CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director

Mayor Timothy M. Keller

December 19, 2022

Daniel J. Madruga, P.E.
Atwell, LLC
6200 S. Syracuse Way, Suite 470
Greenwood Village, CO 80111

RE: Allsup – Gibson & 98th
Grading & Drainage Plans
Engineer's Stamp Date: 11/10/22
Hydrology File: M09D034

Dear Mr. Madruga:

Based upon the information provided in your submittal received 10/27/2022, the Grading & Drainage Plans are approved for Building Permit, Grading Permit and SO-19 Permit. Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter.

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

PRIOR TO CERTIFICATE OF OCCUPANCY:

1. Engineer's Certification, per the DPM Part 6-14 (F): *Engineer's Certification Checklist For Non-Subdivision* is required.
2. Please provide the executed paper Drainage Covenant (latest revision) printed on one-side only with Exhibit A and a check for **$25.00** made out to "**Bernalillo County**" for the stormwater quality ponds per Article 6-15(C) of the DPM to Hydrology for review at Plaza de Sol. Once the review is done, Hydrology will send back an email stating our approval/comments.

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.

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

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

Project Title: ALLSUP's **Building Permit #**_____ **Hydrology File #**_____

DRB#_____ **EPC#**_____

Legal Description: TR E-5-A-2 PLAT OF TRS E-5-A-1 & E-5-A-2 ALBUQUERQUE SOUTHUNIT 3 CONT 2.7263 AC City Address OR Parcel 99999 GIBSON BLVD SW (NEC GIBSON BLVD SW & 98th STREET SW) ALBUQUERQUE, NEW MEXICO 87121

Applicant/Agent: Modulus Architects **Contact:** Regina Okoye

Address: 100 Sun Ave. NE, suite 600, Albuquerque, NM 87109 **Phone:** 505-267-7686

Email: rokoye@modulusarchitects.com

Applicant/Owner: ATWELL, LLC **Contact:** Chris Sveum

Address: 143 Union Boulevard **Phone:** 303-868-5658

Email: csveum@atwell-group.com

TYPE OF DEVELOPMENT: ___PLAT (#of lots) __RESIDENCE __DRB SITE ___ ADMIN SITE: ____

RE-SUBMITTAL: _____YES __X__ NO

DEPARTMENT: _____TRANSPORTATION __X___ HYDROLOGY/DRAINAGE

Check all that apply:

TYPE OF SUBMITTAL:

___ENGINEER/ARCHITECT CERTIFICATION
___PAD CERTIFICATION
___CONCEPTUAL G&D PLAN
X GRADING PLAN
X DRAINAGE REPORT
___DRAINAGE MASTER PLAN
___FLOOD PLAN DEVELOPMENT PERMIT APP.
___ELEVATION CERTIFICATE
___CLOMR/LOMR
___TRAFFIC CIRCULATION LAYOUT (TCL) ADMINISTRATIVE
___TRAFFIC CIRCULATION LAYOUT FOR DRB APPROVAL
___TRAFFIC IMPACT STUDY (TIS)
___STREET LIGHT LAYOUT
___OTHER (SPECIFY)
___PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

X BUILDING PERMIT APPROVAL
___CERTIFICATE OF OCCUPANCY
___CONCEPTUAL TCL DRB APPROVAL
___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
X GRADING PERMIT APPROVAL
X SO-19 APPROVAL
___PAVING PERMIT APPROVAL
___GRADING PAD CERTIFICATION
X WORK ORDER APPROVAL
___CLOMR/LOMR
___FLOOD PLAN DEVELOPMENT PERMIT
___OTHER (SPECIFY)_____

DATE SUBMITTED: 10/26/2022

Worksheet for Overflow Spillway

Project Description	
Solve For	Discharge

Input Data	
Headwater Elevation	5,123.00 ft
Crest Elevation	5,122.00 ft
Tailwater Elevation	5,110.00 ft
Crest Surface Type	Gravel
Crest Breadth	3.00 ft
Crest Length	4.0 ft

Results	
Discharge	12.35 cfs
Headwater Height Above Crest	1.00 ft
Tailwater Height Above Crest	-12.00 ft
Weir Coefficient	3.09 ft^(1/2)/s
Submergence Factor	1.000
Adjusted Weir Coefficient	3.09 ft^(1/2)/s
Flow Area	4.0 ft²
Velocity	3.09 ft/s
Wetted Perimeter	6.0 ft
Top Width	4.00 ft

Worksheet for Rip-Rap Swale

Project Description	
Friction Method	Manning Formula
Solve For	Discharge

Input Data	
Roughness Coefficient	0.030
Channel Slope	0.022 ft/ft
Normal Depth	12.0 in
Left Side Slope	2.000 H:V
Right Side Slope	2.000 H:V

