Planning Commission
Work Session Agenda

Date: Thursday, August 28, 2025
Time: 4:30 PM

Location: Bella Vista District Court
2483 Forest Hills Blvd

Planning Commission regular meetings are live streamed and archived for your convenience. View the meeting at its scheduled time or after at: https://bit.ly/bvmeetingslive.

I. Call to Order

II. Roll Call

Members: Daniel Ellis, PE, Chairman; Doug Farner, Vice-Chairman; Gail Klesen, Secretary; Clayton Sedberry, JB Portillo; Jack Wagnon, and Linda Lloyd.

III. Consideration of Minutes

A. Regular Meeting Minutes - August 11, 2025

IV. Unfinished Business

A. **WVR-2025-59726(A):** A waiver request on required right-of-way dedication associated with PLA 59124 near 411 Town Center (East); Parcel 16-40168-000; Applicant Crafton Tull; Presented by Planner Grady

B. **PLA-2025-59124**: A property line adjustment proposal located near 411 Town Center (East); Parcel 16-40168-000; Applicant Crafton Tull; Presented by Planner Grady

C. **WVR-2025-59726(B)**: A waiver request of retaining wall setback requirements for a proposed retaining wall located near 411 Town Center (East); Parcel 16-40168-000; Applicant Crafton Tull; Presented by Planner Hyatt

V. New Business

A. **RZN-2025-59940**: A request to rezone the subject property from R-E Residential Estate to C-2 Light/Local Commercial near Lancashire Blvd

and Oakhill Drive; Parcel 16-43269-000;Applicant Jack Kehoe; Presented by Planner Grady

B. **WVR-2025-60189:** A waiver request of retaining wall setback requirements for an existing retaining wall located at 3 Buckingham Drive; Parcel 16-05904-000; Applicant Zachariah Smith; Presented by Planner Hyatt

VI. Open Discussion

VII. Announcements

A. The Board of Zoning Adjustment meeting will be on Monday, September 8, 2025 at 4:30 pm directly followed by the Planning Commission regular meeting.
B. The City Council Work Session will be Monday, September 15, 2025 at 5:30 pm.
C. The City Council Regular Meeting will be on Monday, September 22, 2025 at 6:00 pm.
D. The Planning Commission Work Session will be Thursday, October 2, 2025 at 4:30 pm.

VIII. Adjournment

Planning Commission
Regular Meeting Minutes
August 11, 2025
2483 Forest Hills Blvd

I. CALL TO ORDER

Vice-Chairman Farner called the meeting to order at 4:49 PM

II. ROLL CALL

Members: Daniel Ellis, PE, Chairman; Doug Farner, Vice-Chairman; Gail Klesen, Secretary; Clayton Sedberry; JB Portillo; Jack Wagnon, and Linda Lloyd.

Member(s) Absent: Daniel Ellis.

III. CONSIDERATION OF MINUTES

A. *Regular Meeting Minutes – July 14, 2025*

On a motion by Mr. Sedberry and a second by Ms. Klesen, the July 14, 2025 minutes were approved by a voice vote.

IV. PUBLIC INPUT

A. Vice-Chairman Farner opened the public input session.
B. Vice-Chairman Farner closed the public input session.

V. UNFINISHED BUSINESS

VI. NEW BUSINESS

A. WVR-2025-60319: A waiver request on required lot length maximums associated with PLA 60141 located at 5 Dewsbury Circle; Parcel 16-33907-000; Applicant Brendan Hayes; Presented by Senior Planner Hyatt.

1. Senior Planner Hyatt presented the staff report in the packet.
2. A discussion was held regarding the request.
3. Applicant Brendan Hayes was present to answer questions.
4. A motion to approve waiver 60319 was made by Ms. Portillo and a second was made by Ms. Lloyd.

Linda Lloyd – Y
Gail Klesen – Y
Clayton Sedberry – Y
JB Portillo – Y
Jack Wagnon – Y
Doug Farner - Y
Daniel Ellis –
Motion approved with six yes votes. (6-0)

B. PLA-2025-60141: A property line adjustment between Lots 18 an 19, Block 15 of the York Subdivision located at 5 Dewsbury Circle; Parcel 16-33907-000; Applicant Brendan Hayes; Presented by Senior Planner Hyatt.

1. Senior Planner Hyatt presented the staff report alongside item A.
2. A discussion was held regarding the request.
3. Applicant Brendan Hayes was present to answer questions.
4. A motion to approve the property line adjustment was made by Ms. Lloyd and a second was made by Ms. Portillo.

Gail Klesen – Y
Clayton Sedberry – Y
JB Portillo - Y
Jack Wagnon – Y
Linda Lloyd – Y
Doug Farner - Y
Daniel Ellis -
Motion approved with six yes votes. (6-0)

C. Public Hearing ORDINANCE: A proposed new Small Cell Facilities Ordinance: Presented by Director Robertson.

1. Director Robertson gave a summary of the proposed ordinance requirements.
2. Discussion was held regarding the proposal.
3. Vice-Chairman Farner opened the public hearing.
4. Vice-Chairman Farner closed the public hearing.
5. A motion to send the proposal to city council with recommendation to approve was made by Mr. Wagnon with a second by Ms. Klesen.

Clayton Sedberry – Y
Doug Farner – Y
JB Portillo - Y
Jack Wagnon – Y
Linda Lloyd – Y
Gail Klesen – Y
Daniel Ellis -
Motion approved with six yes votes. (6-0)

VII. COMMITTEE REPORTS

None.

VIII. OPEN DISCUSSION

A. None

IX. ANNOUNCEMENTS

A summary of upcoming meetings was announced.

IIX. ADJOURNMENT

Vice-Chairman Farner adjourned the meeting at 5:00 pm.

SUBMITTED BY:

_____
Sarah Costa, Office Manager
City of Bella Vista

APPROVED AND ACCEPTED THIS 8TH DAY OF SEPTEMBER 2025:

_____
Daniel Ellis, P.E., Chairman
Bella Vista Planning Commission

_____
Gail Klesen, Secretary
Bella Vista Planning Commission

Meeting Information:
2483 Forest Hills Blvd
August 28, 2025 at 4:30 pm

Reviewer:
Jessica Grady, CNU-A
Planning Technician

Project Number	WVR 59726(A) & PLA 59124
Applicant	Crafton Tull
Address/Location	411 Town Center
Current Zoning	C-3; Central Commercial
Site Area	7.82 acres
Nature of Request	Requesting property line adjustment for Town Center Renovation Phase 3; Waiver of 107-130(4) adequate street ROW.

Zoning Map

Future Land Use

Property Description
This property is located in the central area of Bella Vista City Limits on Parcel #16-40168-000, block 11-14, 21-34, 59 & PT SE SW. Town Center North Commercial Subdivision.

Regulation
Sec. 107-128, Incidental Subdivision Review and Approval; Sec. 107-130(4) states, review criteria for approval or disapproval of incidental subdivisions shall be given based on the following threshold guidelines: There is adequate street right-of-way as required by these regulations and the master street plan.

Request
The applicant is requesting a property line adjustment and a waiver of Sec. 107-130 (4), for adequate ROW of 50' for the HWY 71 on-ramp, that is identified as major arterial on the Master Street Plan.

