permit #:** _____ **Hydrology File #:** _____

DRB#: _____ **EPC#:** _____ **Work Order#:** _____

Legal Description: _____

City Address: _____

Applicant: _____ **Contact:** _____

Address: _____

Phone#: _____ **Fax#:** _____ **E-mail:** _____

Owner: _____ **Contact:** _____

Address: _____

Phone#: _____ **Fax#:** _____ **E-mail:** _____

TYPE OF SUBMITTAL: _____ PLAT (___ # OF LOTS) _____ RESIDENCE _____ DRB SITE _____ ADMIN SITE

IS THIS A RESUBMITTAL?: _____ Yes _____ No

DEPARTMENT: _____ TRAFFIC/ TRANSPORTATION _____ HYDROLOGY/ DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

- _____ ENGINEER/ARCHITECT CERTIFICATION
- _____ PAD CERTIFICATION
- _____ CONCEPTUAL G & D PLAN
- _____ GRADING PLAN
- _____ DRAINAGE MASTER PLAN
- _____ DRAINAGE REPORT
- _____ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
- _____ ELEVATION CERTIFICATE
- _____ CLOMR/LOMR
- _____ TRAFFIC CIRCULATION LAYOUT (TCL)
- _____ TRAFFIC IMPACT STUDY (TIS)
- _____ OTHER (SPECIFY) _____
- _____ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- _____ BUILDING PERMIT APPROVAL
- _____ CERTIFICATE OF OCCUPANCY
- _____ PRELIMINARY PLAT APPROVAL
- _____ SITE PLAN FOR SUB'D APPROVAL
- _____ SITE PLAN FOR BLDG. PERMIT APPROVAL
- _____ FINAL PLAT APPROVAL
- _____ SIA/ RELEASE OF FINANCIAL GUARANTEE
- _____ FOUNDATION PERMIT APPROVAL
- _____ GRADING PERMIT APPROVAL
- _____ SO-19 APPROVAL
- _____ PAVING PERMIT APPROVAL
- _____ GRADING/ PAD CERTIFICATION
- _____ WORK ORDER APPROVAL
- _____ CLOMR/LOMR
- _____ FLOODPLAIN DEVELOPMENT PERMIT
- _____ OTHER (SPECIFY) _____

DATE SUBMITTED: _____ **By:** _____

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____



May 15, 2021

Mr. Shahab Biazar, P.E.
City Engineer
Development Review Services
City of Albuquerque
Via email sbiazar@cabq.gov

Dear Mr. Biazar:

Based on discussions with City staff I have performed a review of the materials and construction of the scour wall installation at 8500 Glendale NE. The results I have presented here are based on multiple site visits, field measurements, photographs and a re-examination of the above ground rip rap material.

The approved design of the scour wall called for the installation of Type L (9" mean particle size) angular rip rap in a 1.2' thick layer. The top of the rip rap layer was to extend below grade in the arroyo channel to an elevation 4.5' below the thalweg of the channel. Cut stakes for this area were provided by Dehler Surveying. A site visit I completed on 9/9/2020 showed the excavation for the placement of the below grade material met or exceeded the design requirements. I have attached a photo of the excavation. The recycled concrete placed in the excavation area does not meet the exact particle size distribution for Type L rip rap as presented in Section 109 as much of the material is larger than the 9" mean particle size and some of the material is smaller than the 3" minimum (see photo 10/5/2020). However, I believe the material will meet the intent for scour protection based on the larger size and also the length between the toe of the slope and the south edge of the scour protection is more than twice the design requirement of 5' (see G&D plan B20D067).

The rip rap material placed on the slope was examined on 3/3/21 for the purpose of certification of the project. The material again is significantly larger than the 9" Type L requirement. There were some piles of dirt and construction debris on the surface of the rip rap. This material was not addressed in the certification as it does not affect the integrity of the scour wall.

On 5/5/21 I revisited the site to document the size and construction of the rip rap. I have attached photos of the material with a measuring tape that shows the size of the material. I also examined the pore spaces between the rip rap blocks to check that the smaller dirt material and construction debris was placed on top rather than within the layer. The layer had many open spaces which indicate the finer material was not brought in with the rip rap. However I did find some isolated pieces of broken concrete block that did appear to have come in with the rip rap. There were very few of these.