Results	
Discharge	8.59 cfs
Flow Area	2.0 ft²
Wetted Perimeter	4.5 ft
Hydraulic Radius	5.4 in
Top Width	4.00 ft
Critical Depth	12.3 in
Critical Slope	0.019 ft/ft
Velocity	4.30 ft/s
Velocity Head	0.29 ft
Specific Energy	1.29 ft
Froude Number	1.071
Flow Type	Supercritical

GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	12.0 in
Critical Depth	12.3 in
Channel Slope	0.022 ft/ft
Critical Slope	0.019 ft/ft

Worksheet for Storm Drain

Project Description	
Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data	
Roughness Coefficient	0.010
Channel Slope	0.005 ft/ft
Normal Depth	12.0 in
Diameter	12.0 in
Discharge	3.27 cfs

Results	
Discharge	3.27 cfs
Normal Depth	12.0 in
Flow Area	0.8 ft²
Wetted Perimeter	3.1 ft
Hydraulic Radius	3.0 in
Top Width	0.00 ft
Critical Depth	9.3 in
Percent Full	100.0 %
Critical Slope	0.006 ft/ft
Velocity	4.17 ft/s
Velocity Head	0.27 ft
Specific Energy	1.27 ft
Froude Number	(N/A)
Maximum Discharge	3.52 cfs
Discharge Full	3.27 cfs
Slope Full	0.005 ft/ft
Flow Type	Undefined

GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	100.0 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	12.0 in
Critical Depth	9.3 in
Channel Slope	0.005 ft/ft
Critical Slope	0.006 ft/ft

Culvert Calculator Report
98th & Gibson - Amole Channel Culver

Solve For: Headwater Elevation

Culvert Summary					
Allowable HW Elevation	10.50	ft	Headwater Depth/Height	1.68	
Computed Headwater Elev	5,118.56	ft	Discharge	2,807.00	cfs
Inlet Control HW Elev.	5,118.56	ft	Tailwater Elevation	4.30	ft
Outlet Control HW Elev.	5,118.11	ft	Control Type	Inlet Control	

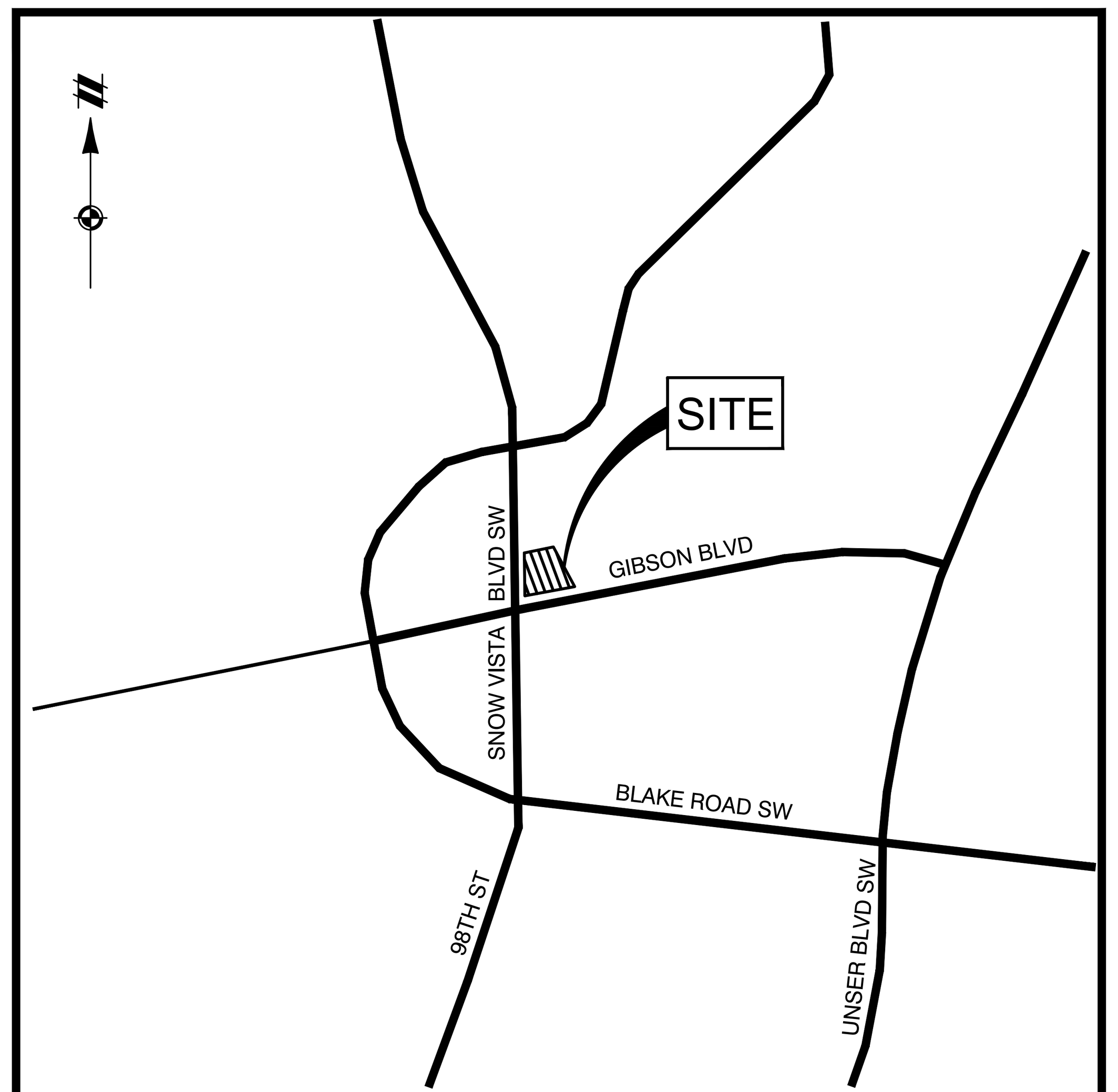
Grades					
Upstream Invert	5,106.77	ft	Downstream Invert	5,103.91	ft
Length	132.00	ft	Constructed Slope	0.021667	ft/ft

