

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director



Mayor Timothy M. Keller

June 1, 2022

Robert Fierro, PE
Fierro & Company, LLC
3201 4th St.
Albuquerque, NM 87017

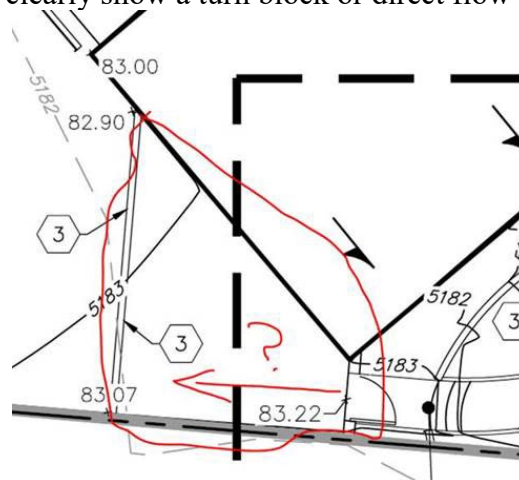
RE: Residence at 7308 Carson Trail NW
7308 Carson Trail NW
Grading and Drainage Plan
Engineer's Stamp Date: 4/26/2022
Hydrology File: D11D014

Dear Mr. Fierro:

Based upon the information provided in your submittal received 4/26/22, the Grading & Drainage Plan **is not** approved for Building Permit or for Grading Permit. The following comments need to be addressed for approval of the above referenced project:

General Notes

1. Please follow the DMP to follow the required pond area and volume. (1192 sq ft. and 596 cu. ft.)
 - a. Please notice the lot in the DMP is lot 8 and labeled different than the current legal description.
2. Please clearly show a turn block or direct flow to not pond in this area.



- a.
- 3.

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 (Doug Hughes, PE, jhughes@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

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If you have any questions, please contact me at 924-3695 or dggutierrez@cabq.gov

Sincerely,

A handwritten signature in dark ink, appearing to read 'David G. Gutierrez', with a stylized flourish at the end.

David G. Gutierrez, P.E.
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: _____ **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:

