CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director

Mayor Timothy M. Keller

July 1, 2019

Don Briggs, P.E.
Don Briggs Engineering, LLC
5324 Oakledge Ct. NW
Albuquerque, NM 87120

RE: 8500 Glendale Ave. NE
Grading and Drainage Plan
Engineer's Stamp Date: 05/28/19
Hydrology File: B20D067

Dear Mr. Briggs:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based upon the information provided in your resubmittal received 06/25/2019, the Grading and Drainage Plan is approved for Building Permit, Grading Permit, and for action by the DRB on Site Plan for Building Permit.

Please note that prior to Building Permit, an Engineer's Certification of the compacted pad and grading, per the DPM Chapter 22.7: Engineer's Certification Checklist For Non-Subdivision is required.

Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter. Prior to approval in support of Permanent Release of Occupancy by Hydrology, Engineer Certification per the DPM checklist will be required.

As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Curtis Cherne, PE, ccherne@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

Also as a reminder, please provide the drainage easement along the 100 year floodplain line granted to the City prior to Permanent Release of Occupancy. Please submit this on the 4th floor of Plaza de Sol. A $25 fee will be required. The Permanent Easement form can be obtained at the Hydrology Section's webpage. This must be recorded prior to submitting the Agreement and Covenant recording.

https://www.cabq.gov/planning/development-review-services/hydrology-section

CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director

Mayor Timothy M. Keller

Please provide the Agreement and Covenant to the City prior to Permanent Release of Occupancy. Please submit this on the 4th floor of Plaza de Sol. A $25 fee will be required.

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov .

Sincerely,

Renée C. Brissette

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2018)

Project Title: 8500 Glendale Building Permit #: _____ Hydrology File #: B20D067

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

Legal Description: Lot 5, Block 17, Tract 1, Unit 3, NAA

City Address: 8500 Glendale NE, Albuquerque, NM

Applicant: Don Briggs Engineering Contact: Don Briggs

Address: 5324 Oakledge Ct. NW Albuquerque, NM 87120

Phone#: 505-249-4843 Fax#: _____ E-mail: donbriggsengineering@gmail.com

Owner: John Jones Contact: John Jones

Address: 5901 WYOMING BLVD NE SUITE J303, Albuquerque, NM 87122

Phone#: 505-480-4537 Fax#: _____ E-mail: rtmf91@gmail.com

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

IS THIS A RESUBMITTAL?: __X__ Yes _____ No

DEPARTMENT: _____ TRAFFIC/ TRANSPORTATION __X__ HYDROLOGY/ DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

____ ENGINEER/ARCHITECT CERTIFICATION
____ PAD CERTIFICATION
____ CONCEPTUAL G & D PLAN
__X__ GRADING PLAN
____ DRAINAGE MASTER PLAN
__X__ 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:

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

DATE SUBMITTED: 6/25/2019 By: Don Briggs

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

DON BRIGGS
Engineering LLC

June 25, 2019
Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department

RE File: B20D067, 8500 Glendale Ave. NE

Dear Ms. Brissette,
Attached is a revised plan set based on your comments of June 10th, 2019. I have addressed the comments as follows:

1. It appears that your engineering stamp is too big. The NM Board of Licensure for Professional Engineers and Professional Surveyors Administrative Code 16.39.3.12.C states, "The design of the seal/stamp shall consist of three (3) concentric circles, the outermost circle being one (1) and one-half (1/2) inches in diameter...". Please reprint the three sheets with the proper stamp size. If you would like, you can keep the engineer's stamp date of 05/28/19. *This has been corrected.*

2. At the northwest and northeast corners of the property, there are proposed grading on the adjacent properties. Written approvals from both of the adjacent property owners are required prior to Building Permit approval. *Adjacent owners are being contacted.*

3. Please provide Floodplain Permit prior to Hydrology approval. This Permit can be obtained at the Hydrology Section's webpage. *The application has been submitted.*

4. Please provide a draft Elevation Certificate prior to Hydrology approval for Building Permit. The reason for this is because the floodplain is on the property. This will be need to get out from paying flood insurance. *The draft has been submitted.*

5. Please note a formal Elevation Certificate will need to be submitted to Hydrology prior to approval in support of Permanent Release of Occupancy. *Noted.*

6. As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Curtis Cherne, PE, ccherne@cabq.gov, 924-3420) 14 days prior to any earth disturbance. *Noted.*

7. Also as a reminder, please provide the drainage easement along the 100 year floodplain line granted to the City prior to Permanent Release of Occupancy. Please submit this on the 4th floor of Plaza de Sol. A $25 fee will be required. The Permanent Easement form can be obtained at the Hydrology Section's webpage. This must be recorded prior to submitting the Agreement and Covenant recording. *Noted. Thank you for the reminder.*
https://www.cabq.gov/planning/development-review-services/hydrology-section

8. Please provide the Agreement and Covenant to the City prior to Permanent Release of Occupancy. Please submit this on the 4th floor of Plaza de Sol. A $25 fee will be required. *Noted*