Hydraulic Profile					
Profile	S2		Depth, Downstream	4.38	ft
Slope Type	Steep		Normal Depth	3.45	ft
Flow Regime	Supercritical		Critical Depth	6.48	ft
Velocity Downstream	21.34	ft/s	Critical Slope	0.004001	ft/ft

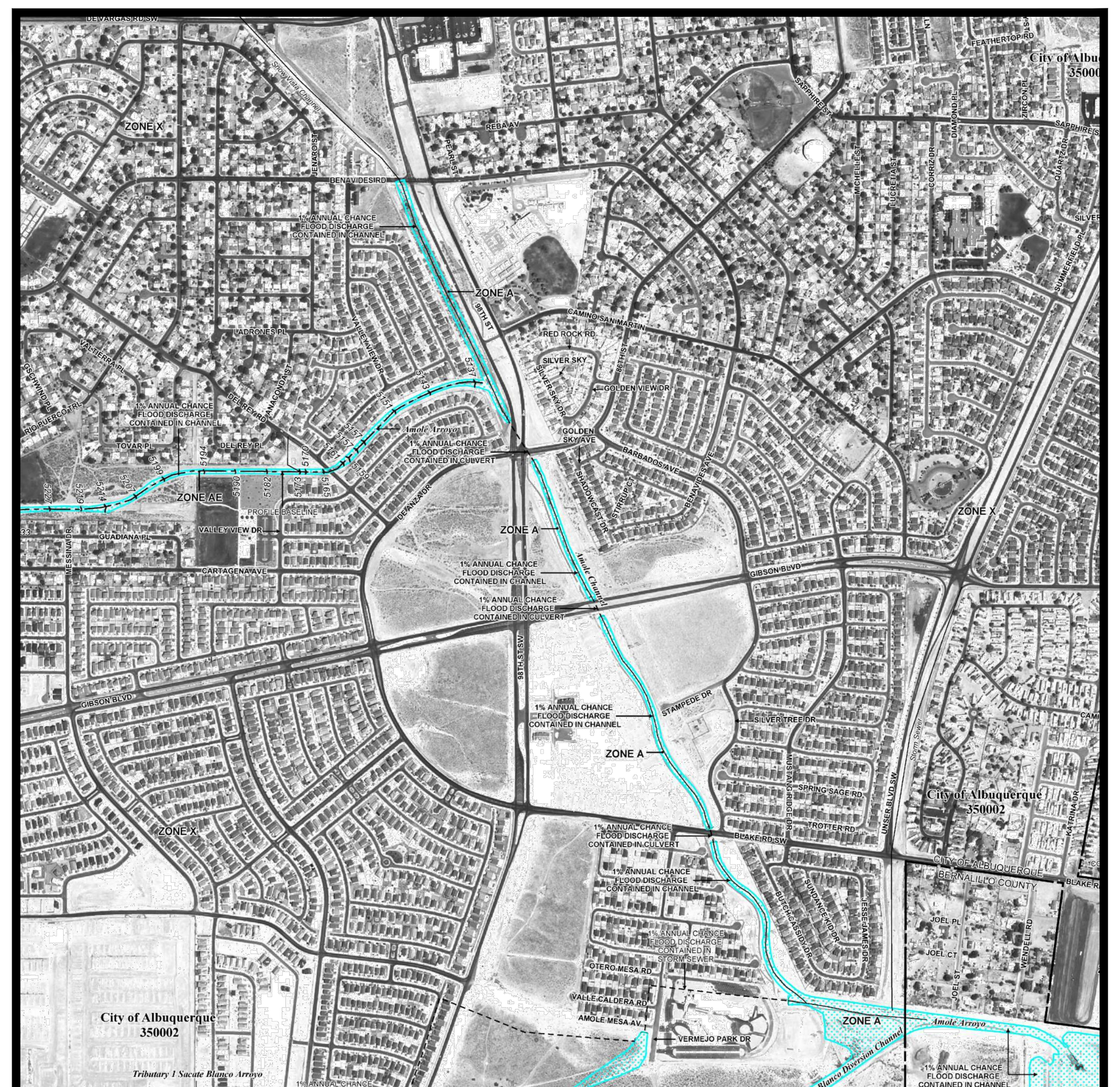
Section					
Section Shape	Box		Mannings Coefficient	0.013	
Section Material	Concrete		Span	10.00	ft
Section Size	10 x 7 ft		Rise	7.00	ft
Number Sections	3				