During this visit I observed that the amount of construction debris was significantly more than I saw at my previous visit. The Owner indicated he would have his landscaper remove the debris, break up and redistribute some of the larger (4'+) concrete slabs and plate the rip rap with dirt to promote vegetative growth.

My last visit on 5/14/21 found the work completed. I have provided photos of the completed work.

I will certify the material and construction of the scour wall based on the above information. I would like to thank your staff for questioning this project as it was not constructed under the required work order procedures. I picked up this project after it had been started and was unaware of this requirement.

As this is a scour wall and is not intended to protect the home over time I would suggest making sure the Covenant makes clear that the Owner is responsible for maintaining the infrastructure in its current condition.

Sincerely

Don Briggs PE
Cc: John Jones

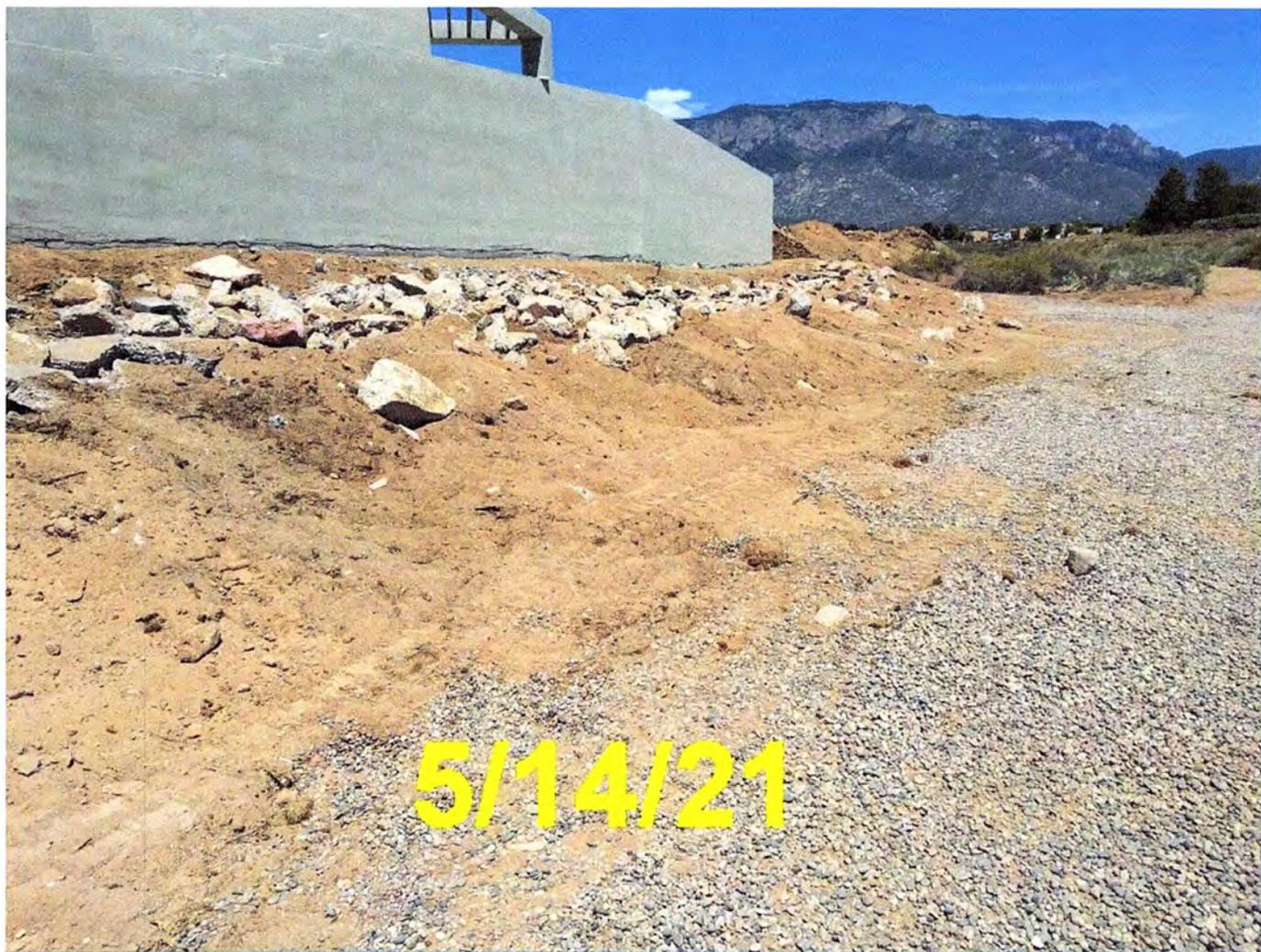






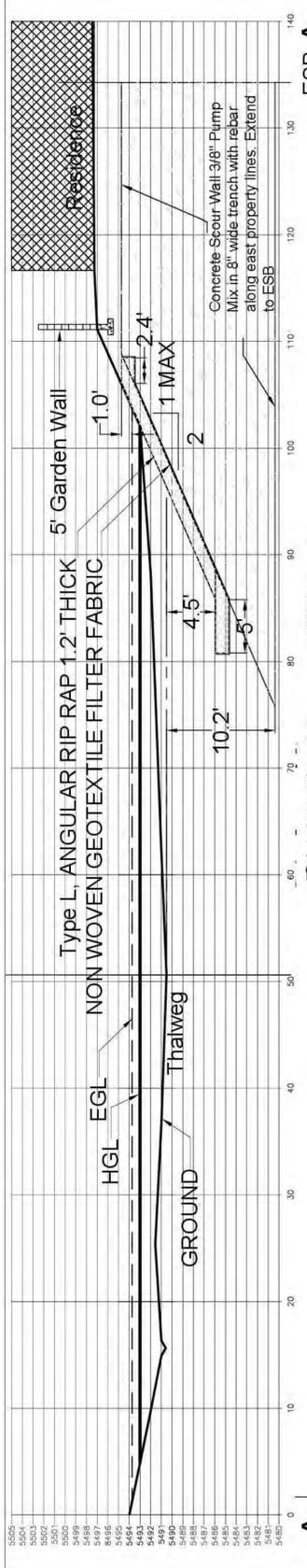












ESB A