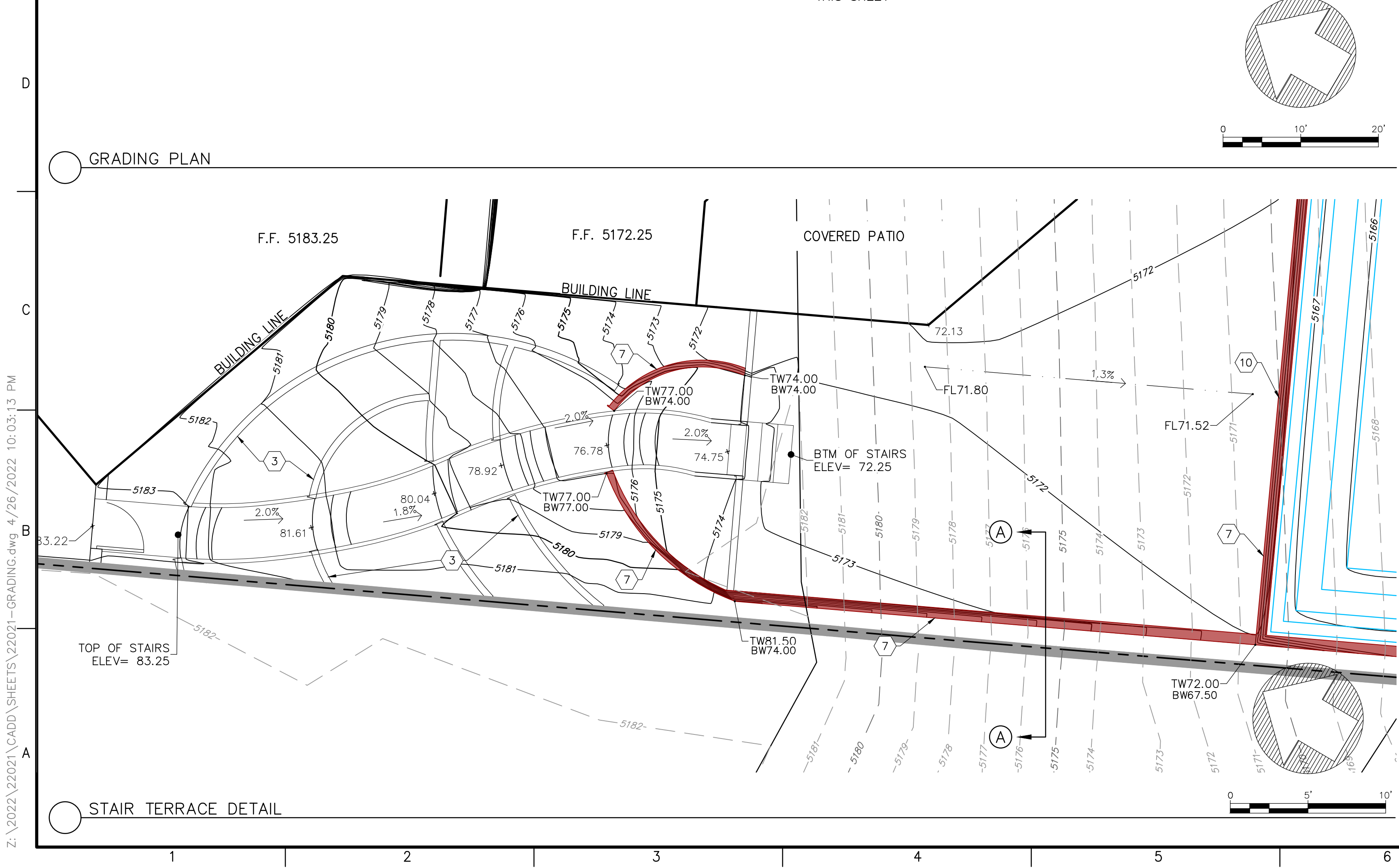
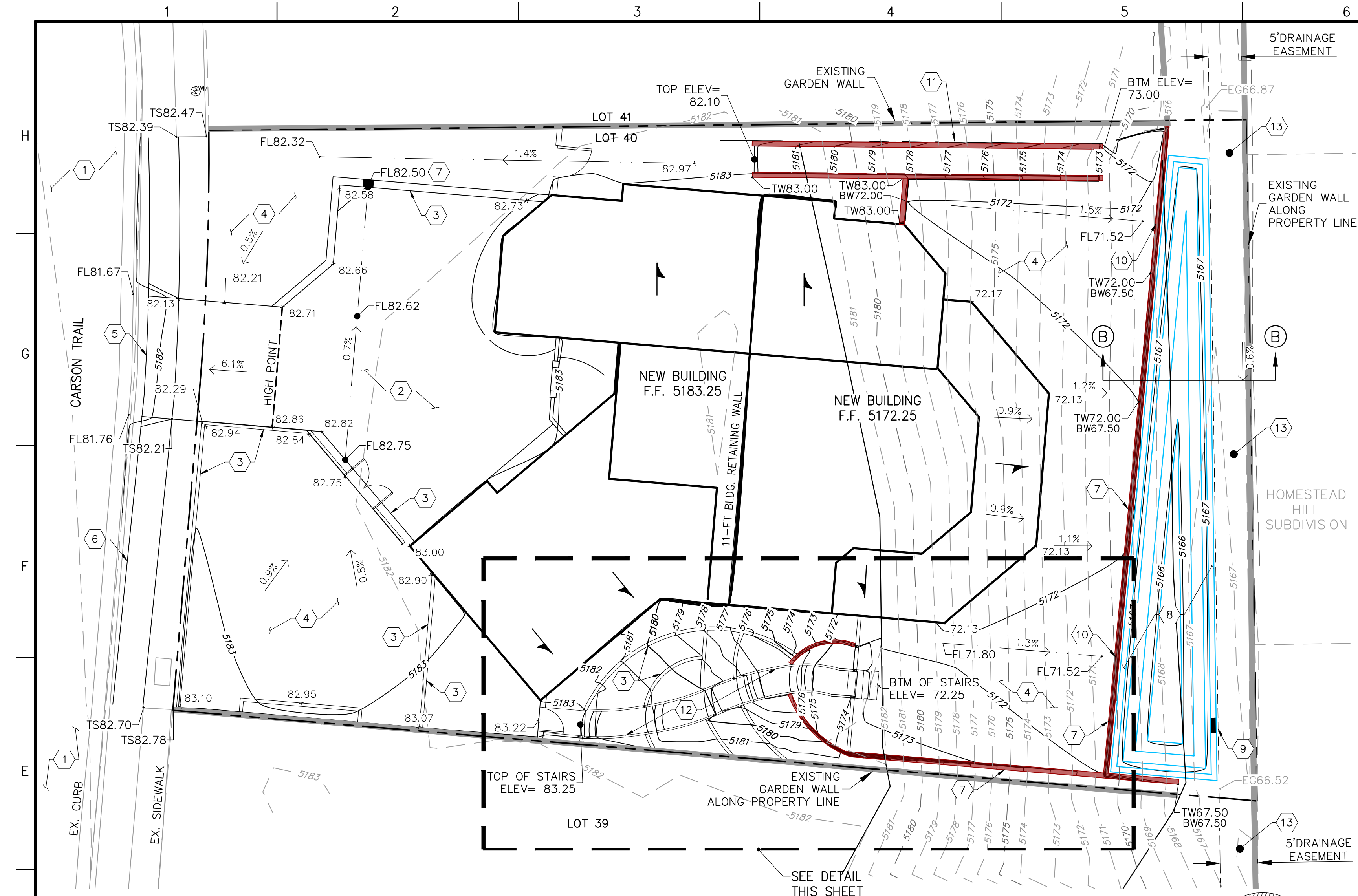
- _____ BUILDING PERMIT APPROVAL
- _____ CERTIFICATE OF OCCUPANCY
- _____ PRELIMINARY PLAT APPROVAL
- _____ SITE PLAN FOR SUB'D APPROVAL
- _____ SITE PLAN FOR BLDG. PERMIT APPROVAL
- _____ FINAL PLAT APPROVAL
- _____ SIA/ RELEASE OF FINANCIAL GUARANTEE
- _____ FOUNDATION PERMIT APPROVAL
- _____ GRADING 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:

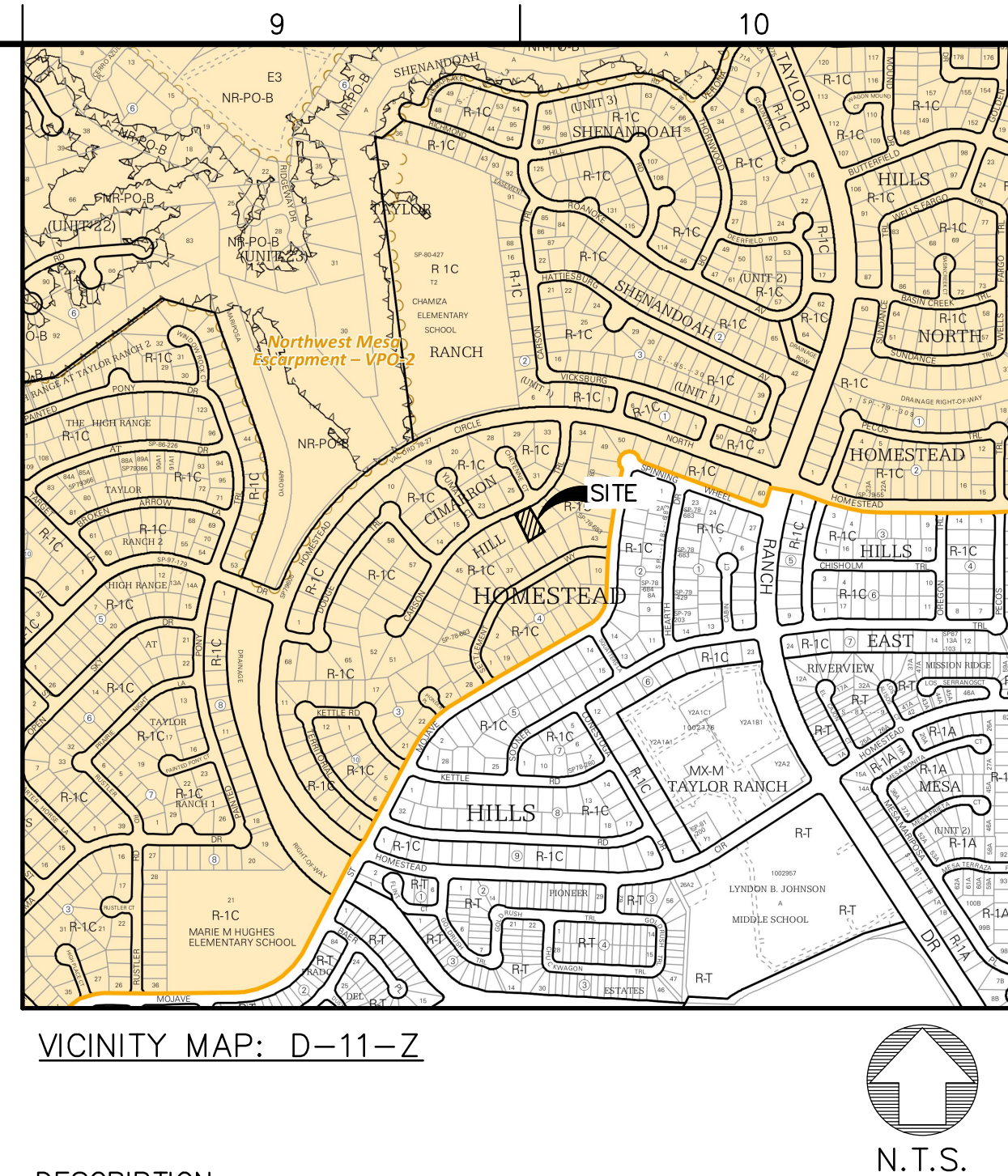
ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____



- CONSTRUCTION NOTES:**
- EXISTING ASPHALT ROAD.
 - NEW PAVERS.
 - NEW SITE WALL.
 - NEW LANDSCAPING.
 - CONSTRUCT DRIVEWAY PER COA. STD. DWG. 2425A WITH SIDEWALK SETBACK FROM CURB.
 - NEW SIDEWALK PER COA STD. DWG. 2430.
 - CONSTRUCT RETAINING WALL BY OTHERS, REFER TO TYPICAL SECTION ON SHEET C-2.
 - CONSTRUCT DETENTION POND
TOP ELEV.=5167.5'
SPILLWAY ELEV. = 5167.25'
BOTTOM ELEV.=5166.0'
445 CU.FT. AT SPILLWAY ELEVATION
3H:1V SIDE SLOPE
- SIDE SLOPES NEED TO BE STABILIZED WITH NATIVE GRASS SEED (PER CITY SPEC 1012) WITH AGGREGATE MULCH OR EQUAL (MUST SATISFY THE "FINAL STABILIZATION CRITERIA" CGP 2.2.14.B.)
- CONSTRUCT 4-FT WIDE BY 3-INCHES HIGH SPILLWAY. INVERT ELEVATION=5167.25.
 - CONSTRUCT ONE (1) 6"x6" WALL OPENING.
 - CONSTRUCT LANDSCAPE RAMP BY OTHERS. 5% SLOPE.
 - CONSTRUCT STAIR BY OTHERS.
 - PROTECT EXISTING ASPHALT LINING WITHIN DRAINAGE EASEMENT.