Outlet Control Properties					
Outlet Control HW Elev.	5,118.11	ft	Upstream Velocity Head	3.24	ft
Ke	0.50		Entrance Loss	1.62	ft

Inlet Control Properties					
Inlet Control HW Elev.	5,118.56	ft	Flow Control	Submerged	
Inlet Type	18.4° non-offset wingwall flares		Area Full	210.0	ft²
K	0.49500		HDS 5 Chart	12	
M	0.66700		HDS 5 Scale	3	
C	0.03860		Equation Form	2	
Y	0.71000				



VICINITY MAP
NOT TO SCALE



FEMA FLOOD INSURANCE RATE MAP
MAP #35001C0336H
BERNALILLO COUNTY, NM AND INCORPORATED AREAS
PANEL 336 OF 825, DATED AUGUST 16, 2012

LEGEND

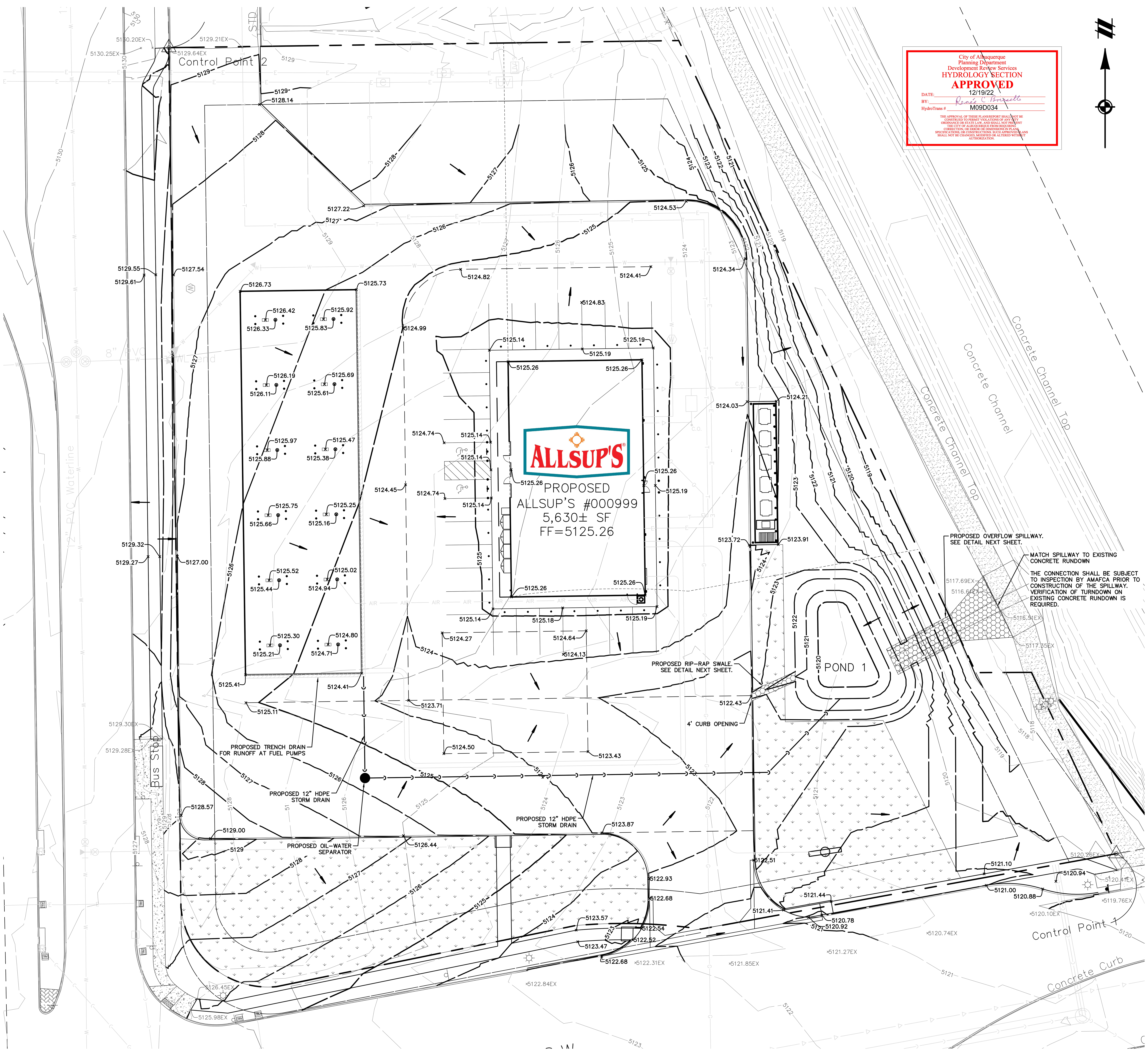
	BOUNDARY LINE
	EXISTING ROW
XXX XXX	EXISTING CONTOUR
XXX XXX	PROPOSED CONTOUR
	PROPOSED SWALE
	PROPOSED RIDGE LINE
	EXISTING STORM SEWER
	PROPOSED STORM SEWER
■●	PROPOSED STORM CATCH BASIN/MANHOLE
× 5125.00EX	EXISTING SPOT ELEVATION
× 5125.00	PROPOSED SPOT ELEVATION
←	PROPOSED DRAINAGE ARROW