Concrete Scour Wall 3/8" Pump Mix in 8" wide trench with rebar along east property lines. Extend to ESB

5' Garden Wall

Type L, ANGULAR RIP RAP 1.2" THICK NON WOVEN GEOTEXTILE FILTER FABRIC

1.0'

1 MAX

2

10.2'

4.5'

6"

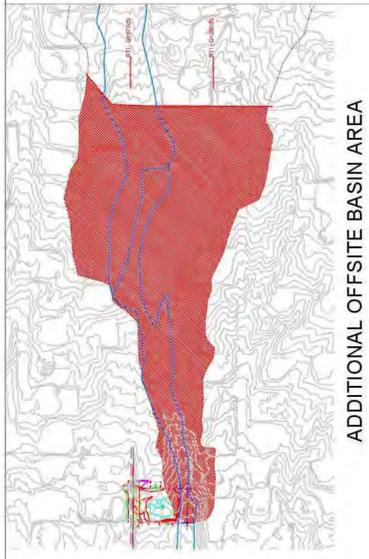
GROUND

THALWEG

HGL

EGL

ESB A



ADDITIONAL OFFSITE BASIN AREA

Hydrology Calculations
Additional Offsite, Watershed Assuming Full Development

24.8224 ac. 1071171.1 sq ft. Determined by DB

Land Treatment	Percent	Area (ac.)	Excess Precipitation (in.)	Unit Peak Discharge (cfs/acre)	Runoff Volume (ac-ft)	Peak Discharge (cfs)	Comments
A	20.00%	4.97	0.06	1.87	0.27	9.23	Natural Ground
B	20.00%	4.97	0.18	1.87	0.45	17.87	Landscaped Area
C	34.00%	8.42	1.29	3.45	0.80	28.87	Compacted Earth
D	26.00%	6.41	2.36	5.02	1.26	32.12	Impervious Area
TOTAL	100.00%	24.82	1.37	2.81	2.81	83.00	

290
675
1044.04

RTI Flows at Ventura (Camino Arroyo)

Total

DRAINAGE CERTIFICATION

I, Don Briggs, NMPE 14912, OF THE FIRM, Don Briggs Engineering LLC, HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 12/4/2020. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY Chris Dehler, NMPS 7923, OF THE FIRM Dehler Surveying LLC.