Background
The purpose of this request is to clarify and adjust property lines to support a Large-Scale Development (LSD-2025-58745) previously approved by the Planning Commission on June 9, 2025. This project pertains to the redevelopment of the Town Center, located immediately adjacent to the HWY 71 on-ramp.
This previously tabled item, has been updated to include a detailed depiction of the proposed property lines. To ensure clarity, transparency, and alignment with established land use protocols, staff requested the applicant submit updated site illustrations accurately reflecting the proposed parcel boundaries. The revised drawings have been received and staff has determined that they meet all applicable Commercial-3 (C-3) zoning requirements. Surrounding Land Uses includes, R-1 (Single-Family Residential), C-1 (Neighborhood Commercial), and C-3 (Central Commercial) districts. The Comprehensive Plan 2040 designates this area as Type-1 Neighborhood Center, envisioned to support a mix of residential, commercial, and civic uses. The Master Street Plan designates *Lancashire Blvd* as a major arterial, *Town Center* as non-classified, and requires a 50-foot right-of-way dedication along the HWY 71 on-ramp. This site lies adjacent to a priority one bike lane and is not located within a designated floodplain.

Public Comment
None at the time of this report.

Outstanding Technical Comments
There are outstanding comments from Carroll Electric and Runway Group at this time. Staff is still awaiting the corrected drawings which should include the required dedicated easements.

Recommendation
Staff recommends approval of this replat so long as remaining comments are met and PC approves the waiver.

Sec. 107-35 Waiver Review Requirements

When, by the strict interpretation of Chapter 107, an applicant incurs undue restrictions on the physical property to be subdivided or developed, a waiver for such requirements may be granted by the planning commission. **Under no circumstance** should a waiver be granted because of a personal hardship or for personal or emotional reasons. Waivers shall not be granted based strictly on financial hardship. A waiver is determined by the strict interpretation and enforcement of the rules and regulations upon a given piece of property to be subdivided or developed. No waiver shall be granted unless the planning commission finds all of the following:

1. That there are special circumstances or conditions affecting the land involved such that the strict application of the provision of these regulations would deprive the applicant of the reasonable use of this land.
2. That the waiver is necessary for the preservation and enjoyment of a substantial property right of the applicant.
3. That the granting of the waiver will not be detrimental to the public health, safety and welfare or injurious to other property in the area.
4. That the granting of the waiver will not have the effect of preventing the orderly subdivision of other land in the area in accord with the provision of these regulations.

Four affirmative votes of the planning commission's authorized membership shall be necessary for the passage of any waiver.

Sec. 107-35 Waiver Review Procedures

- Under exceptional circumstances, the planning commission may grant waivers at the time of final plat approval.
- In granting the waiver, the planning commission shall prescribe any conditions that it deems necessary to or desirable in the public interest.
- In considering the petition for a waiver, the planning commission shall take into account the nature of the proposed use of land involved, existing uses of land in the area, proximity to public utilities, the number of persons who will reside or work in the proposed subdivision, and the probable effect of such waiver upon traffic conditions and upon the public health, safety and general welfare in the vicinity.
- The findings of the planning commission, together with the specific facts upon which findings are based, shall be incorporated into the official minutes of the planning commission meetings at which such waiver is granted. Waivers may be granted only when in harmony with the general purpose and intent of these regulations.

Sec. 107-128 Incidental Subdivision Review and Approval

Planning Commission Approval:

1. Applicability. The planning commission shall approve, approve with conditions, or disapprove any incidental subdivision that is not being administratively approved as set forth in section 107-128(a) of this section.
2. Action. Within 60 days of receipt of the complete plat from the applicant, the planning commission shall take action on the incidental subdivision. If the plans are approved with conditions, the conditions shall be set forth in written form to the owner/developer. The signature of the owner/developer on the form setting forth the conditions of approval shall be deemed his agreement to comply with said conditions, whereupon a building permit may be issued. Disapproval of the plat shall be transmitted to the applicant with the reasons therefor within 15 days after the meeting at which the plat was disapproved.
3. Any incidental subdivision that dedicates street rights-of-way or easements to the public that has been approved by the planning commission shall constitute acceptance of said dedication.
4. Approval signatures. All planning commission approvals of incidental subdivisions shall be signified by the signature of the planning commission chairman upon the development plan.

Sec. 107-130 Incidental Subdivision Review Criteria

Approval or disapproval of incidental subdivisions shall be given based on the following threshold guidelines:

5. No new street or alley is required or proposed.
6. No vacation of streets, alleys, setback lines, access control or easements is required or proposed.
7. Such action will not result in any significant increases in public service requirements, nor will interfere with maintaining existing public service levels.
8. There is adequate street right-of-way as required by these regulations and the master street plan.
9. All easement requirements have been satisfied.
10. All lots created by such split or readjustment shall have access on a public street.
11. No substandard sized lots or parcels shall be created.
12. No waivers or variances from these regulations are requested.

Crafton Tull

901 N 47th Street, Suite 400
Rogers, AR 72756

479.636.4838 (ph)
479.631.6224 (fax)

May 20, 2025

Bella Vista Planning Department
2483 Forest Hills Blvd
Bella Vista, AR 72715

Re: Waiver Request from Right-of-Way Dedication along Northbound Hwy 71 On-Ramp
Lot Combination Plat-Town Center NE Commercial Subdivision
Bella Vista, AR
CTA No. 19105800
Sec. 107-130(4) – Right-of-Way Dedication Per Master Street Plan

Dear Planning Department Staff,

I am writing to request a waiver from the requirement specified in Section 107-130(4) of the Bella Vista Code of Ordinances related to the dedication of right-of-way for a proposed lot combination located along the northbound on-ramp of Highway 71.

Per the Bella Vista Master Street Plan, this on-ramp or adjacent frontage road is currently identified as a major arterial, which triggers a requirement for 50 feet of right-of-way dedication to the Arkansas Department of Transportation (ARDOT). However, after consultation with ARDOT, we have confirmed that they do not require any right-of-way dedication for this project.

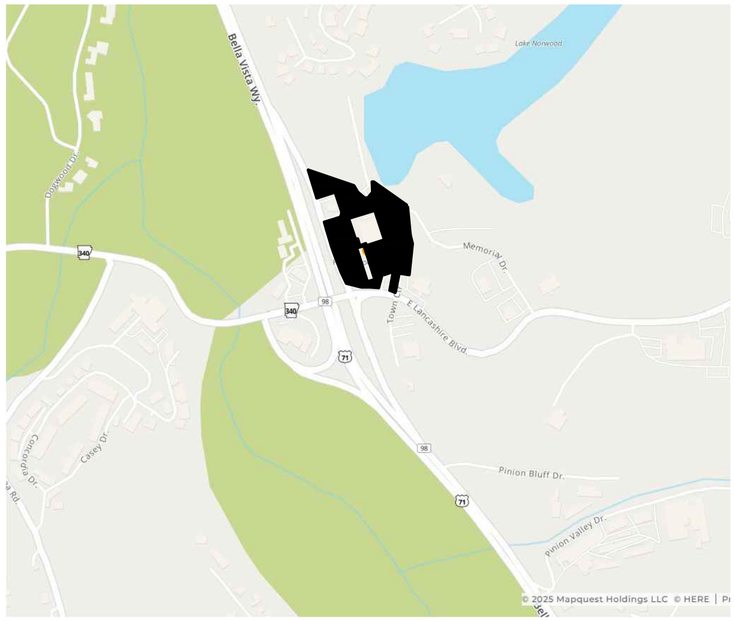
Additionally, we believe that the classification of the on-ramp as a major arterial is not consistent with the traditional definition of such roadways and may not be appropriate in this specific context. While we acknowledge and agree that Highway 71 itself is correctly identified as a major arterial, the on- and off-ramps do not appear to function as independent arterials and are instead integral components of the highway system.