- GENERAL GRADING NOTES:**
- THE CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES SHOWN AND COORDINATE WITH ALL UTILITY OWNERS PRIOR TO ANY EXCAVATION.
 - THE CONTRACTOR SHALL LIMIT DISTURBANCE OF NATIVE VEGETATION TO A MINIMUM.
 - THIS PLAN RECOMMENDS POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES TO PROHIBIT PONDING OF RUNOFF WHICH MAY CAUSE STRUCTURAL SETTLEMENT. FUTURE ALTERATION OF GRADES ADJACENT TO THE PROPOSED STRUCTURES IS NOT RECOMMENDED.
 - PERFORM GRADING AND EXCAVATION WORK IN COMPLIANCE WITH APPLICABLE SPECIFICATIONS, REQUIREMENTS, CODES AND ORDINANCES OF CITY OF RIO RANCHO, NEW MEXICO.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF OR OBTAINING EXCESS CUT OR FILL MATERIAL REQUIRED FOR FINAL GRADE.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND COORDINATING WITH NEW MEXICO ONE CALL PRIOR EXCAVATION.
 - CLEAR AND GRUBBING PER NM APWA SECTION 201 SPECIFICATION.
 - SPOT ELEVATIONS ARE TO FINISH GRADE UNLESS NOTED OTHERWISE.
 - THE CONTRACTOR SHALL CONFINE THEIR WORK TO WITHIN THE CONSTRUCTION LIMITS AND/OR PUBLIC RIGHT-OF-WAY TO PRESERVE EXISTING VEGETATION, LANDSCAPING, AND PRIVATE PROPERTY. APPROVAL OF THESE PLANS DOES NOT GIVE OR IMPLY ANY PERMISSION TO TRESPASS OR WORK ON PRIVATE PROPERTY. PERMISSION MUST BE GRANTED IN WRITING BY THE OWNER OF THAT PROPERTY.
 - TOPOGRAPHIC SURVEY OF EXISTING GROUND SURVEYED ON MARCH 2022.
 - CONTRACTOR TO CLEAN UP SEDIMENT AND DEBRIS ON THE STREET, WHICH IS CAUSED BY CONSTRUCTION, AT THE END OF EACH WORK DAY. TEMPORARY DIRT RAMPS ARE NOT TO BE LEFT IN STREETS OR NEAR CURB.



DESCRIPTION
LOT 40 OF CIMARRON HILL SUBDIVISION, ALBUQUERQUE, NEW MEXICO

FLOOD NOTE:
THIS PROPERTY LIES WITHIN FLOOD ZONE X AREA AS PER FLOOD MAP 35001C0112G, EFFECTIVE DATE 9/26/2008 AS SHOWN ON THE DRAINAGE PLAN.

BENCHMARK
CITY OF ALBUQUERQUE SURVEY MONUMENT: ACS BM, 16-E11
NORTHING: 1513362.658 (NM SPC, CENTRAL ZONE, NAD 1983)
EASTING: 1508146.579 (NM SPC, CENTRAL ZONE, NAD 1983)
ELEVATION: 5115.814' (NAVD 1988, U.S. SURVEY FOOT)

LEGEND			
---	APPARENT PROPERTY BOUNDARY		
---	APPARENT ADJOINING PROPERTY LINE		
●	APPARENT PROPERTY CORNER		
---	POND 0.5' CONTOUR INTERVAL		
---	ROOF FLOW DIRECTION		
---	EXISTING MAJOR CONTOUR		
---	EXISTING MINOR CONTOUR		
---	PROPOSED MAJOR CONTOUR		
---	PROPOSED MINOR CONTOUR		
---	FG 26.29 FINISHED GRADE		
TC	TOP OF CONCRETE		
TW	GRADE AT TOP OF WALL		
BW	GRADE AT BOTTOM OF WALL		
FL	FLOW LINE		
H.P.	HIGH POINT		
BLDG.	BUILDING		

Fierro & Company
ENGINEERING | SURVEYING

3201 4th. STREET NW
ALBUQUERQUE, NEW MEXICO 87107
PH (505) 352-8930
www.fierrocompany.com