I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON 10/5/2020 AND 3/21/2021 AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR CERTIFICATE OF OCCUPANCY.

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND IS INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE ASPECTS OF THIS PROJECT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

NOTE: Scour wall requires periodic owner inspection and maintenance. Please see Covenant for more information.

DRAINAGE NARRATIVE

This grading & drainage plan was prepared to support a building permit application for a new residence located at Camino Arroyo NE (Lot 3, Block 17, Unit 3, NMA) in Northern Albuquerque, NM. The plan was prepared using the hydrology methodology presented in Chapter 22.2 of the City of Albuquerque's Development Process Manual (abbreviated method).

The site is a 0.89 acre parcel located in Precipitation Zone 3. The site is impacted by the Camino Arroyo with an estimated flow rate of 10.46 cfs (RTI Flows @ Ventura + additional developed basin flow) at the property. The property is partially located in FEMA Flood Zone AO (Depth 27) as shown on panel 3500TC0133H. Sewer and water service is available from ABCOWUA.

Stormwater impacts and mitigation requirements are determined by comparing runoff from the proposed developed conditions to the NAA allowable conditions (see Site Hydrology on this plan). Mitigation measures are designed to reduce developed runoff to at or below the NAA allowable.

This analysis indicates that the site developed runoff will not exceed the allowable runoff in a 100yr. 6hr. rainfall event so ponding is not required.

The offsite Camino Arroyo flow is passed through the property in its natural channel location. A hydraulic analysis of the Camino Arroyo was performed using the US Army's HEC-RAS software to determine the Hydraulic Grade Line, Energy Grade Line and flow velocity. The results of the analysis indicated the developed lot will have a minimum 2' clearance above the river surface and a response to the Energy Grade Line at the South East corner. A Design Elevation that encompasses the Energy Grade Line is proposed. The HEC-RAS analysis is presented on Sheet 2 of 2.

Due to the proximity of the home to the Camino Arroyo a scour analysis is required. Scour calculations were performed using the equations presented in AMAFCA's Sediment and Erosion Design Guide. The Erosion Setback is calculated at 9' and the parallel scour depth at 4.5' (0.5' + 1' Safety Factor) and 10.2' (9.2' + 1') for the perpendicular scour wall design is presented on this plan.

Construction of public infrastructure is required with this development. This infrastructure is shown on Sheet 3 of 3 and will be completed through the Development Review Board process.

GENERAL NOTES

Contractor is responsible for utility spots and controlling sediment deposition and erosion during construction.

A concrete washout bin must be provided as per Bernalillo County MS4 Permit requirements.

All disturbed area due to construction must be reseeded or landscaped following construction.

NO.	DATE	RECORDED BY

RECORDING INFORMATION

CONTRACTOR

AS BUILT INFORMATION

BENCHMARKS

FIELD NOTES

NO. BY DATE

ENGINEER'S SEAL

SURVEY INFORMATION

ADDRESS COMMENTS

NO. DATE

REVISIONS

DESIGNED BY DB

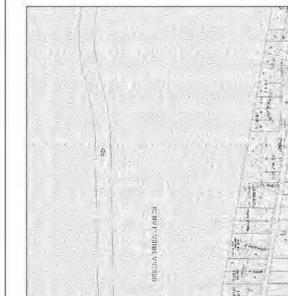
DATE 4/25/2019

DESIGNED BY DB

DATE 4/25/2019

CHECKED BY

DATE



IDO Zone Atlas May 2018

AGIS

MAP SCALE 1"=80'

FRM

ENGINEER'S SEAL

SCOUR CALCULATIONS (SEAS)

GRASSY SECTION 304.85

THALWEG ELEVATION

HGL ELEVATION

VELOCITY

VELOCITY HEAD

VERTICAL EXCESS (Erosion Setback)