9. Standard review fee of **$300** for a DRB Site will be required at the time of resubmittal. *The fee has been paid.*

Sincerely

Don Briggs PE CFM
Don Briggs Engineering LLC

5324 Oakledge Ct. NW, Albuquerque, NM 87120 - 505-249-4843 - donbriggsengineering@gmail.com

Floodplain Development Permit Application

Planning Dept., City of Albuquerque

Section 1: General Provisions (Applicant to read and sign)

1. No work of any kind may start in a Special Flood Hazard Area, SFHA, until a permit is issued.
2. Applicant is hereby informed that other permits may be required to fulfill local, state, and federal regulatory requirements.
3. Applicant hereby gives consent to the Floodplain Administrator and his/her representative to make reasonable inspections required to verify compliance.
4. Applicant must provide a Critical Habitat for Threatened & Endangered Species report prior to any work in a SFHA.
5. Applicant must provide the Base Flood Elevation, BFE, and must provide engineering calculations demonstrating that the development will not increase the BFE or result in increased flood risk on any neighboring property.
6. If this application is for a building the floodplain must be removed by first constructing any required storm drain and/or channel modifications and second acquiring a Letter of Map Revision, LOMR, from FEMA before a building permit will be issued. If storm drain and channel modifications are not involved then a draft Elevation Certificate must be submitted prior to Building Permit and a Final Elevation Certificate must be submitted prior to Certificate of Occupancy.
7. A Conditional Letter of Map Revision, CLOMR, is required prior to any work in the FLOODWAY, if applicable.
8. The applicant certifies that all statements herein and in attachments to this application are, to the best of my knowledge, true and accurate.

Applicant Signature Don Briggs Date _____

Applicant Printed Name Don Briggs Phone #: 249-4843

Owner Signature _____ Date 6/24/19

Owner Printed Name John Jones Phone #: 480-4537

Applicant is (check one): Owner ____ Builder ____ Engineer/Architect ✓

Section 2: Proposed Development in Special Flood Hazard Area (to be completed by Applicant)

Project address/Legal Disc/Location: 8500 Glendale Ave NE

Lot 5, Blk 17, Tr 1, Unit 3, NAA

[redacted]

Section 2 (Cont.) - Description of Work in Special Flood Hazard Area (SFHA):

A. Building Development and Building Type

ACTIVITY	STRUCTURE TYPE
X New Building	X Residential (1-4 Family)
____Addition	____ Residential (More than 4 Family)
____Alteration	____Non Residential (Flood-proofing? ____Yes)
____Relocation	____Combined Use (Residential & Commercial)
___ Demolition	____Manufactured Home (In Mobile Home Park?____Yes)
____Replacement	

If an addition or alteration:

Estimated Cost of Project $ 900,000

Estimated Value of structure before addition/alteration. $ _____

Percent of value (new construction /existing value) 100 %

B. Other Development Activities

____Clearing X Grading ____ Utilities ____Paving

X Watercourse Alteration (Bridge or Channel Modification)

____Drainage Improvements (Storm drain or culverts)

____ Road, Street or Bridge Construction

____ Subdivision

____ Walls or Fences

____ Storage of Materials/Equipment for more than a year. (Materials Volume (cu. Ft.) _____)

Other (Please Specify) Construct RipRap Scour Wall

Is there a Grading & Drainage Plan associated with this work? Yes X No ____

Drainage file Number: B20D067

Section 3: Floodplain Determination (Completed by the Floodplain Administrator)

____The proposed development is located on FIRM Panel:_____

____The proposed development is located in Zone X and NO FLOODPLAIN DEVELOPMENT PERMIT IS REQUIRED.

____A portion of the proposed development is located in a SFHA but not any buildings so an approved G&D Plan is required (Engineer's Stamp Date_____) prior to issuance of a Floodplain Development Permit and no Building Permit will be issued for this construction.

____A portion of the proposed Building is located in a SFHA but the project does not include any storm drain improvements and/or channel modifications so:

1. Approved G&D Plan is required (Engineer's Stamp Date_____) prior to issuance of a Floodplain Development Permit,
2. Draft Elevation Certificate (Date_____) is required prior to issuance of a Building Permit, and
3. Final Elevation Certificate and Engineer's Certification is required prior to Certificate of Occupancy.

____A portion of the proposed Building is located in a SFHA and the project includes storm drain improvements and/or channel modifications that will change the floodplain location so

1. An Approved Grading and Drainage Plan is required (Engineer's Stamp Date_____) prior to issuing a Flood Plain Development Permit and a Grading Permit and/or a Work Order.
2. The improvements must be constructed and an Approved Engineer's Certification (Engineer's Stamp Date_____) and an Approved LOMR Request (Engineer's Stamp Date_____) must be approved by Hydrology prior to approval of the LOMR application to FEMA.
3. The Floodplain must be removed by a LOMR from FEMA (Date_____) prior to issuance of a Building Permit.