NOTES:
1. EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT INTERVALS.
2. PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT INTERVALS.
3. ALL SPOT GRADES ALONG CURB LINE ARE FLOWLINE GRADES UNLESS OTHERWISE NOTED. ALL RIM ELEVATIONS ARE FLOWLINE ELEVATIONS.
4. ALL STORM SEWER AND UTILITY STRUCTURE RIMS SHALL BE FLUSH WITH PAVEMENT OR FINISHED GRADE.
5. SPOT GRADE AT MPD IS TO FINSIHED GRADE AND DOES NOT INCLUDE 2" LIFT.

APPROVED FOR CONSTRUCTION WITHIN AMAFCA EASEMENT

(FOR AMAFCA)

S:\22003692\PROJECT DOCUMENTS\ENGINEERING-PLANNING-POWER AND ENERGY\REPORTS\DRAINAGE\DRAINAGE PLAN\22003692-DRAINAGE PLAN.DWG 11/18/2022 9:25 AM ROBERT YODER



City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 12/19/22
BY: Renée C. Brissette
HydroTrans # M09D034

THE APPROVAL OF THESE PLANS/REPORT SHALL NOT BE CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT THE CITY OF ALBUQUERQUE FROM REQUIRING CORRECTION, OR ERROR OR DIMENSIONS IN PLANS, SPECIFICATIONS, OR CONSTRUCTIONS. SUCH APPROVED PLANS SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT AUTHORIZATION.

811 Know what's **below.** **Call** before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

SECTION 28
TOWNSHIP 10 NORTH, RANGE 3 EAST
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

CLIENT
BW GAS & CONVENIENCE RETAIL, LLC
ALLSUP'S CONVENIENCE STORE #000999
98TH STREET & GIBSON BLVD
ALBUQUERQUE, NEW MEXICO 87121
FINAL ENGINEERING PLANS