It is our understanding that the designation of ramps and frontage roads in the Master Street Plan is subject to staff interpretation and discretion. In light of ARDOT's position and the functional characteristics of the ramp, we respectfully request that staff consider granting a waiver from Section 107-130(4), which requires that "there is adequate street right-of-way as required by these regulations and the master street plan."

If you have any questions or concerns, please do not hesitate to contact us at your earliest convenience. Thank you for your thoughtful consideration of this request.

Sincerely,

Taylor Lindley, P.E.



VICINITY MAP NTS

BUILDING SETBACK:
MIN. FRONT SETBACK ALL PROPERTY LINES: 65'
MIN. SIDE SETBACK PARALLEL TO ALL STREET R.O.W. LINES: 35'
MIN. SIDE SETBACK PARALLEL TO SIDE PROPERTY LINES ADJACENT TO NON-RESIDENTIAL DISTRICT: 25'
MIN. SIDE SETBACK PARALLEL TO SIDE PROPERTY LINES ADJACENT TO RESIDENTIAL DISTRICT: 35'
MIN. REAR SETBACK PARALLEL TO REAR PROPERTY LINES ADJACENT TO NON-RESIDENTIAL DISTRICT: 30'
MIN. REAR SETBACK PARALLEL TO REAR PROPERTY LINES ADJACENT TO RESIDENTIAL DISTRICT: 65'

COOPER REALTY INVESTMENTS INC
903 N 47TH ST
ROGERS AR 72756-9615

PROPERTY ADDRESS:
404 TOWN CENTER
BELLA VISTA, AR 72714

BENTON COUNTY PARCELS:
16-40166-000
16-40168-000

CERTIFICATE OF OWNERSHIP

WE THE UNDERSIGNED, OWNERS OF THE REAL ESTATE SHOWN AND DESCRIBED HEREIN, DO HEREBY CERTIFY THAT WE HAVE LAID OFF, PLATTED, AND SUBDIVIDED AND DO HEREBY LAY OFF, PLAT, SUBDIVIDE SAID REAL ESTATE IN ACCORDANCE WITH THIS PLAT AND DO HEREBY DEDICATE TO THE USE OF THE PUBLIC THE STREETS, ALLEYS, DRIVES, AND EASEMENTS AS SHOWN ON SAID PLAT.

SIGNED: _____ DATE OF EXECUTION: _____
NAME & ADDRESS: SOURCE OF TITLE: DEED RECORD _____ PAGE

ACKNOWLEDGMENT

STATE OF ARKANSAS)
)
COUNTY OF _____)

ON THIS DAY BEFORE THE UNDERSIGNED, A NOTARY PUBLIC DULY QUALIFIED AND ACTING IN AND FOR THE COUNTY AND STATE AFORESAID, PERSONALLY APPEARED _____, SATISFACTORILY PROVEN TO BE THE PERSON(S) WHOSE NAME(S) APPEAR(S) AS THE OWNER(S) IN THE FOREGOING INSTRUMENT, AND STATED THAT HE/SHE/THEY HAS/HAVE EXECUTED THE SAME FOR THE CONSIDERATION, USES AND PURPOSES THEREIN STATED.

IN WITNESS WHEREOF, I HEREUNTO SET MY HAND AND ON THIS _____ DAY OF _____, 20_____.

_____ _____ MY COMMISSION EXPIRES: _____
NOTARY PUBLIC

PARENT OR EXISTING DESCRIPTION:

COMMON AREA, LOT 9, LOT 13, LOT 14, AND LOT 59 OF TOWN CENTER NE COMMERCIAL SUBDIVISION, AS PER PLAT RECORDS 17-197, 17-199, 17-200, 23-122, 23-126 AND 23-139 IN THE OFFICE OF THE CIRCUIT CLERK AND EX-OFFICIO RECORDER OF BENTON COUNTY, ARKANSAS.

PARENT AREAS AS FOLLOWS:

COMMON AREA	–	270979 SQ FT
LOT 9	–	11066 SQ FT
LOT 13	–	2711 SQ FT
LOT 14	–	1105 SQ FT
LOT 59	–	5557 SQ FT

DESCRIPTION LOT 60:

PART OF THE COMMON AREA, LOT 9, LOT 13, LOT 14, AND LOT 59 OF TOWN CENTER NE COMMERCIAL SUBDIVISION, AS PER PLAT RECORDS 17-197, 17-199, 17-200, 23-122, 23-126 AND 23-139 IN THE OFFICE OF THE CIRCUIT CLERK AND EX-OFFICIO RECORDER OF BENTON COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF LOT 12 OF SAID TOWN CENTER NE COMMERCIAL SUBDIVISION;
THENCE S87°22'52"E 120.93 FEET;
THENCE S71°58'42"E 77.94 FEET;
THENCE S17°27'19"E 143.44 FEET;
THENCE S14°53'20"E 60.00 FEET;
THENCE S06°07'57"W 213.08 FEET;
THENCE N81°28'11"W 68.09 FEET;
THENCE S06°21'09"W 5.18 FEET;
THENCE S11°37'00"W 125.06 FEET;
THENCE 40.36 FEET ALONG A CURVE TO THE LEFT WITH A RADIUS OF 537.38 FEET AND A LONG CHORD OF N70°50'16"W 40.35 FEET;
THENCE N11°37'00"E 117.92 FEET;
THENCE N06°21'09"E 10.46 FEET;
THENCE S72°30'31"W 68.40 FEET;
THENCE N17°31'29"W 7.20 FEET;
THENCE 7.65 FEET ALONG A CURVE TO THE LEFT WITH A RADIUS OF 3.00 FEET AND A LONG CHORD OF S89°23'13"W 5.74 FEET;
THENCE S16°19'54"W 98.80 FEET;
THENCE 116.54 FEET ALONG A CURVE TO THE LEFT WITH A RADIUS OF 537.38 FEET AND A LONG CHORD OF N87°31'22"W 116.31 FEET;
THENCE N76°55'31"W 100.71 FEET;
THENCE N25°53'43"W 84.67 FEET;
THENCE N21°26'33"W 144.93 FEET;
THENCE N16°48'11"W 36.37 FEET;
THENCE N16°42'41"W 9.72 FEET;
THENCE N16°48'09"W 115.00 FEET;
THENCE N72°40'48"E 98.34 FEET;
THENCE N51°42'34"E 72.82 FEET;
THENCE S17°33'21"E 150.00 FEET;
THENCE N72°26'39"E 15.00 FEET;
THENCE S17°33'21"E 47.72 FEET;
THENCE N72°24'43"E 42.00 FEET;
THENCE S17°33'21"E 14.30 FEET;
THENCE N72°26'39"E 128.01 FEET;
THENCE N17°33'21"W 212.00 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT

LOTS 21 THROUGH 34 OF TOWN CENTER NE COMMERCIAL SUBDIVISION, 13225 SQUARE FEET, MORE OR LESS.