ROBERT J. FIERRO
NEW MEXICO
20585
Professional Engineer

RESIDENCE
7308 CARSON TR N.W.
ALBUQUERQUE, NEW MEXICO

PROJECT NAME	PROJECT NO.	DESIGNED BY	DRAWN BY	CHECKED BY	DATE	REV.	DESCRIPTION	BY
	22021	RJF, CP	JB, CP	RJF	APRIL 2022			

SHEET TITLE

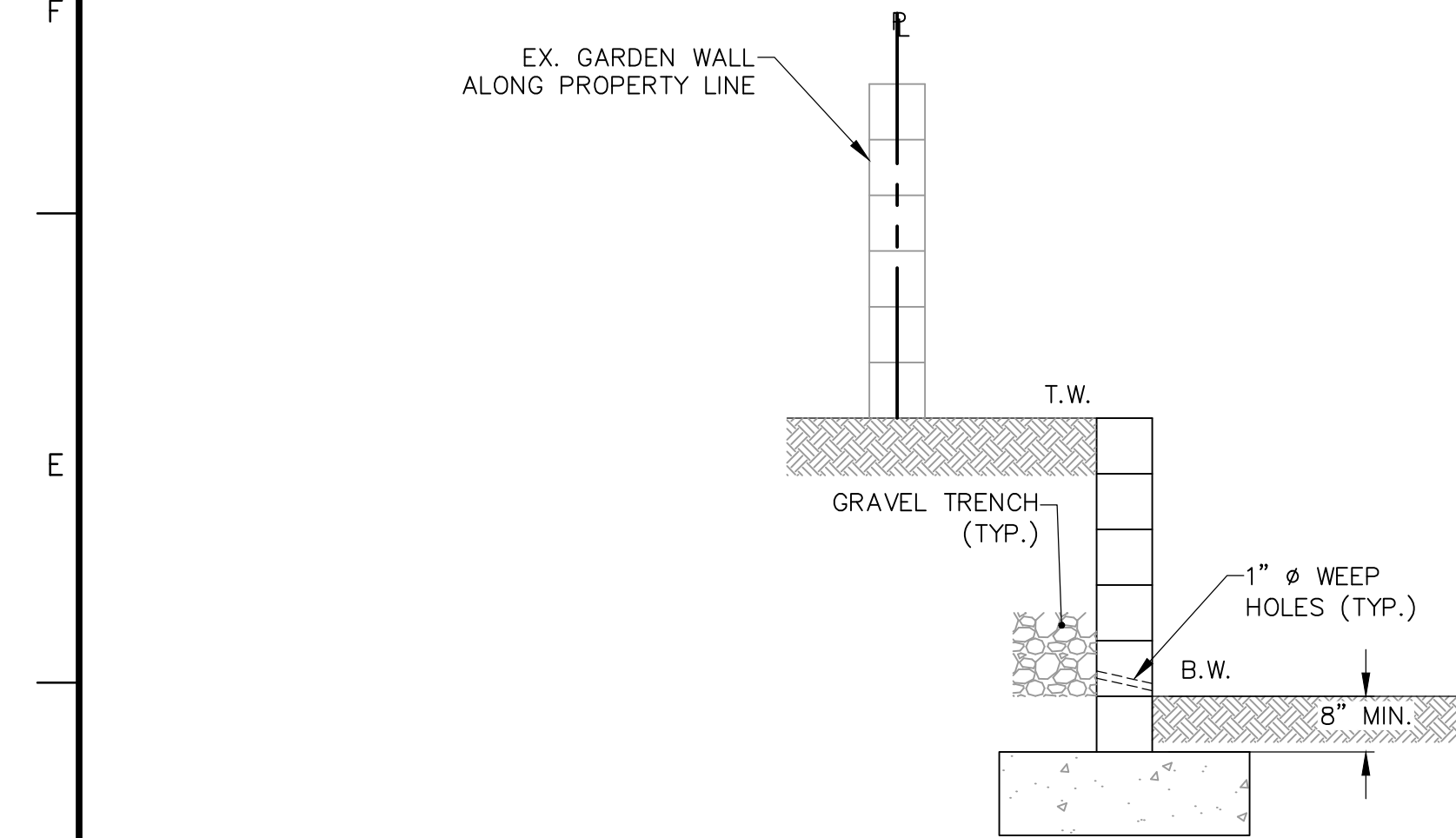
GRADING PLAN

SHEET NO:

C-1

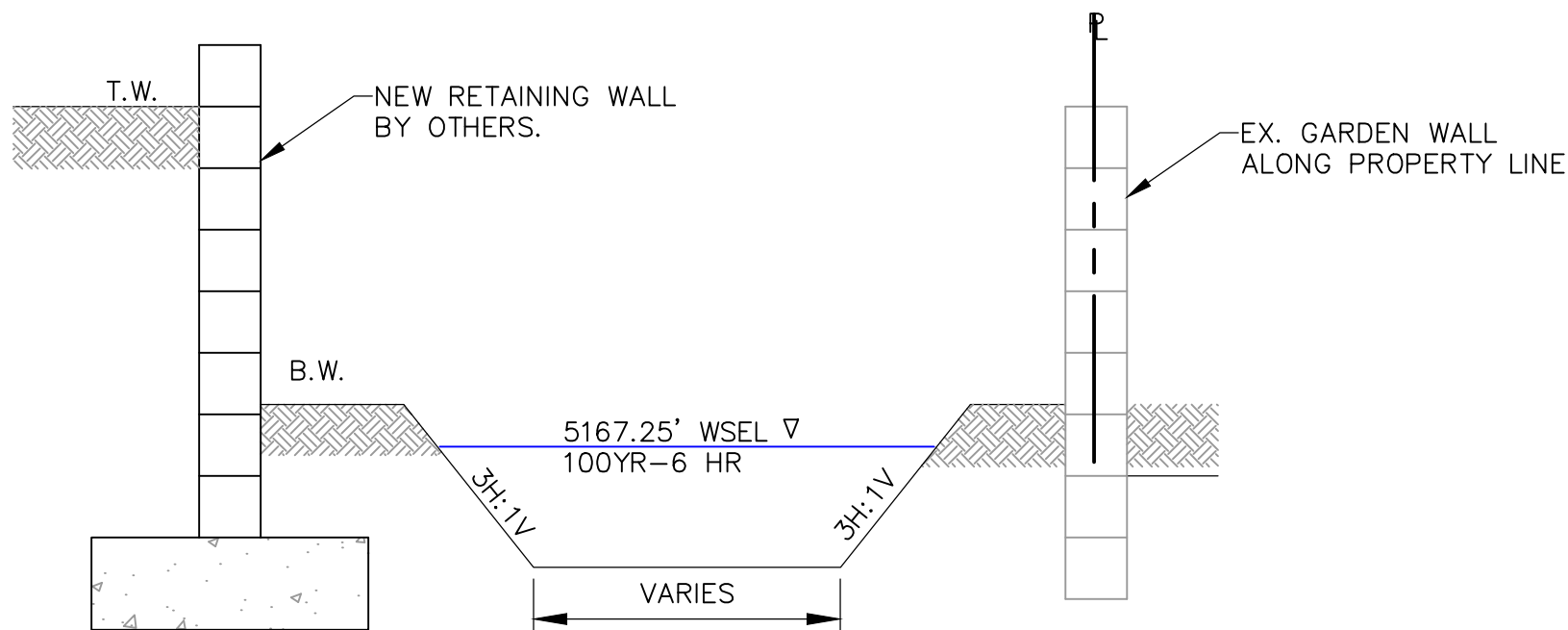
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Z:\2022\22021\CADD\SHEETS\22021-DETAILS.dwg 4/26/2022 10:14:00 PM