____A portion of the proposed development is located in a FLOODWAY so:

1. Approved G&D Plan (Engineer's Stamp Date_____) and an Approved CLOMR Request (Date_____) is required prior to approval of the application to FEMA, and
2. CLOMR from FEMA (Date_____) is required prior to issuance of a Floodplain Development Permit, a Grading Permit, and/or a Work Order.
3. The improvements must be constructed and an Approved Engineer's Certification (Engineer's Stamp Date_____) and an Approved LOMR Request (Engineer's Stamp Date_____) must be approved by Hydrology prior to approval of the LOMR application to FEMA (Date_____).
4. The Floodplain must be removed by a LOMR from FEMA (Date_____) prior to issuance of a Building Permit.

Drainage File Number:_____ Floodplain Permit Number:_____

Signed: _____ Date: 6/24/18

Printed Name: John Jones

Rev. March 2018

City of Albuquerque

Planning Department

Floodplain Development Permit

Project Title 8500 Glendale

Project Location (Major Cross Streets/Arroyo or address)
8500 Glendale Ave NE

Property Owner: (Note: If applying for a Building Permit, the "Company" or "Owner" name on this form must match the "Owner" name on the Building Permit.)

Company Name or Owner Name: John Jones

Responsible Person: (Note: Name below may be the same as Owner Name above if there is no Company Name)

Name: John Jones

Phone Number: 480-4537

E-mail: rtmf91@gmail.com

Site Contact: (if different than Property Owner info above.)

Name:

Phone:

e-mail:

For City personnel use only:

City Personnel Signature: _____ Date _____

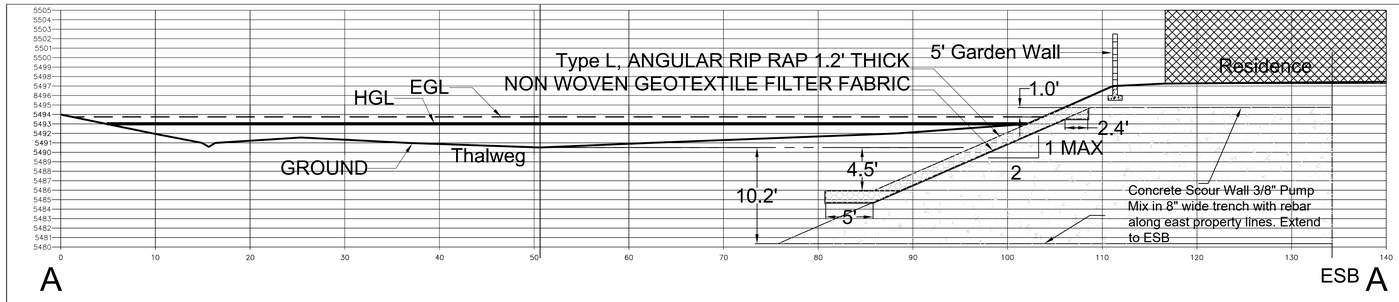
Description of Work _____

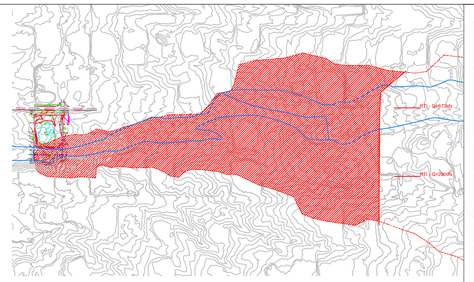
Check all that apply:

____ Final Elevation Certificate required prior to Certificate of Occupancy

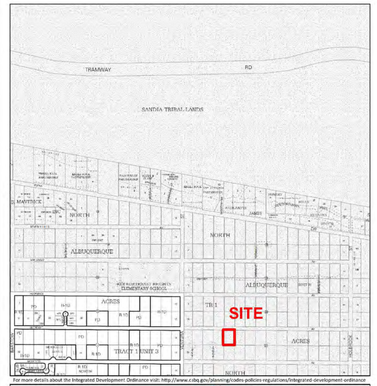
____ No Building Permits will be allowed until FEMA issues a LOMR removing the SFHA.

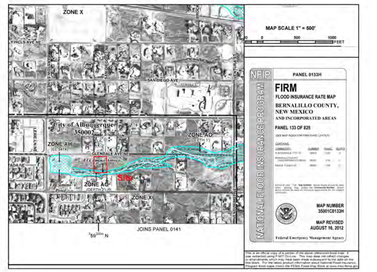
____ A LOMR must be obtained from FEMA prior to release of Financial Guarantees.