GRADING AND DRAINAGE PLAN

DATE
OCTOBER 25, 2022

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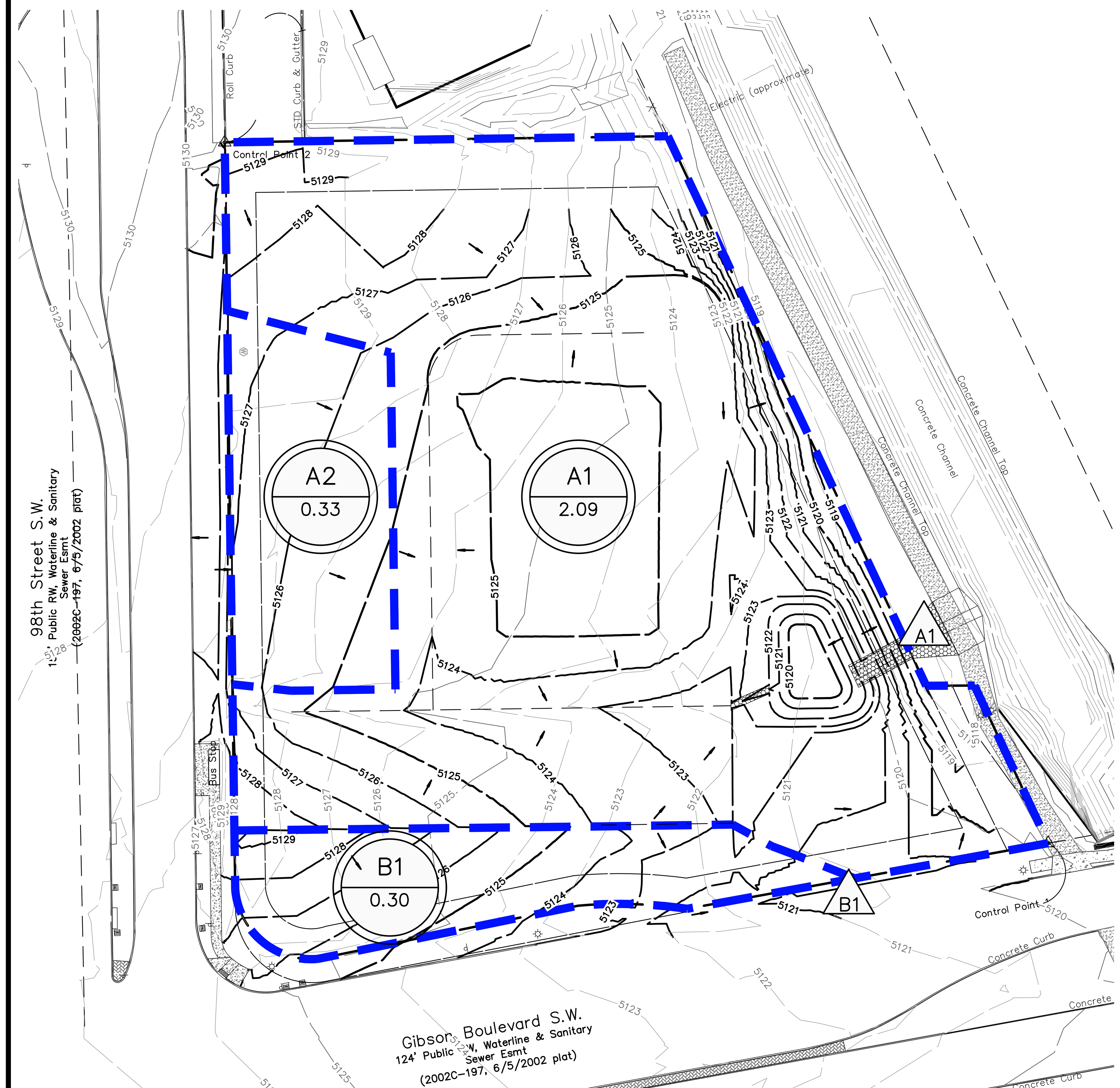
REVISIONS