CONTAINING 4.08 ACRES OR 177596 SQUARE FEET, MORE OR LESS AND SUBJECT TO ANY AND ALL EASEMENTS OF RECORD OR FACT.

CERTIFICATE OF APPROVAL

PURSUANT TO THE CITY OF BELLA VISTA SUBDIVISION REGULATIONS AND ALL OTHER CONDITIONS AND APPROVALS HAVING BEEN COMPLETED, THIS DOCUMENT IS HEREBY ACCEPTED. THIS CERTIFICATE IS HEREBY EXECUTED UNDER THE AUTHORITY OF THE SAID RULES AND REGULATIONS.

DATE OF EXECUTION: _____

SIGNED _____
PLANNING COMMISSION CHAIRMAN

DESCRIPTION LOT 61:

PART OF THE COMMON AREA OF TOWN CENTER NE COMMERCIAL SUBDIVISION, AS PER PLAT ON FILE IN THE OFFICE OF THE CIRCUIT CLERK AND EX-OFFICIO RECORDER OF BENTON COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF LOT 12 OF SAID TOWN CENTER NE COMMERCIAL SUBDIVISION;
THENCE S72°26'39"W 185.01 FEET;
THENCE S51°42'34"W 72.82 FEET;
THENCE S72°40'48"W 98.34 FEET;
THENCE N16°48'09"W 50.03 FEET;
THENCE N72°42'06"E 98.03 FEET;
THENCE 54.68 FEET ALONG A CURVE TO THE LEFT WITH A RADIUS OF 34.69 FEET AND WHOSE A CHORD OF N27°32'40"E 49.19 FEET;
THENCE N17°36'46"W 138.65 FEET;
THENCE S72°32'30"W 130.46 FEET;
THENCE N16°48'09"W 196.46 FEET;
THENCE S70°41'41"E 324.50 FEET;
THENCE S31°32'08"E 51.63 FEET;
THENCE S50°05'14"E 61.36 FEET;
THENCE N90°00'00"E 20.00 FEET;
THENCE N39°54'45"E 51.33 FEET;
THENCE N01°38'52"W 68.41 FEET;
THENCE N87°30'59"E 10.34 FEET;
THENCE S54°58'00"E 270.22 FEET;
THENCE S32°43'04"E 14.55 FEET;
THENCE S04°50'46"E 188.89 FEET;
THENCE N17°27'19"W 143.44 FEET;
THENCE N71°58'42"W 77.94 FEET;
THENCE N87°22'52"W 120.93 FEET TO THE POINT OF BEGINNING, CONTAINING 2.31 ACRES, MORE OR LESS AND SUBJECT TO ANY AND ALL EASEMENTS OF RECORD OR FACT.

NOTES:

THE SURVEY SHOWN HEREON IS AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THE FACTS OF THIS SURVEY AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EXPRESSED OR IMPLIED.

THE PROPERTY SURVEYED IS WITHIN THE MUNICIPAL LIMITS OF BELLA VISTA, AR.

THE BOUNDARY DETERMINATION SHOWN HEREON WAS BASED UPON THE FOLLOWNG DOCUMENTS AND NO OTHERS: DEED RECORDS 97-114489, 2004-42455, 2004-42457 AND PLAT RECORDS Q-12, 17-197, 17-199, 17-200, 23-122, 23-126, 23-139, 2003-938, 2004-1118, L202425368, AN UNRECORDED ALTA/ACSM LAND TITLE SURVEY PLAT BY PHILLIPS LAND SURVEYING INC. DATED JUNE 26, 2009 AND DOCUMENT L202506449.

THE PROPERTY IS ZONED C-3. THE ZONING CLASSIFICATIONS SHOWN ON THIS PLAT WERE OBTAINED FROM THE CITY OF BELLA VISTA ZONING MAP, AND REPRESENT THE ZONING CLASSIFICATION AT THE TIME OF THIS SURVEY.

THERE MAY BE BUILDINGS AND OTHER IMPROVEMENTS ON THE PROPERTY THAT ARE NOT SHOWN ON THIS PLAT.

THE SURVEYOR HAS NOT MADE A SEPARATE INVESTIGATION OR SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, OR RESTRICTIVE COVENANTS, OR ANY OTHER FACTS WHICH AN ACCURATE AND COMPLETE TITLE SEARCH MAY DISCLOSE. ANY EASEMENTS SHOWN HEREON CAME TO THE ATTENTION OF THE SURVEYOR IN THE COURSE OF HIS RESEARCH OF THE PROPERTY BOUNDARY. OTHER RECORD EASEMENTS, ENCUMBRANCES, OR COVENANTS MAY EXIST ON THE SURVEYED PROPERTY.

SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT CONSIDERED A PART OF THIS SURVEY AND NO INVESTIGATION OF THESE CONDITIONS WAS MADE.

NO ATTEMPT HAS BEEN MADE AS A PART OF THIS SURVEY TO OBTAIN OR SHOW DATA CONCERNING THE EXISTENCE, OR LOCATION OF ANY UTILITIES OR SERVICE LINES. FOR INFORMATION REGARDING SUCH ITEMS, CONTACT THE APPROPRIATE AGENCIES.

NO PART OF THIS PROPERTY IS IN FLOOD ZONE "A" OR "AE", AND IS OUTSIDE THE 100-YEAR FLOOD PLAIN AS SHOWN ON THE NATIONAL FLOOD INSURANCE PROGRAM'S FIRM PANEL NUMBER 05007C0080J, EFFECTIVE DATE SEPTEMBER 28, 2007.
THE ABOVE STATEMENT IS FOR INFORMATION ONLY AND THIS SURVEYOR ASSUMES NO LIABILITY FOR THE CORRECTNESS OF THE CITED MAP(S). IN ADDITION, NO INDEPENDENT STUDY OF THE LIKELIHOOD OF FLOODING OF THE SURVEYED PROPERTY HAS BEEN DONE BY THE SURVEYOR AND NO OPINION OF FLOOD HAZARDS IS INCLUDED IN THIS SURVEY. THE FLOOD HAZARD ZONE BOUNDARIES SHOWN HEREON WERE SCALED FROM THE MAPS CITED AND ARE NOT THE RESULT OF INDEPENDENT COMPUTATION OR ANALYSIS.

CERTIFICATE OF SURVEYING ACCURACY:

I HEREBY DECLARE THAT ON THE ____ DAY OF _____, 2025 THE HEREON PLATTED AND DESCRIBED SURVEY WAS COMPLETED UNDER MY SUPERVISION AND THE IRON PINS WERE FOUND OR SET, AS SHOWN, TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED
STATE OF ARKANSAS
NO. 1460
SIGNATURE
KEVIN J. MONTGOMERY
PROFESSIONAL LAND SURVEYOR

CRAFTON, TULL, & ASSOCIATES, INC.
BY KEVIN J. MONTGOMERY (AGENT)

_____
KEVIN J. MONTGOMERY PS 1460
PROFESSIONAL LAND SURVEYOR

ALL COPIES THAT DO NOT BEAR AN ORIGINAL SEAL AND SIGNATURE MAY HAVE BEEN ALTERED. THE ABOVE DECLARATION SHALL NOT APPLY TO ANY COPY THAT DOES NOT BEAR AN ORIGINAL SEAL AND SIGNATURE.