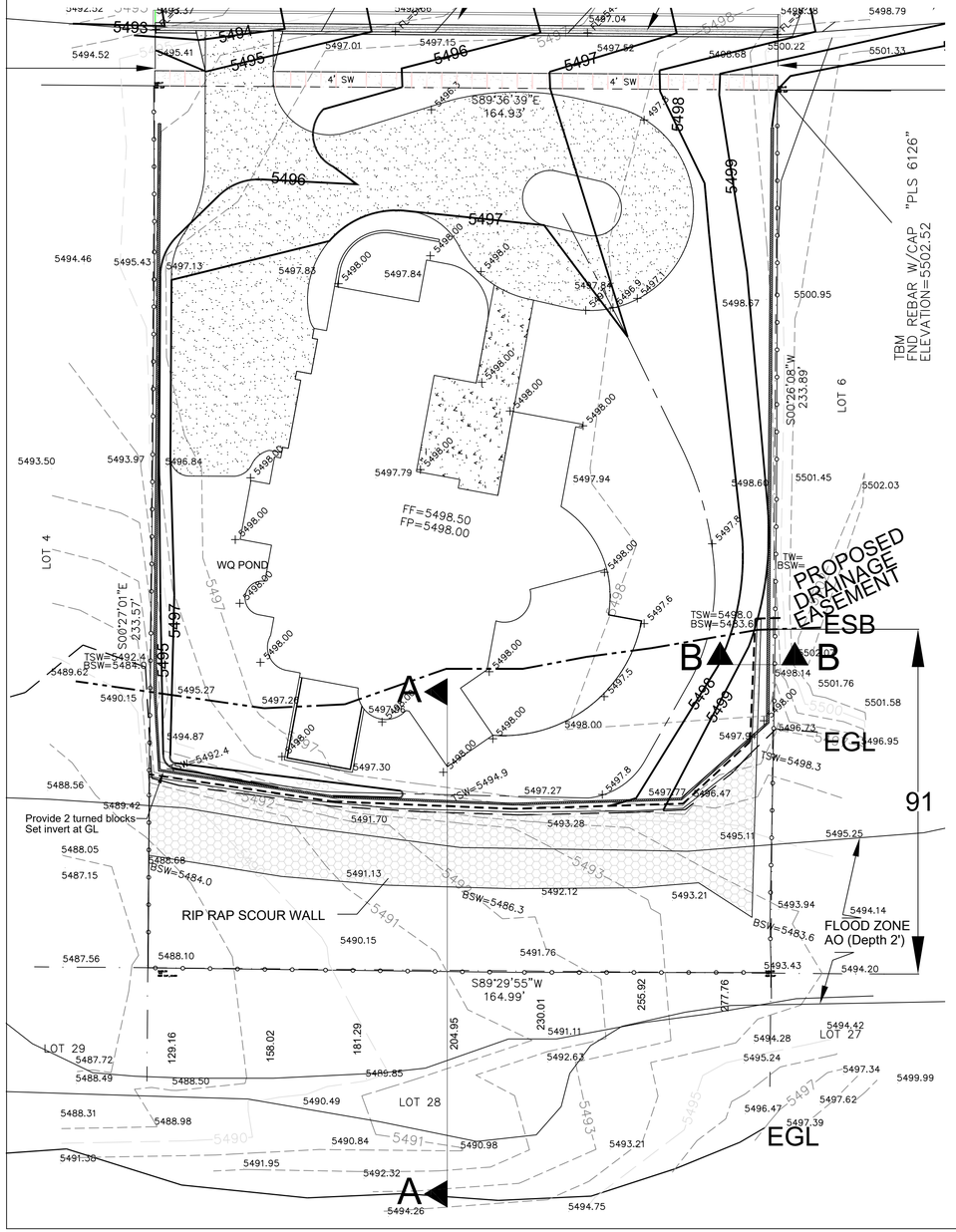


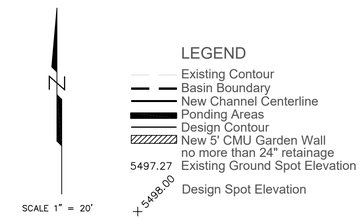


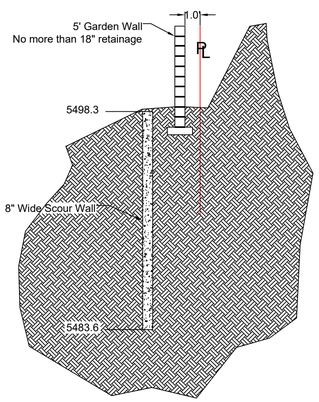
ADDITIONAL OFFSITE BASIN AREA











WALL CROSS SECTION B-B

Hydrology Calculations
8500 Glendale NE

Precipitation Zone 3
100 yr 6 hr Storm
Basin D1 Area = 0.89 ac. 38768.4 sq ft Determined by DB
Historic (Allowable)

Land Treatment	Percent	Area (ac.)	Excess Precipitation (in.)	Unit Peak Discharge (cfs/ac.)	Runoff Volume (ac. ft.)	Peak Discharge (cfs)	Comments
A	20.00%	0.18	0.66	1.87	0.01	0.33	Natural Ground
B	20.00%	0.18	0.92	2.60	0.01	0.46	Landscaped Areas
C	34.00%	0.30	1.29	3.45	0.03	1.04	Compacted earth
D	26.00%	0.23	2.36	5.02	0.05	1.16	Impervious Areas
TOTAL	100.00%	0.89	1.37		0.10	3.00	
					4420.24	cu ft	