- NOTES:
- 1 REFER TO SHEET C-1 FOR TW AND BW ELEVATIONS.
 - 2 ENTIRE FOOTING AND WALL TO BE INSIDE PROPERTY LINE.

1 SECTION A-A (TYPICAL RETAINING WALL NOMENCLATURE)
SCALE: NTS



- NOTES:
- 1 REFER TO SHEET C-1 FOR TW AND BW ELEVATIONS.
 - 2 ENTIRE FOOTING AND WALL TO BE INSIDE PROPERTY LINE.

2 SECTION B-B (TYPICAL RETAINING WALL NOMENCLATURE)
SCALE: NTS



PROJECT NAME

REV.	DATE	DESCRIPTION	BY

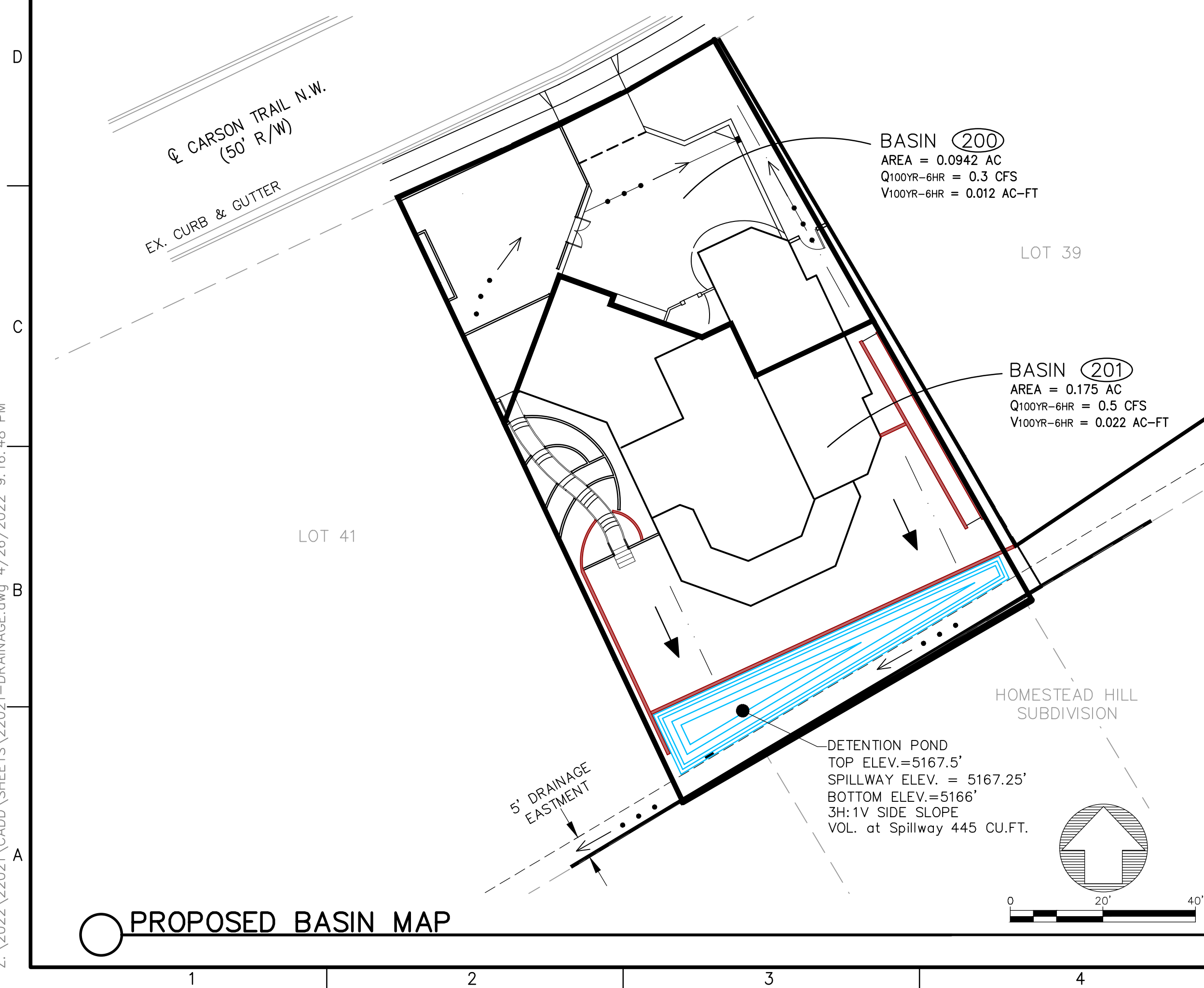
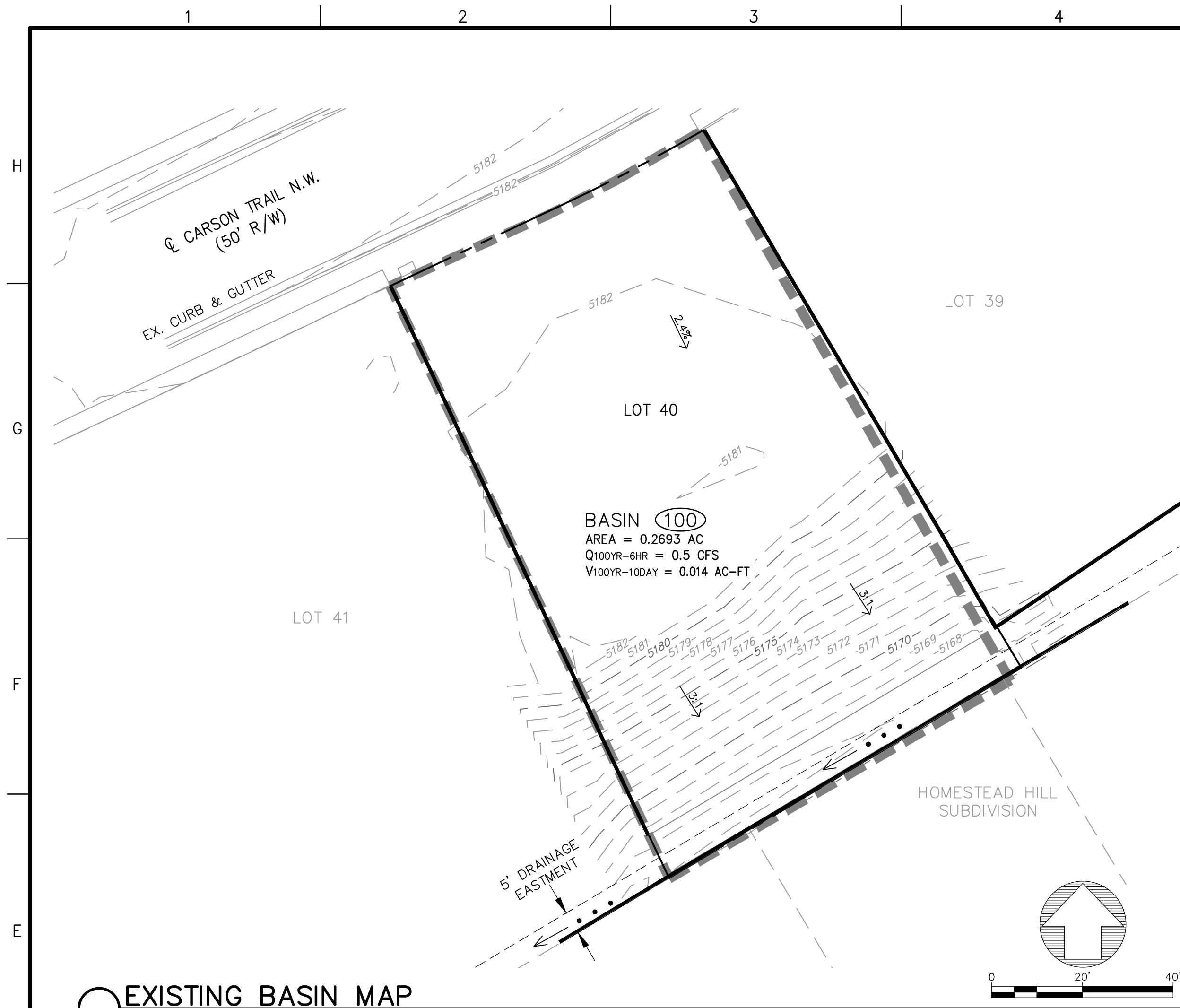
PROJECT NO:	22021
DESIGNED BY:	RJF
DRAWN BY:	JB
CHECKED BY:	RJF
DATE:	APRIL 2022

SHEET TITLE

DETAILS

SHEET NO:

C-2



HYDROLOGY SUMMARY								
BASIN	Total Area (acres)	Land Treatment (%)				Weighted E	Q ₁₀₀ (cfs)	V _{100-yr-6hr} (ac-ft)
		A	B	C	D			
100	0.2693	60.0	40.0	0.0	0.0	0.622	0.5	0.014
200	0.0942	0.0	45.0	0.0	55.0	1.561	0.3	0.012
201	0.1750	0.0	50.6	0.0	49.4	1.477	0.5	0.022

Stage Storage Table					
Depth (ft)	Pond 1	Area (ac)	Volume (ac-ft)	Cum Volume (ac-ft)	Cum Volume (cu-ft)
5166	99	0.002	0.000	0.000	0.0
5166.5	281	0.006	0.002	0.00218	94.8
5167	530	0.012	0.005	0.00684	297.1
5167.25	660	0.015	0.003	0.01025	445.5
5167.5	796	0.018	0.004	0.01443	627.1

STAGE-STORAGE TABLE

Weir Calculation Pond Spillway

Equation 6.64 $Q = CLH^{\frac{3}{2}}$

Where;