RECORD INFORMATION

STATE PLAT CODE:
500-21N-31W-0-23-320-04-1460

SEAL

LOT COMBINATION PLAT
COMMON AREA, LOT 9, LOT 13, LOT 14, AND LOT 59
TOWN CENTER NE COMMERCIAL SUBDIVISION

PREPARED FOR:
COOPER REALTY INVESTMENTS

BELLA VISTA ARKANSAS

DATE: 07/30/2025
PROJECT NO: 19105800
CONTACT: K MONTGOMERY

901 N. 47th St., Suite 400
Rogers, Arkansas 72756
Crafton Tull
479.636.4838 t
www.craftontull.com

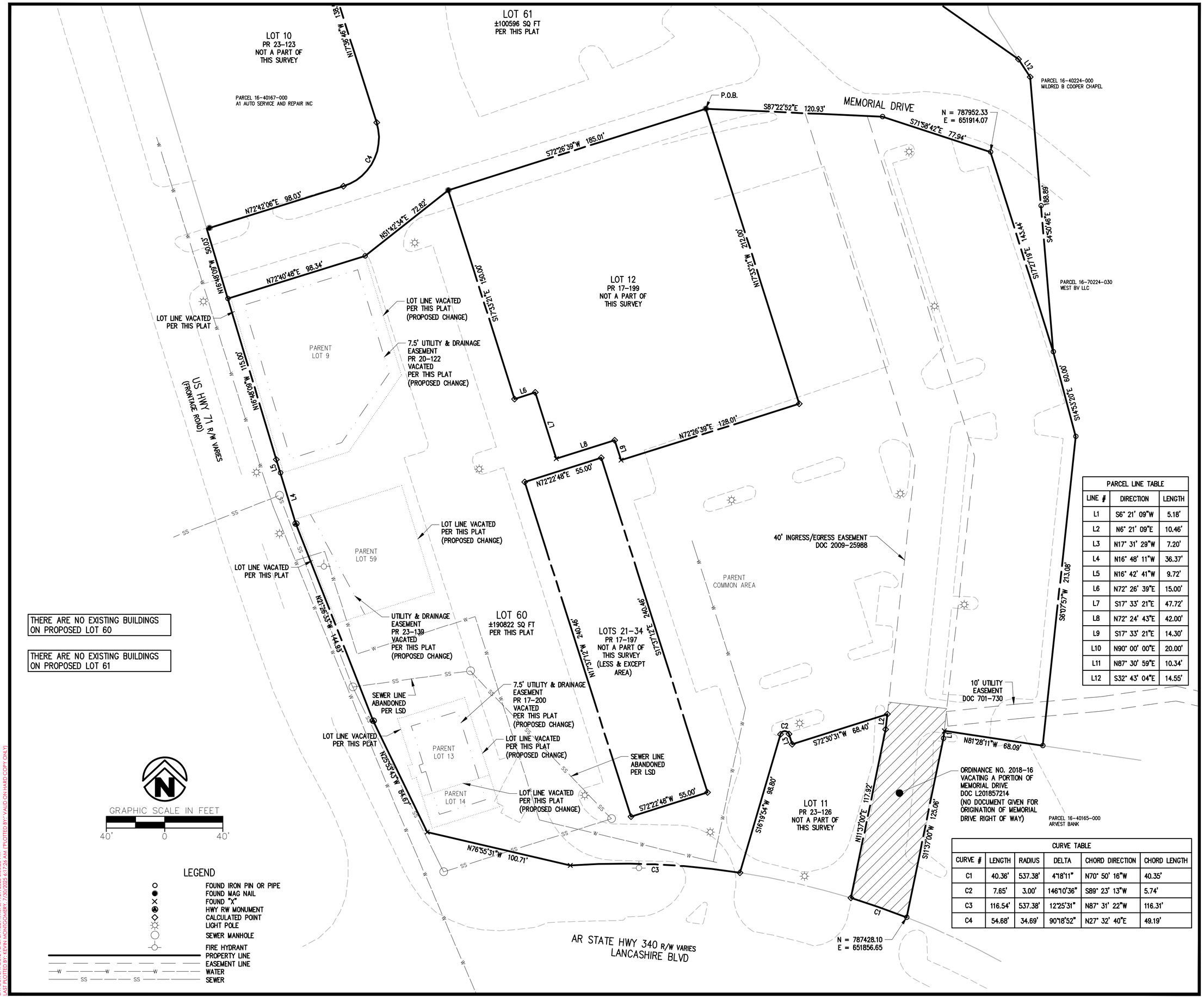
CERTIFICATE OF AUTHORIZATION:
CERTIFICATE OF AUTHORIZATION
CRAFTON, TULL & ASSOCIATES, INC.
No. 109
ARKANSAS ENGINEER

© 2025 Crafton, Tull & Associates, Inc.

DELTA	DESCRIPTION	DATE
1	REVISED PER COMMENTS	06/03/2025
2	REVISED PER COMMENTS	06/25/2025
3	REVISED	07/30/2025

SHEET NO.:
1 OF 3

DRAWING: G:\19105800_BVCPH13\INFRASTRUCTURE\SURVEY\DWG\19105800_COMBO.DWG
LAYOUT: LAYOUT1 LAST SAVED: KM676, 7/29/2025 5:00:25 PM
LAST PLOTTED BY: KEVIN MONTGOMERY 7/30/2025 4:14:43 AM (PLOTTED BY: VALID ON HARD COPY ONLY)



THERE ARE NO EXISTING BUILDINGS ON PROPOSED LOT 60

THERE ARE NO EXISTING BUILDINGS ON PROPOSED LOT 61

PARCEL LINE TABLE		
LINE #	DIRECTION	LENGTH
L1	S6° 21' 09"W	5.18'
L2	N6° 21' 09"E	10.46'
L3	N17° 31' 29"W	7.20'
L4	N16° 48' 11"W	36.37'
L5	N16° 42' 41"W	9.72'
L6	N72° 26' 39"E	15.00'
L7	S17° 33' 21"E	47.72'
L8	N72° 24' 43"E	42.00'
L9	S17° 33' 21"E	14.30'
L10	N90° 00' 00"E	20.00'
L11	N87° 30' 59"E	10.34'
L12	S32° 43' 04"E	14.55'

CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CHORD DIRECTION	CHORD LENGTH
C1	40.36'	537.38'	4°18'11"	N70° 50' 16"W	40.35'
C2	7.65'	3.00'	146°10'36"	S89° 23' 13"W	5.74'
C3	116.54'	537.38'	12°25'31"	N87° 31' 22"W	116.31'
C4	54.68'	34.69'	90°18'52"	N27° 32' 40"E	49.19'

RECORD INFORMATION

STATE PLAT CODE:
500-21N-31W-0-23-320-04-1460

SEAL

REGISTERED
STATE OF ARKANSAS
NO. 1460
SIGNATURE
KEVIN J. MONTGOMERY
PROFESSIONAL LAND SURVEYOR

LOT COMBINATION PLAT
COMMON AREA, LOT 9, LOT 13, LOT 14, AND LOT 59
TOWN CENTER NE COMMERCIAL SUBDIVISION

PREPARED FOR:
COOPER REALTY INVESTMENTS

BELLA VISTA ARKANSAS

DATE: 07/30/2025
PROJECT NO: 19105800
CONTACT: K MONTGOMERY

901 N. 47th St., Suite 400
Rogers, Arkansas 72756
Crafton Tull
479.636.4838 t
www.craftontull.com

CERTIFICATE OF AUTHORIZATION:
CERTIFICATE OF AUTHORIZATION
CRAFTON, TULL & ASSOCIATES, INC.
No. 109
ARKANSAS ENGINEER

© 2025 Crafton, Tull & Associates, Inc.