VERTICAL EXCESS (Scour Depth)

PARALLEL

SAFETY FACTOR

REQUIRED SCOUR DEPTH

PERPENDICULAR

REQUIRED SCOUR DEPTH ELEVATION

TOP OF SCOUR WALL = EGL + 1'

SCOUR WALL ROCK SIZING

Riprap Layer Thickness

SCOUR WALL CALCULATIONS

Scour Depth

X Section

Thalweg

Blm SW

EGL

Top SW

129.16

5488.5

5484.0

5491.42

5492.42

158.02

5489.3

5484.8

5482.29

181.29

5489.9

5485.4

5483.15

204.95

5490.8

5485.4

5483.86

230.01

5491.4

5489.9

5484.76

255.92

5492.8

5486.3

5486.01

277.76

5493.5

5485.9

5486.37

307.97

5495.3

5486.37

3487.97

3891.97

4395.97

4899.97

5403.97

5907.97

5911.97

6415.97

6919.97

7423.97

7927.97

8431.97

8935.97

9439.97

9943.97

10447.97

10951.97

11455.97

11959.97

12463.97

12967.97

13471.97

13975.97

14479.97

14983.97

15487.97

15991.97

16495.97

17000.00

17504.00

18008.00

18512.00

19016.00

19520.00

20024.00

20528.00

21032.00

21536.00

22040.00

22544.00

23048.00

23552.00

24056.00

24560.00

25064.00

25568.00

26072.00

26576.00

27080.00

27584.00

28088.00

28592.00

29096.00

29600.00

30104.00

30608.00

31112.00

31616.00

32120.00

32624.00

33128.00

33632.00

34136.00

34640.00

35144.00

35648.00

36152.00

36656.00

37160.00