Proposed 0.89 ac. 38768.4 sq ft Determined by DB

Land Treatment	Percent	Area (ac.)	Excess Precipitation (in.)	Unit Peak Discharge (cfs/ac.)	Runoff Volume (ac. Ft.)	Peak Discharge (cfs)	Comments
A	10.00%	0.09	0.66	1.87	0.00	0.17	Natural Ground
B	36.00%	0.32	0.92	2.60	0.02	0.83	Landscaped Areas
C	30.00%	0.27	1.29	3.45	0.03	0.92	Compacted earth
D	24.00%	0.21	2.36	5.02	0.04	1.07	Impervious Areas
TOTAL	100.00%	0.89	1.35		0.10	2.99	
					4363.38	cu ft	

Water Quality Retention Volume = 0.42" x 9304.416 sq ft 325.65 cu ft.

DIFFERENCE

% Change	-1%	0%
	Runoff Volume (ac. ft.)	Peak Discharge (cfs)
	0.00	-0.01
	-57	(cu. ft.)

Pond only Water Quality Volume

Hydrology Calculations
Additional Offsite Watershed Assuming Full Development

Precipitation Zone 3
100 yr 6 hr Storm
Offsite Basin 24.6124 ac. 1072117.1 sq ft Determined by DB
Historic (Allowable)

Land Treatment	Percent	Area (ac.)	Excess Precipitation (in.)	Unit Peak Discharge (cfs/ac.)	Runoff Volume (ac. Ft.)	Peak Discharge (cfs)	Comments
A	20.00%	4.92	0.66	1.87	0.27	9.21	Natural Ground
B	20.00%	4.92	0.92	2.60	0.38	12.80	Landscaped Areas
C	34.00%	8.37	1.29	3.45	0.90	28.87	Compacted earth
D	26.00%	6.40	2.36	5.02	1.26	32.12	Impervious Areas
TOTAL	100.00%	24.61	1.37		2.81	83.00	

RTI Flows at Ventura (Camino Arroyo) 290
Total 673
1046.00

DRAINAGE NARRATIVE

This grading & drainage plan was prepared to support a building permit application for a new residence located at 8500 Glendale NE (Lot 5, Block 17, Tract 1, Unit 3, NAA) in North Albuquerque Acres. The plan was prepared using allowable discharge rates based on land treatment percentages of A=20%, B=20%. C=34%, and D=26% and 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 1046cfs (RTI Flows @ Ventura + additional developed basin flow) at the property. The property is partially located in FEMA Flood Zone AO (Depth 2') as shown on panel 35001C0133H. Sewer and water service is available from ABCWUA.

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' freeboard above the water surface and a 1' freeboard above the Energy Grade Line at the South East corner. A Drainage Easement 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 98' and the parallel scour depth at 4.5' (3.5' + 1' Safety Factor) and 10.2' (9.2' + 1') for the perpendicular scour depth.. As the home will be located within the Erosion Setback a scour wall is required for this development. The 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.

SCOUR CALCULATIONS (SEDG)
CROSS SECTION 204.95

Q100 =	1033 cfs	
SLOPE	0.01587 ft/ft	
THALWEG ELEVATION	5490.8 ft	
HGL DEPTH = D100	2.28 ft	
HGL ELEVATION	5493.08 ft	
EGL ELEVATION	5493.84 ft	
AREA =	147.73 sq ft	
VELOCITY =	6.99 fps	
VELOCITY HEAD =	0.76 ft	
FROUDE#	1.01	
LATERAL EROSION (Erosion Setback)		
Qd = 0.2(Q100)	206.6 cfs	(Dominant Discharge)
ESB=(0.92+4.6*log(Qd)Qd^0.4 =	98 ft	(EQ 3.81b)
VERTICAL EROSION (Scour Depth)		
PARALLEL		
Vs = Hv+(.73+(.14*3.14159*Fr^2)D100 =	3.45 ft	(EQ 3.89)
SAFETY FACTOR	1.00 ft	
REQUIRED SCOUR DEPTH	4.45 ft	
PERPINDICULAR (Θ = 90)		
Vs = ((.73+(.14*3.14159*Fr^2)COS(Θ) +(4*Fr^0.33)SIN(Θ))D100	9.15 ft	(EQ 3.90)
REQUIRED SCOUR DEPTH ELEVATION =	5486.35	
TOP OF SCOUR WALL = EGL +1' =	5494.84	

SCOUR WALL ROCK SIZING (Denver Urban Drainage Design Manual)

MINIMUM d50=	0.59 ft	V(S)^.17/5.88 2:1 SS Max.
N for Riprap	0.036	N=0.0395(D50^1/6)
Riprap Layer Thickness	1.2 ft	2(d50)