DANIEL J. MADRUGA
NEW MEXICO
20496
11/10/22
PROFESSIONAL ENGINEER

SCALE 0 10 20
1" = 20 FEET

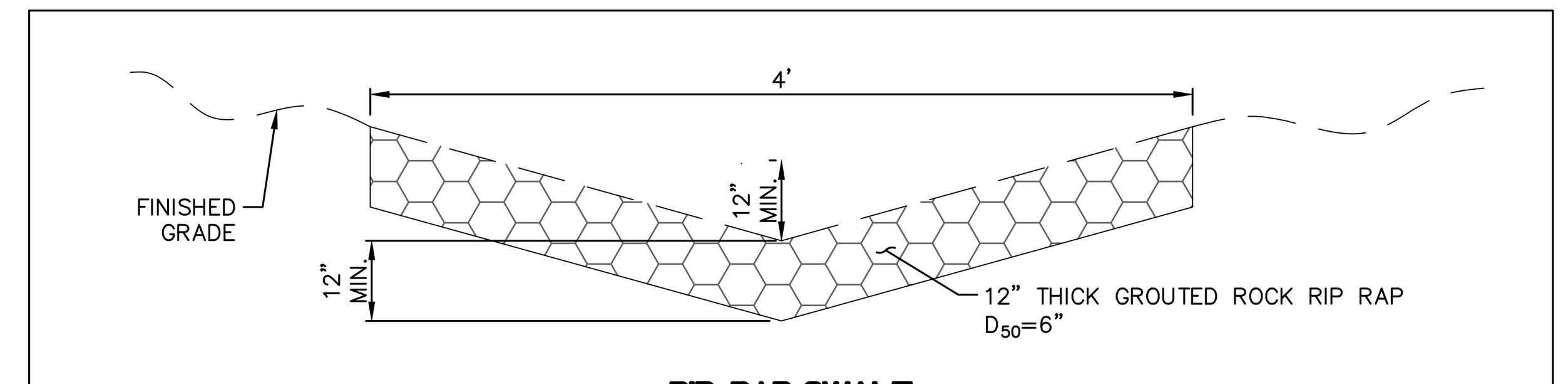
DR. KJK	CH. CBS
P.M. D. MADRUGA	
BOOK --	
JOB 22003692	
SHEET NO. D01.0	

CAD FILE: 22003692-DRAINAGE PLAN.DWG

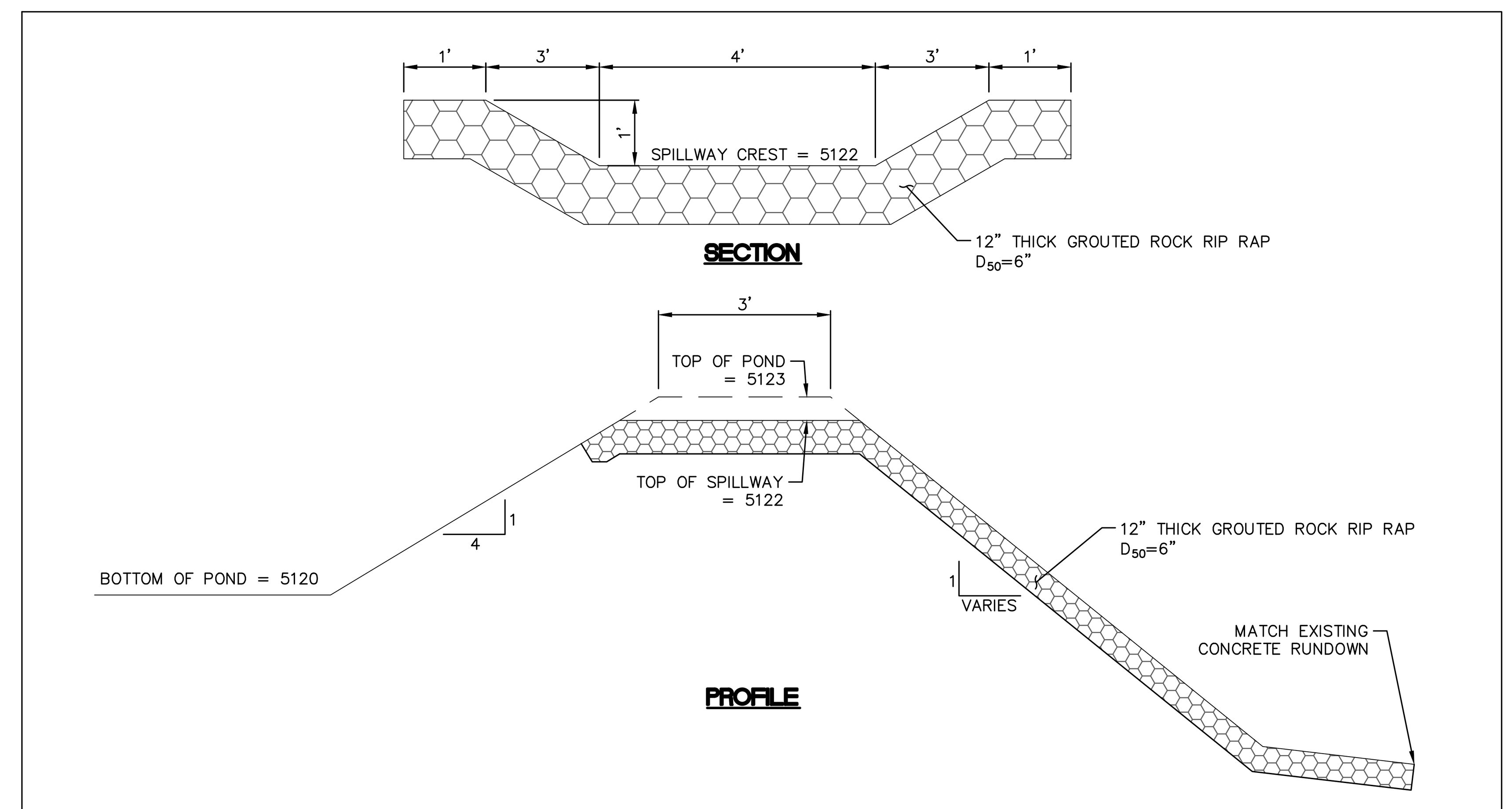


PROPOSED DRAINAGE BASIN MAP

SCALE: 1" = 40'



RIP-RAP SWALE
NOT TO SCALE



OVERFLOW SPILLWAY
NOT TO SCALE

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 12/19/22
BY: [signature]
HydroTrans # M09D034
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STORMWATER CALCULATIONS

STORMWATER QUALITY POND			
ELEVATION (FT)	STAGE (FT)	AREA (SF)	VOLUME (CF)
5120	0.00	716	0
5121	1.00	1335	1026
5122	2.00	2192	2789

STORMWATER QUALITY POND SIZING:

REQUIRED
SWQV = A_{IMP} x 0.42 IN.
= (73,623 FT^2) x (0.42 IN.) / (12 IN./FT)
= 2,577 FT^3

PROVIDED
SWQV = 2,789 FT^3

BASIN HYDROLOGY						
BASIN	AREA (AC)	LAND TREATMENT FACTOR (AC) A	B	C	D	Q100 (CFS)
EXISTING CONDITIONS						
EX1	2.72	2.72	0.00	0.00	0.00	4.19
PROPOSED CONDITIONS						
A1	2.09	0.00	0.00	0.78	1.31	7.64
A2	0.33	0.00	0.00	0.00	0.33	1.36
B1	0.30	0.00	0.00	0.25	0.05	0.92
TOTAL	**2.72**					**9.92**