37664.00

38168.00

38672.00

39176.00

39680.00

40184.00

40688.00

41192.00

41696.00

42200.00

42704.00

43208.00

43712.00

44216.00

44720.00

45224.00

45728.00

46232.00

46736.00

47240.00

47744.00

48248.00

48752.00

49256.00

49760.00

50264.00

50768.00

51272.00

51776.00

52280.00

52784.00

53288.00

53792.00

54296.00

54800.00

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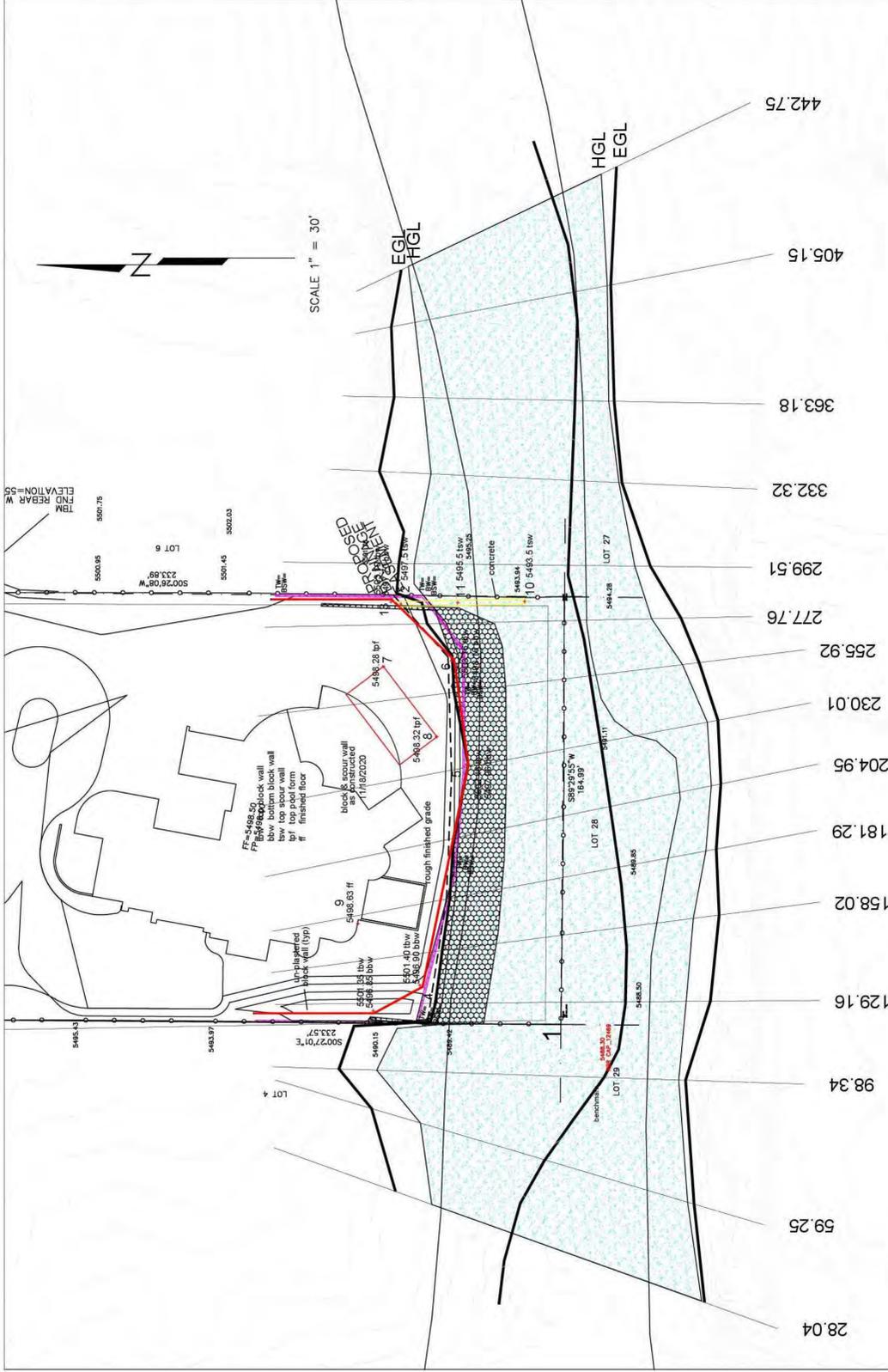
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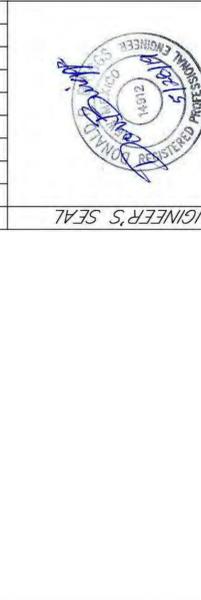
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NO.	DATE	REVISIONS
1	5/28/2019	Address Comments
BY	DB	REVISIONS
DESIGNED BY	DB	DATE 4/25/2019
DRAWN BY	DB	DATE 4/25/2019
CHECKED BY		DATE

CONTRACTOR	DATE	WORK STAKED BY	DATE
AS BUILT INFORMATION		REVISIONS ACCEPTANCE BY	DATE
BENCHMARKS		FIELD VERIFICATION BY	DATE
		RECORDING INFORMATION	DATE
		RECORDED BY	DATE
		NO.	

ENGINEER'S SEAL	FIELD NOTES	NO.	BY	DATE



NO.	DATE	REMARKS
1	5/28/2019	Address Comments
BY	DB	REVISIONS
DESIGNED BY	DB	DATE 4/25/2019
DRAWN BY	DB	DATE 4/25/2019
CHECKED BY		DATE


Don Briggs Engineering LLC
 605-246-4943
 donbriggseengineering@gmail.com
 6324 Oakledge Ct. NW, Albuquerque, NM 87120