SCOUR WALL CALCULATIONS

Scour Depth 4.5

X Section	Thalweg	Btm SW	EGL	Top SW
129.16	5488.5	5484.0	5491.42	5492.42
158.02	5489.3	5484.8	5492.29	5493.29
181.29	5489.9	5485.4	5493.15	5494.15
204.95	5490.8	5486.3	5493.86	5494.86
230.01	5491.4	5486.9	5494.76	5495.76
255.92	5492.8	5488.3	5496.01	5497.01
277.76	5493.5	5489.0	5496.97	5497.97

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY DATE
INSPECTORS ACCEPTANCE BY DATE
AS BUILT VERIFICATION BY DATE
DRAWINGS CORRECTED BY DATE
RECORDING INFORMATION
RECORDED BY DATE
NO.

BENCHMARKS

SURVEY INFORMATION
FIELD NOTES

NO.	DATE	BY

ENGINEER'S SEAL
DONALD R. BRIGGS NEW MEXICO 14912 5/28/19 REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY
1	5/28/2019	Address Comments	DB

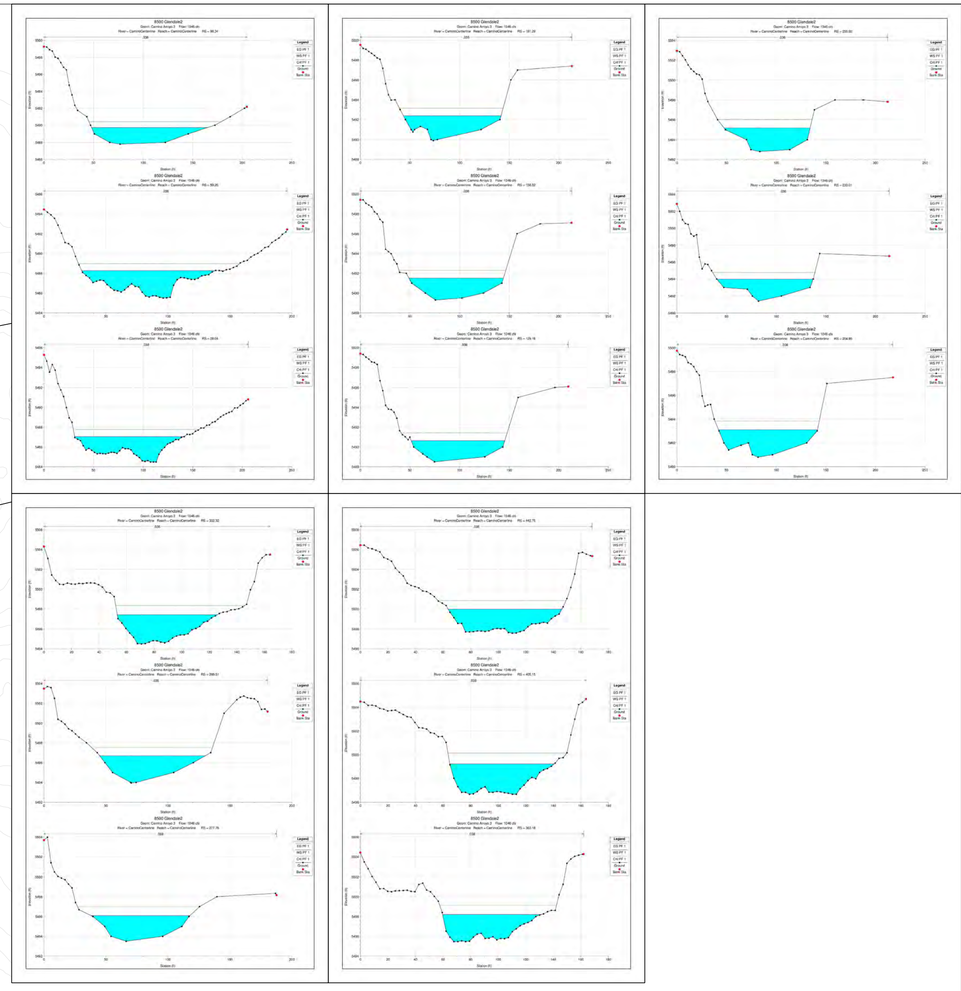
REVISIONS
DESIGN
DESIGNED BY DB
DRAWN BY DB
CHECKED BY
DATE 4/25/2019
DATE 4/25/2019
DATE