DELTA	DESCRIPTION	DATE

SHEET NO.:
2 OF 3

DRAWING: G:\19105800_BVTCPH3\INFRASTRUCTURE\SURVEY\DWG\19105800_COMBO.DWG
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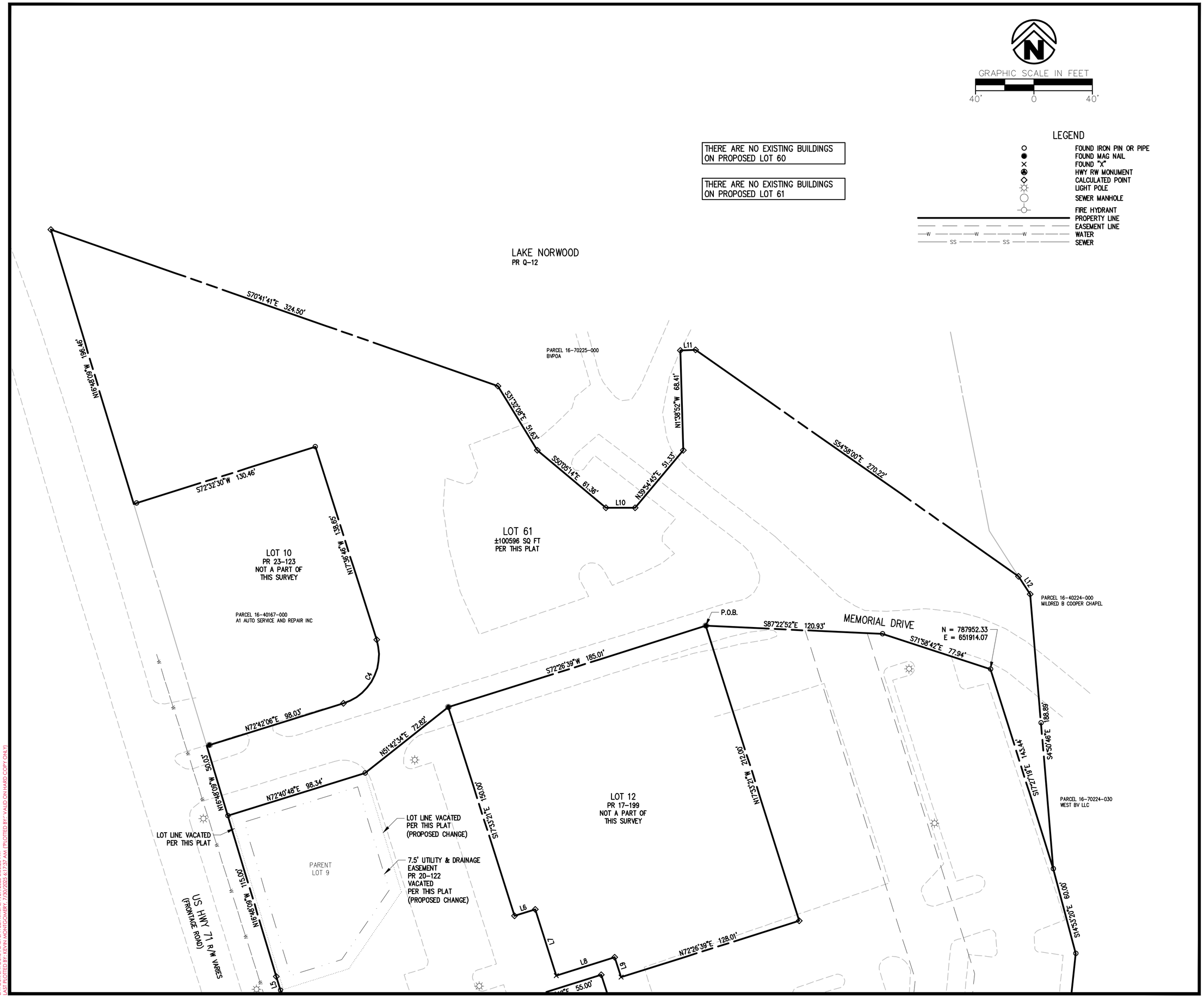

RECORD INFORMATION

STATE PLAT CODE:
500-21N-31W-0-23-320-04-1460

SEAL

REGISTERED
STATE OF ARKANSAS
NO. 1460
SIGNATURE
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PROFESSIONAL LAND SURVEYOR

LOT COMBINATION PLAT
COMMON AREA, LOT 9, LOT 13, LOT 14, AND LOT 59
TOWN CENTER NE COMMERCIAL SUBDIVISION

PREPARED FOR:
COOPER REALTY INVESTMENTS

BELLA VISTA ARKANSAS

DATE:	07/30/2025
PROJECT NO:	19105800
CONTACT:	K MONTGOMERY

901 N. 47th St., Suite 400
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No. 109
ARKANSAS ENGINEERS

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DELTA	DESCRIPTION	DATE

SHEET NO.:
3 OF 3

DRAWING:G:\19105800_BVICPH3\INFRASTRUCTURE\SURVEY\DWG\19105800_COMBO.DWG
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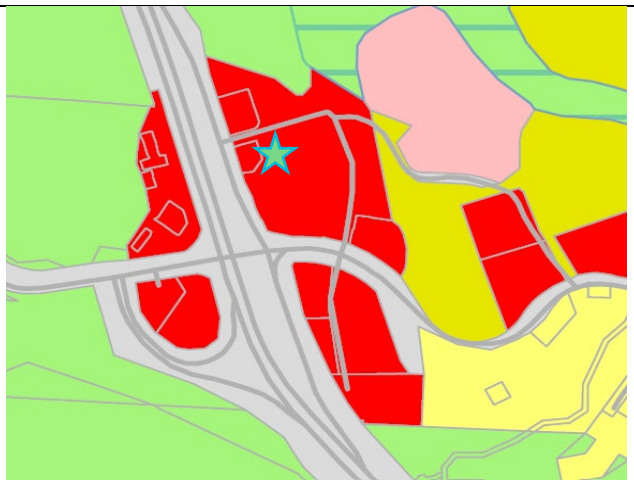
LAST PLOTTED BY: KEVIN MONTGOMERY, 7/30/2025 6:17:37 AM [PLOTTED BY: VALID ON HARD COPY ONLY]

Meeting Information:
2483 Forest Hill Blvd
August 28, 2025 at 4:30 pm

Reviewer:
Christopher Hyatt
Senior Planner

Project Number	WVR-2025-59726 (B)
Applicant	Crafton Tull
Address/Location	404 Towncenter
Current Zoning	C-3 Central Business District
Site Area	+/-7.82 acres
Nature of Request	Seeking a waiver of Sec. 107-342(e)(2).



Zoning Map

Future Land Use Plan

Property Description
This property is located in the North central area of Bella Vista City Limits and is located on Parcel #16-40168-000. The Towncenter Subdivision.