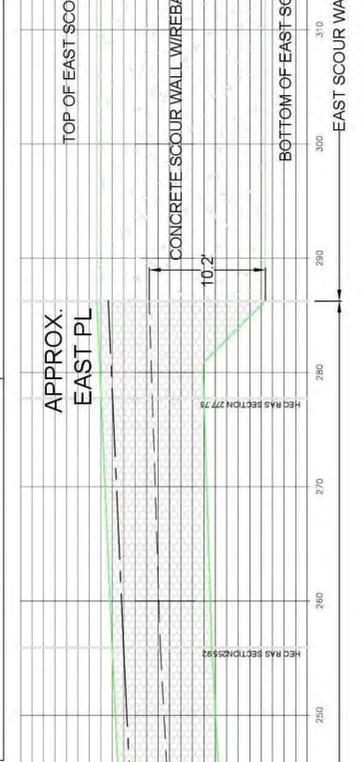
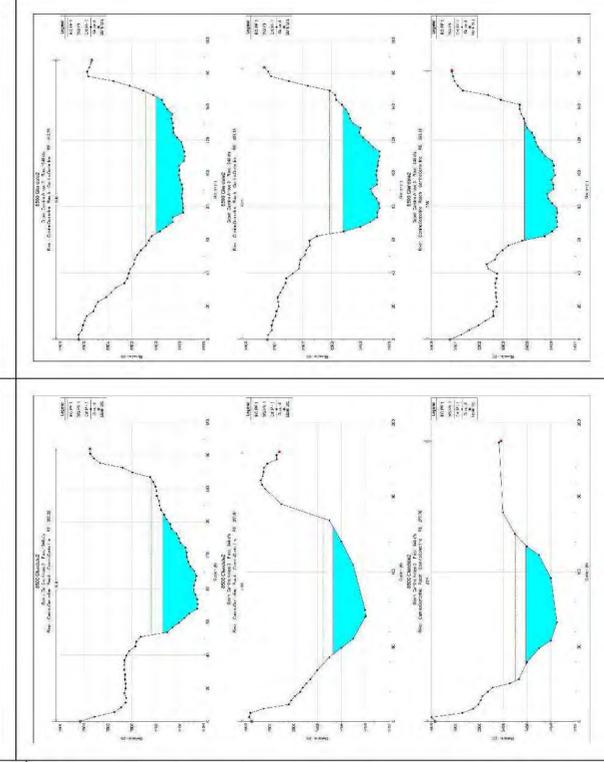
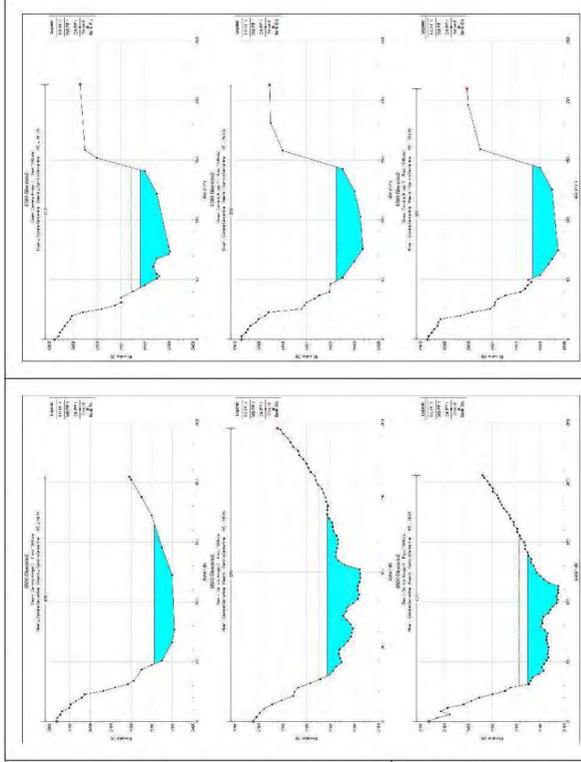
8500 Glendale
HEC RAS Analysis

TITLE:

Design Review Committee
 City Engineer Approval

No. / Day / Wk. No. / Day / Wk.

Sheet **2** Of **3**
 Zone Map No. **B20D067**
 City Project No.