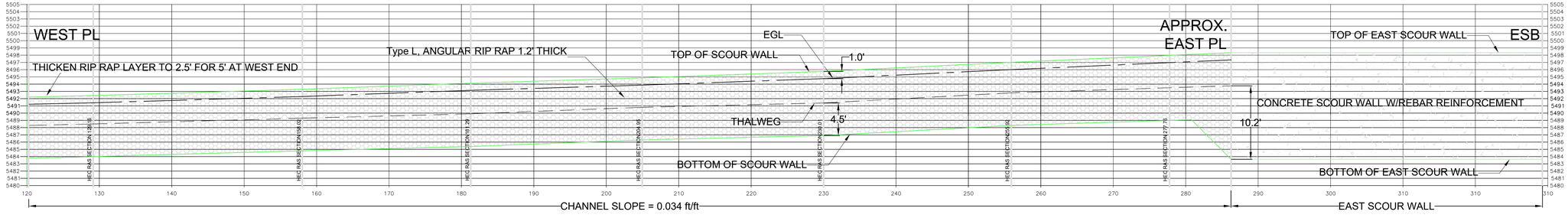
DON BRIGGS Engineering LLC
505-249-4843
donbriggsengineering@gmail.com
5324 Oakledge Ct. NW, Albuquerque, NM 87120

TITLE:
8500 Glendale Grading & Drainage Plan

Design Review Committee	City Engineer Approval	Last Design Update	Mo. / Day / Yr.	Mo. / Day / Yr.

City Project No. B20D067 | Zone Map No. | Sheet 1 Of 3





SCOUR WALL PROFILE

SCOUR WALL CALCULATIONS

Scour Depth 4.5

X Section	Thalweg	Btm SW	EGL	Top SW
129.16	5488.5	5484.0	5491.42	5492.42
158.02	5489.3	5484.8	5492.29	5493.29
181.29	5489.9	5485.4	5493.15	5494.15
204.95	5490.8	5486.3	5493.86	5494.86
230.01	5491.4	5486.9	5494.76	5495.76
255.92	5492.8	5488.3	5496.01	5497.01
277.76	5493.5	5489.0	5496.97	5497.97

HEC-RAS Plan: 1046 cfs River: CaminoCenterline Reach: CaminoCenterline Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CaminoCenterline	28.04	PF 1	1046.00	5484.48	5487.05	5487.05	5487.76	0.019325	6.77	154.45	110.63	1.01
CaminoCenterline	59.25	PF 1	1046.00	5485.50	5488.26	5488.26	5488.97	0.019015	6.73	155.51	110.97	1.00
CaminoCenterline	98.34	PF 1	1046.00	5487.80	5489.73	5489.73	5490.41	0.019307	6.63	157.77	116.88	1.01
CaminoCenterline	129.16	PF 1	1046.00	5488.50	5490.63	5490.63	5491.42	0.018475	7.13	146.75	94.23	1.01
CaminoCenterline	158.02	PF 1	1046.00	5489.30	5491.51	5491.51	5492.29	0.018540	7.11	147.17	95.20	1.01
CaminoCenterline	181.29	PF 1	1046.00	5489.90	5492.38	5492.38	5493.15	0.018666	7.02	148.92	98.37	1.01
CaminoCenterline	204.95	PF 1	1046.00	5490.80	5493.10	5493.10	5493.86	0.018494	6.97	150.07	99.63	1.00
CaminoCenterline	230.01	PF 1	1046.00	5491.40	5493.99	5493.99	5494.76	0.018542	7.05	148.36	97.04	1.01
CaminoCenterline	255.92	PF 1	1046.00	5492.80	5495.18	5495.18	5496.01	0.018241	7.33	142.65	86.78	1.01
CaminoCenterline	277.76	PF 1	1046.00	5493.50	5496.08	5496.08	5496.97	0.017846	7.55	138.51	79.40	1.01
CaminoCenterline	299.51	PF 1	1046.00	5493.95	5496.70	5496.70	5497.54	0.018171	7.38	141.75	85.34	1.01
CaminoCenterline	332.32	PF 1	1046.00	5494.49	5497.41	5497.41	5498.35	0.017646	7.79	134.25	72.56	1.01
CaminoCenterline	363.18	PF 1	1046.00	5495.47	5498.21	5498.21	5499.15	0.017522	7.79	134.23	71.79	1.00
CaminoCenterline	405.15	PF 1	1046.00	5496.67	5499.22	5499.22	5500.14	0.017780	7.68	136.24	75.64	1.01
CaminoCenterline	442.75	PF 1	1046.00	5497.57	5499.97	5499.97	5500.84	0.018055	7.46	140.25	82.47	1.01

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY — DATE
INSPECTORS ACCEPTANCE BY — DATE
VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE
RECORDED BY — DATE
NO.