Regulation
Sec. 107-342(e)(2) states retaining walls shall be placed a minimum of 7.5 feet or 1.5 times the height of the wall, whichever is greater, away from all property lines. In cases where the retaining wall is supporting an access drive, the wall shall be allowed up to the front property line.

Request
The applicant is requesting a waiver of retaining wall separation requirements alongside a previously approved Large-Scale Development for the site reconstruction of a parking lot and retaining wall along the western side of the existing Towncenter Shopping Center.

Background
Staff Note: A property line adjustment and waiver request are accompanying the large-scale development request that was previously approved, along with this waiver request as part of the retaining wall reconstruction of the large-scale development.

The subject site is zoned C-3 Central Business District and is within the current Towncenter development. The western side of the Towncenter Shopping Center has remained vacant for quite some time with some of the buildings having been previously demolished. The applicant is proposing to reconstruct the parking lot, removing the existing remnants of the previously demolished structures, returning the area to greenspace, while also replacing the existing retaining wall. With the proposed property line adjustment and reconstruction of the retaining wall, property line setbacks will no longer be met, thus requiring the waiver request. The max height of the wall sit just over 13.5' requiring 20.4' of separation from the newly proposed property line. As it exists, the wall will site roughly 3.9' from the proposed property line. Towncenter is a private road and per the Master Street Plan, the site is surrounded by Major Arterials to the West and South

Public Comment
None at the time of this report.

Outstanding Technical Comments
None at the time of this report.

Sec. 107-35 Waiver Review Requirements

When, by the strict interpretation of Chapter 107, an applicant incurs undue restrictions on the physical property to be subdivided or developed, a waiver for such requirements may be granted by the planning commission. **Under no circumstance** should a waiver be granted because of a personal hardship or for personal or emotional reasons. Waivers shall not be granted based strictly on financial hardship. A waiver is determined by the strict interpretation and enforcement of the rules and regulations upon a given piece of property to be subdivided or developed. No waiver shall be granted unless the planning commission finds all of the following:

1. That there are special circumstances or conditions affecting the land involved such that the strict application of the provision of these regulations would deprive the applicant of the reasonable use of this land.
2. That the waiver is necessary for the preservation and enjoyment of a substantial property right of the applicant.
3. That the granting of the waiver will not be detrimental to the public health, safety and welfare or injurious to other property in the area.
4. That the granting of the waiver will not have the effect of preventing the orderly subdivision of other land in the area in accord with the provision of these regulations.

Four affirmative votes of the planning commission's authorized membership shall be necessary for the passage of any waiver.

Sec. 107-35 Waiver Review Procedures

- Under exceptional circumstances, the planning commission may grant waivers at the time of final plat approval.
- In granting the waiver, the planning commission shall prescribe any conditions that it deems necessary to or desirable in the public interest.
- In considering the petition for a waiver, the planning commission shall take into account the nature of the proposed use of land involved, existing uses of land in the area, proximity to public utilities, the number of persons who will reside or work in the proposed subdivision, and the probable effect of such waiver upon traffic conditions and upon the public health, safety and general welfare in the vicinity.
- The findings of the planning commission, together with the specific facts upon which findings are based, shall be incorporated into the official minutes of the planning commission meetings at which such waiver is granted. Waivers may be granted only when in harmony with the general purpose and intent of these regulations.

Crafton Tull

901 N 47th Street, Suite 400
Rogers, AR 72756

479.636.4838 (ph)
479.631.6224 (fax)

June 2, 2025

Bella Vista Planning Department
2483 Forest Hills Blvd
Bella Vista, AR 72715

Re: Waiver Request from Retaining Wall Placement Requirements
Retaining Wall Permit -Town Center E Commercial Subdivision
Bella Vista, AR
CTA No. 19105800
Sec. 107-342(e)(2) – Retaining Wall Placement. Setbacks from Property Lines

Dear Planning Department Staff,

I am writing to request a waiver from the requirement specified in Sec. 107-342(e)(2) of the Bella Vista Code of Ordinances related to the placement the proposed reconstruction of a retaining wall as part of the Town Center East improvements.

Per the Bella Vista stated requirements, a proposed retaining wall shall be placed a minimum of 7.5 feet or 1.5 times the height of the wall, whichever is greater, away from all property lines. However, the stated section does make an exception for walls supporting an access drive allowing them to be placed at the front property line.

The section of proposed retaining wall along the north property line (running east and west) will support Town Center Dr. Thus, the wall would meet the qualifications for the placement requirement to be waived. Additionally, it should be noted that the improvements proposed are a reconstruction of an existing retaining wall and the proposed wall will be in the same location.

Given that the ordinance allows for an exception for walls supporting an access drive and that we are proposing the reconstruction of an existing wall in the same location, we respectfully request that staff grant a waiver from Sec. 107-342(e)(2), which requires that “a proposed retaining wall shall be placed a minimum of 7.5 feet or 1.5 times the height of the wall, whichever is greater, away from all property lines."

If you have any questions or concerns, please do not hesitate to contact us at your earliest convenience. Thank you for your thoughtful consideration of this request.

Sincerely,

Evan McMahon, P.E.

SITE NOTES

1. THE DESIGN, INSPECTION, AND CERTIFICATION OF ANY RETAINING WALL SHOWN OR REFERENCED HEREIN, INCLUDING BUT NOT LIMITED TO, SEGMENTAL RETAINING WALLS, MASS GRAVITY WALLS, GABION WALLS, ETC., GREATER THAN FORTY-EIGHT INCHES IN HEIGHT, SHALL BE BY OTHERS. ANY RETAINING WALL DATA SHOWN OR REFERENCED HEREIN SHALL BE FOR COORDINATION OF THE WALL LOCATION AND ELEVATIONS ONLY.
2. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY/COUNTY/STATE/FEDERAL REGULATIONS AND CODES AND OSHA STANDARDS.
3. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, SLOPE PAVING, SIDEWALKS, EXIT PORCHES, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT UTILITY ENTRANCE LOCATIONS.
4. ALL CURB DIMENSIONS AND RADII ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
5. ALL PAVEMENT MARKINGS DIMENSIONS FACE OF CURB UNLESS OTHERWISE NOTED.
6. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
7. ALL CURB/SIDEWALK/HANDICAP RAMP DESIGNS SHALL CONFORM TO ADA STANDARDS OR LOCAL RESTRICTIVE CODES, WHICHEVER IS MORE RESTRICTIVE.
8. CONTRACTOR SHALL ENSURE ALL NECESSARY PERMITS ARE OBTAINED PRIOR TO CONSTRUCTION START.
9. CONTRACTOR SHALL MATCH NEW CURB AND GUTTER, CONCRETE, AND PAVEMENT TO EXISTING IN GRADE AND ALIGNMENT.
10. CONTRACTOR SHALL MAINTAIN ALL EXISTING PARKING, SIDEWALKS, DRIVES, ETC. CLEAR AND FREE FROM ANY CONSTRUCTION ACTIVITY AND/OR MATERIAL TO ENSURE EASY AND SAFE PEDESTRIAN AND VEHICULAR TRAFFIC TO AND FROM THE SITE.