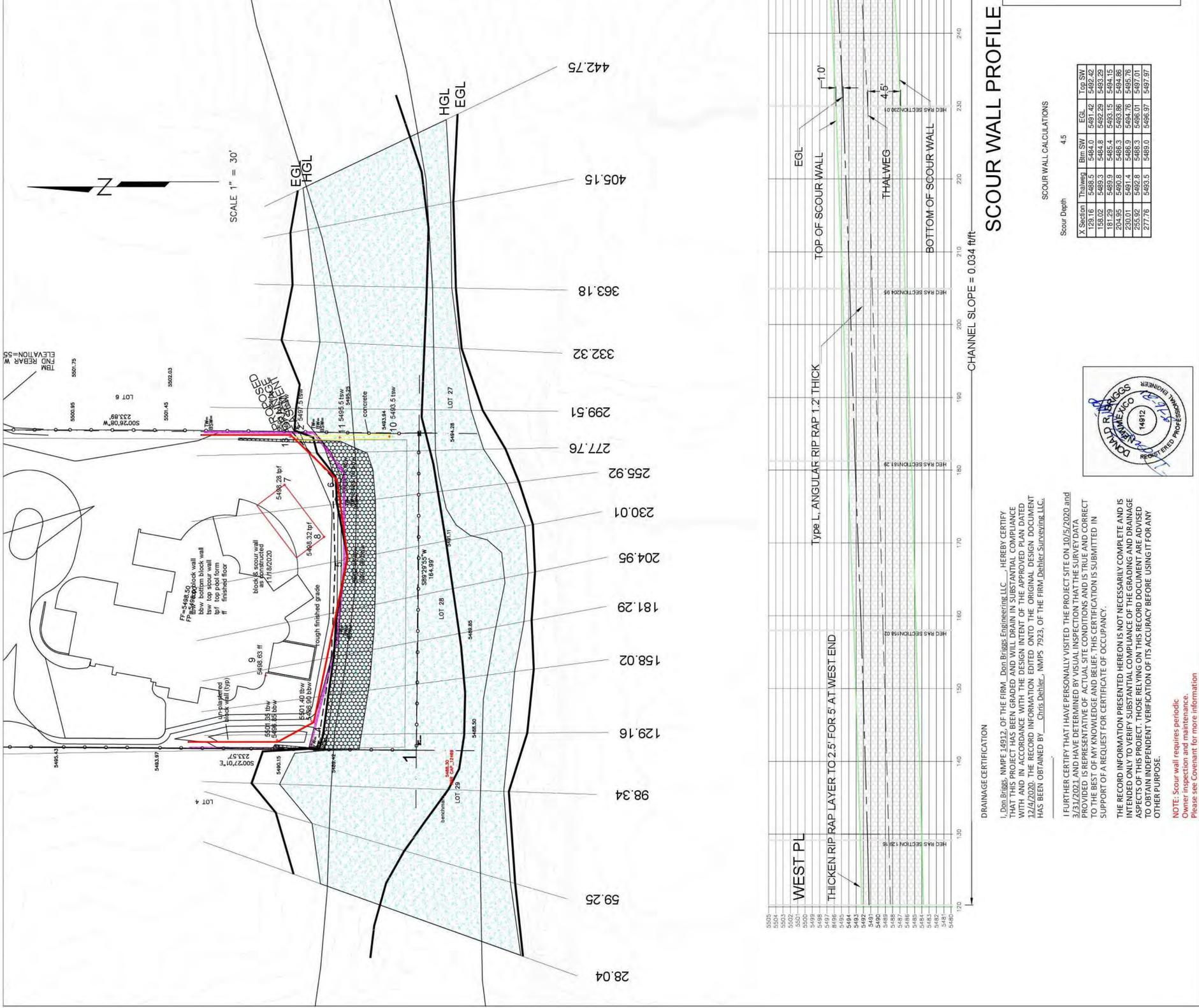


SCOUR WALL CALCULATIONS

Scour Depth 4.5

X Section	Thalweg	Top SW	EGL	Top EGL
158.02	5493.3	5493.3	5492.28	5492.28
181.29	5493.3	5493.3	5492.28	5492.28
204.95	5493.3	5493.3	5492.28	5492.28
230.01	5493.3	5493.3	5492.28	5492.28
255.92	5493.3	5493.3	5492.28	5492.28
277.76	5493.3	5493.3	5492.28	5492.28

HEC RAS Section 12016
 HEC RAS Section 158.02
 HEC RAS Section 181.29
 HEC RAS Section 204.95
 HEC RAS Section 230.01
 HEC RAS Section 255.92
 HEC RAS Section 277.76



SCOUR WALL PROFILE
 CHANNEL SLOPE = 0.034 ft/ft

DRAINAGE CERTIFICATION

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