PROPERTY
THE SITE IS A 2.72 ACRE UNDEVELOPED PROPERTY BOUNDED TO THE WEST BY 98TH STREET, TO THE SOUTH BY GIBSON BLVD, AND TO THE EAST BY THE AMOLE ARROYO CHANNEL. THE SITE SLOPES TO THE EAST AND CURRENTLY DISCHARGES TO THE AMOLE ARROYO CHANNEL VIA A CONCRETE RUNDOWN TO THE SOUTHEAST.

PROPOSED IMPROVEMENTS
THE PROPOSED SITE IS A GAS STATION AND CONVENIENCE STORE WITH CONCRETE ACCESS, PARKING AND LANDSCAPING. THE SITE MATCHES THE EXISTING DRAINAGE PATTERN, WITH RUNOFF FLOWING SOUTHEAST. STORMWATER QUALITY VOLUME IS CAPTURED IN WATER QUALITY POND 1. A TRENCH DRAIN AROUND THE FUEL CANOPY DIRECTS RUNOFF FROM THE FUEL PUMPS TO AN OIL WATER SEPARATOR BEFORE DISCHARGING INTO POND 1. AN OVERFLOW SPILLWAY DIVERTS EXCESS RUNOFF VOLUME TO THE EXISTING CONCRETE RUNDOWN AND INTO THE AMOLE CHANNEL. THE SITE IS PERMITTED FREE DISCHARGE TO THE CHANNEL.

OFF-SITE FLOW
OFF-SITE FLOWS DO NOT IMPACT THE PROPERTY.

FLOOD HAZARD
ACCORDING TO BERNALILLO COUNTY FIRM MAP #35001C0336H, THE SITE IS LOCATED WITHIN ZONE X AND IS OUTSIDE THE 500-YEAR FLOODPLAIN.

LEGAL DESCRIPTION
TRACT E-5-A-2, OF ALBUQUERQUE SOUTH, UNIT 3, WITHIN THE TOWN OF ATRISCO GRANT, PROJECTED SECTION 4, TOWNSHIP 9 NORTH, RANGE 2 EAST, NMPM, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT THEREOF, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON AUGUST 3, 2010, IN PLAT BOOK 2010C, PAGE 090, AS DOCUMENT NO 2010078227.

CONTAINING 2.7189 ACRES (118,435 SF), MORE OR LESS.

BASIS OF BEARING
THE BASIS OF BEARINGS IS BETWEEN THE SE CORNER OF TRACT E-5-A-2 AND USC&GS BRASS CAP "TRANS 1969" AS MEASURED WITH THE "TRIMBLE VRS NOW" GNSS VIRTUAL REFERENCE SYSTEM. BEARINGS ARE NEW MEXICO STATE PLANE BEARINGS, CENTRAL ZONE, NAD 83. DISTANCE ARE GROUND DISTANCES. ELEVATION DATUM IS NAVD88

BENCHMARKS

CSC CONTROL POINT 1	CSC CONTROL POINT 2
SW CORNER, TRACT E-5-A-2	NW CORNER, TRACT E-5-A-2
5/8" REBAR W/CAP ILLEGIBLE	REBAR W/CAP LS 16006
N = 1471548.485 US FT	N = 1471895.209 US FT
E = 1495079.073 US FT	E = 1494671.543 US FT
Z = 5119.71 US FT NAVD 1988	Z = 5129.368 US FT NAVD 1988

IMPACT STATEMENT
ANALYSIS OF THE 100-YEAR WATER SURFACE ELEVATION AT THE AMOLE CHANNEL CONFIRMED A HEADWATER ELEVATION OF 5118.6. THE OVERFLOW SPILLWAY FROM THE ON-SITE STORMWATER QUALITY POND RELEASES AT AN ELEVATION OF 5122.0. THEREFORE, THE SITE IS NOT IMPACTED BY THE 100-YEAR STORM EVENT AND WILL CONTINUE TO DRAIN FREELY TO THE AMOLE CHANNEL.

APPROVED FOR CONSTRUCTION WITHIN AMAFCA EASEMENT
[signature]
(FOR AMAFCA)

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GRADING AND DRAINAGE PLAN

DATE
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REVISIONS

D. J. MADRUGA NEW MEXICO 20496 11/10/22 PROFESSIONAL ENGINEER

SCALE	AS SHOWN
DR. KJK	CH. CBS
P.M.	D. MADRUGA
BOOK	--
JOB	22003692
SHEET NO.	D01.1

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