$C=2.7$, $L=4\text{-ft}$, and $H=0.25'$

$$Q = 2.7 * 2 * 0.5^{\left(\frac{3}{2}\right)} = 1.9 \text{ CFS}$$

Therefore, pond's spillway capacity is greater than discharge rate for the 100yr, 6hr storm

WEIR CALCULATION

PROPOSED DETENTION POND REQUIRED VOLUME:

TOTAL REQUIRED VOL. = Basin 201 Vol. - Basin 100 Vol.)

$$= (938 \text{ cu.ft.} - 608 \text{ cu.ft.} = 330 \text{ cu.ft.})$$

WATER SURFACE ELEVATION = 5167.25'

THEREFORE, PONDING REQUIREMENT IS MET. POND STORAGE CAPACITY IS GREATER THAN REQUIRED VOLUME.

DETENTION POND REQUIREMENTS



Introduction

The site is located at 7308 Carson Trail NW, being Lot 40 of Cimarron Hill Subdivision, and is 0.27 acres. This property is the only vacant lot within the Cimarron Hill Subdivision, which contains 68 lots. The purpose of this Grading & Drainage Plan is to 1) provide hydrologic and hydraulic analysis of the existing and proposed condition, 2) satisfy allowable stormwater discharge rates, and 4) seek approval for building permit.

Methodology

Hydrologic procedures presented in the Hydrology Section of the DMP, Article 6-2(a), approved June 8, 2020 were followed. Precipitation Zone 1 data was used in the hydrologic computations.

Existing Condition

The site slopes from the front of the property with an elevation at 5182' to the rear with an elevation of 5166'. Runoff from the site discharges west to Lot 41 of said Subdivision and is directed to a 5-foot drainage easement. This 5-foot drainage easement is along the southern boundary of said subdivision. Runoff then is conveyed within this easement and discharged west to Homestead Circle NW.

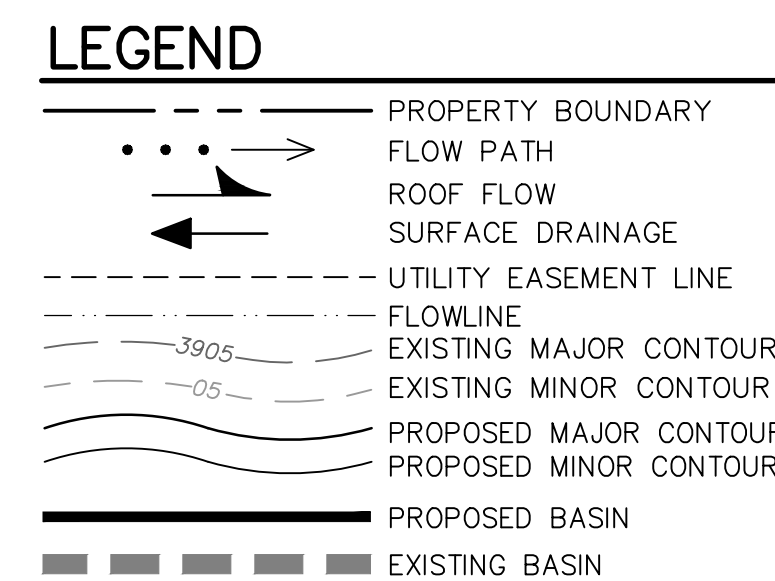
Proposed Condition

A residential building containing a footprint of approximately 3,200 sq.ft. is proposed. The development of this lot will have two discharge points. 1. Carson Trail NW and 2) Lot 40 of said subdivision. This drainage pattern is typical for the lots along the southern boundary of Cimarron Hill Subdivision. The drainage report for Cimarron Hill at Taylor Ranch allows for the front half of these lots to free discharge to Carson Trail, but requires a detention pond within the rear half. The proposed detention pond will store the difference in runoff volume for the 100-year, 6-hour storm event, which is 330 cu.ft. The lots within Cimarron Hill Subdivision do not store the Storm Water Quality Volume; therefore, neither will this site. The proposed detention pond's storage capacity exceeds the required storage volume.

Conclusion

The proposed development of Lot 40 is typical of the residential development that has occurred on the lots along the southern boundary of Cimarron Subdivision and which was planned under the Drainage Report for Cimarron Hill at Taylor Ranch. The increased runoff volume and peak discharge is detained in a detention pond; therefore, there is no adverse impact for the discharge to Lot 41. Free discharge is allowed from the front half of Lot 40 to Carson Trail NW, therefore, criteria from the Drainage Report for Cimarron Subdivision has been met. This drainage report seeks COA Hydrology approval for building permit.

DRAINAGE REPORT



PROJECT NAME					
RESIDENCE 7308 CARSON TR N.W. ALBUQUERQUE, NEW MEXICO					
ENGINEERS SEAL					
					
 Fierro & Company ENGINEERING SURVEYING 3201 4TH STREET NW ALBUQUERQUE, NEW MEXICO 87107 PH (505) 352-8930 www.fierrocompany.com					
SHEET TITLE					
DRAINAGE PLAN					
SHEET NO:					
D-1					
PROJECT NO: 22021					
DESIGNED BY: RJF					
DRAWN BY: JB					
CHECKED BY: RJF					
DATE: APRIL 2022					
BY					
DESCRIPTION					
DATE					
REV.					