BENCHMARKS

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL
DONALD BRIGGS 14912 REGISTERED PROFESSIONAL ENGINEER
5/28/19

REVISIONS

NO.	DATE	REMARKS	BY
1	5/28/2019	Address Comments	DB

DESIGN
DESIGNED BY DB — DATE 4/25/2019
DRAWN BY DB — DATE 4/25/2019
CHECKED BY — DATE

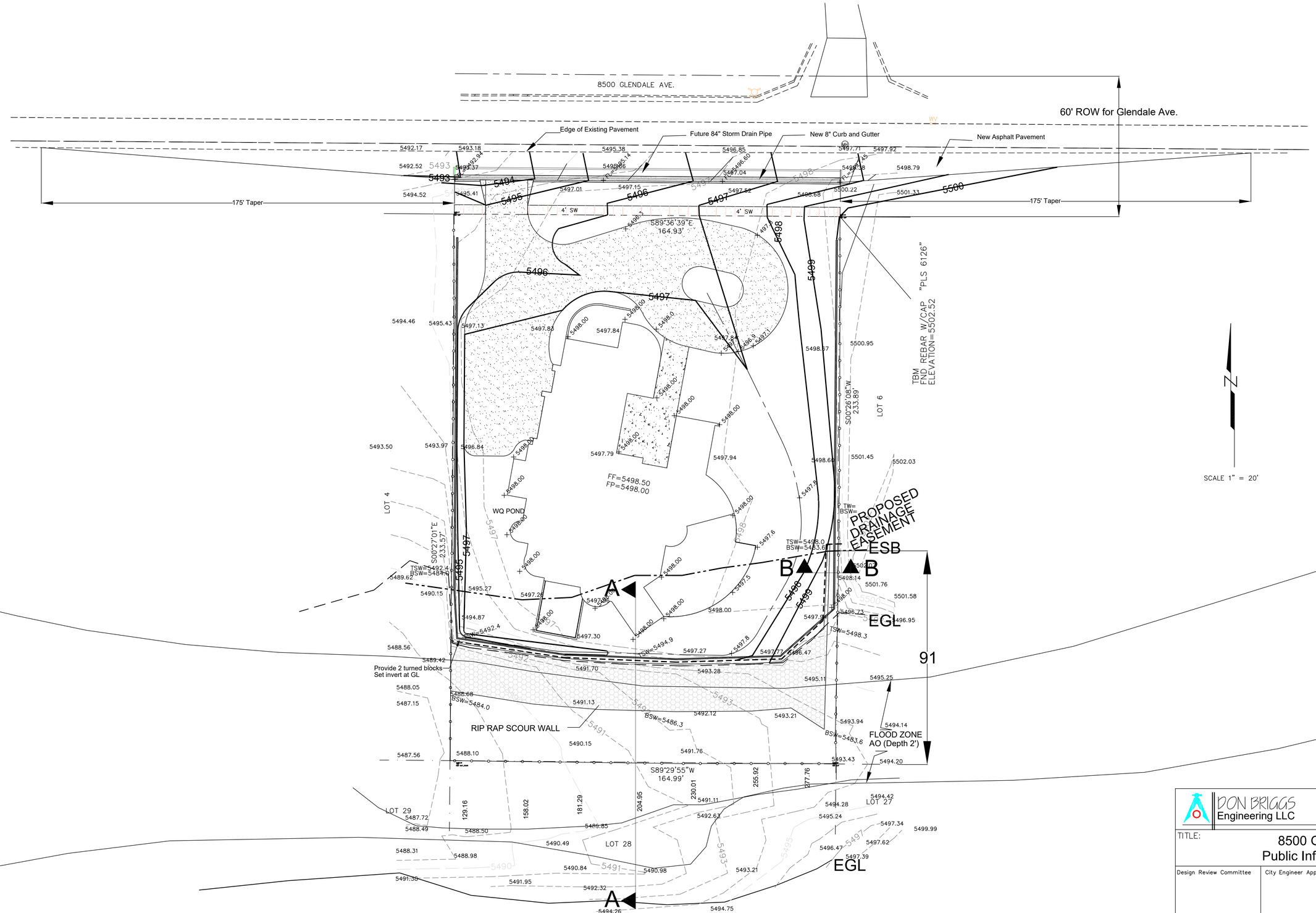
RECORDING INFORMATION

DON BRIGGS Engineering LLC
505-249-4843
donbriggsengineering@gmail.com
5324 Oakledge Ct. NW, Albuquerque, NM 87120

TITLE: 8500 Glendale
HEC RAS Analysis

Design Review Committee	City Engineer Approval	Last Design Update	Mo. / Day / Yr.	Mo. / Day / Yr.

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



AS BUILT INFORMATION
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VERIFICATION BY DATE
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NO.

BENCHMARKS

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL

DONALD R. BRIGGS
NEW MEXICO
14912
REGISTERED PROFESSIONAL ENGINEER
5/28/19

REVISIONS
DESIGN
NO. DATE REMARKS BY
DESIGNED BY DB DATE 5/28/2019
DRAWN BY DB DATE 5/28/2019
CHECKED BY DATE

DON BRIGGS Engineering LLC
505-249-4843
donbriggsengineering@gmail.com
5324 Oakledge Ct. NW, Albuquerque, NM 87120

TITLE:
8500 Glendale Public Infrastructure

Design Review Committee	City Engineer Approval	Last Design Update	Mo. / Day / Yr.	Mo. / Day / Yr.

City Project No. B20D067 | Zone Map No. | Sheet 3 Of 3