PARKING REQUIREMENTS

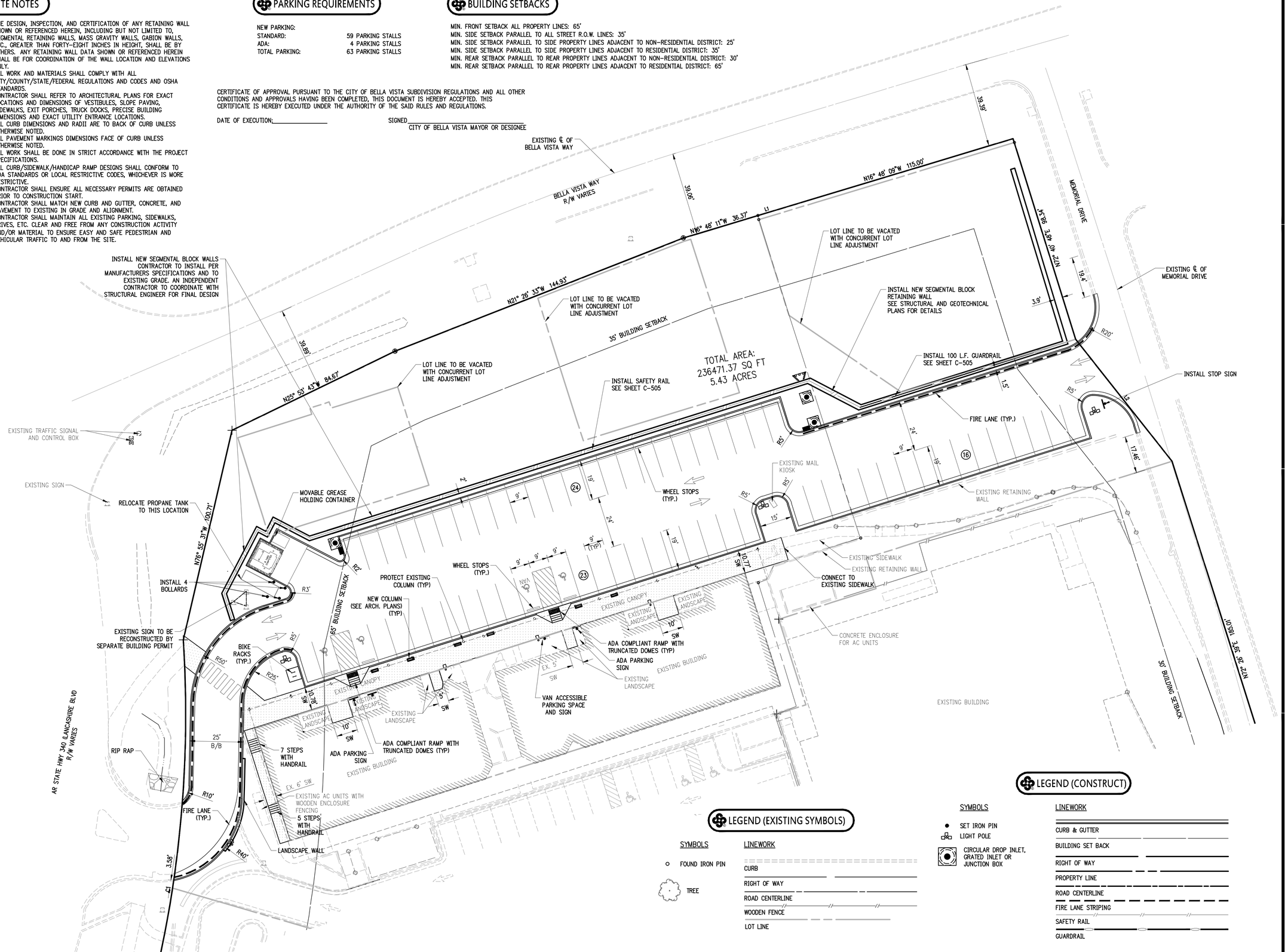
NEW PARKING:	
STANDARD:	59 PARKING STALLS
ADA:	4 PARKING STALLS
TOTAL PARKING:	63 PARKING STALLS

BUILDING SETBACKS

MIN. FRONT SETBACK ALL PROPERTY LINES: 65'
MIN. SIDE SETBACK PARALLEL TO ALL STREET R.O.W. LINES: 35'
MIN. SIDE SETBACK PARALLEL TO SIDE PROPERTY LINES ADJACENT TO NON-RESIDENTIAL DISTRICT: 25'
MIN. SIDE SETBACK PARALLEL TO SIDE PROPERTY LINES ADJACENT TO RESIDENTIAL DISTRICT: 35'
MIN. REAR SETBACK PARALLEL TO REAR PROPERTY LINES ADJACENT TO NON-RESIDENTIAL DISTRICT: 30'
MIN. REAR SETBACK PARALLEL TO REAR PROPERTY LINES ADJACENT TO RESIDENTIAL DISTRICT: 65'

CERTIFICATE OF APPROVAL PURSUANT TO THE CITY OF BELLA VISTA SUBDIVISION REGULATIONS AND ALL OTHER CONDITIONS AND APPROVALS HAVING BEEN COMPLETED, THIS DOCUMENT IS HEREBY ACCEPTED. THIS CERTIFICATE IS HEREBY EXECUTED UNDER THE AUTHORITY OF THE SAID RULES AND REGULATIONS.

DATE OF EXECUTION:_____ SIGNED_____
CITY OF BELLA VISTA MAYOR OR DESIGNEE



LEGEND (EXISTING SYMBOLS)

SYMBOLS	LINEWORK
FOUND IRON PIN	CURB
TREE	RIGHT OF WAY
	ROAD CENTERLINE
	WOODEN FENCE
	LOT LINE

LEGEND (CONSTRUCT)

SYMBOLS	LINEWORK
SET IRON PIN	CURB & GUTTER
LIGHT POLE	BUILDING SET BACK
CIRCULAR DROP INLET, GRATED INLET OR JUNCTION BOX	RIGHT OF WAY
	PROPERTY LINE
	ROAD CENTERLINE
	FIRE LANE STRIPING
	SAFETY RAIL
	GUARDRAIL

901 N. 47th St., Suite 400
Rogers, Arkansas 72756
Crafton Tull
architecture | engineering | surveying
479.636.4838 t 479.631.6224 f
www.craftontull.com

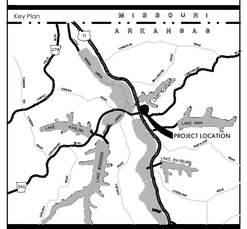
CERTIFICATE OF AUTHORIZATION:
CERTIFICATE OF AUTHORIZATION — CRAFTON, TULL & ASSOCIATES, INC. No. 109 — ARKANSAS ENGINEER

GRAPHIC SCALE IN FEET
20' 0 20'

TOWNCENTER EAST PHASE 3

BELLA VISTA, AR

Key Plan



No.	Description	Date

This document, and the ideas and designs incorporated herein, as an instrument of professional service, is the property of Crafton, Tull & Associates, Inc., and is not to be used, in whole or in part, for any other project, without the written authorization of Crafton, Tull & Associates, Inc.

PROJECT NO: 19105800
ISSUE DATE: 5/21/2025
CONTACT: E.MCMAHON
QC by: M.LOVE
QC Date: 10/03/2023

PRELIMINARY PLANS

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

NOT FOR CONSTRUCTION · REVIEW SET

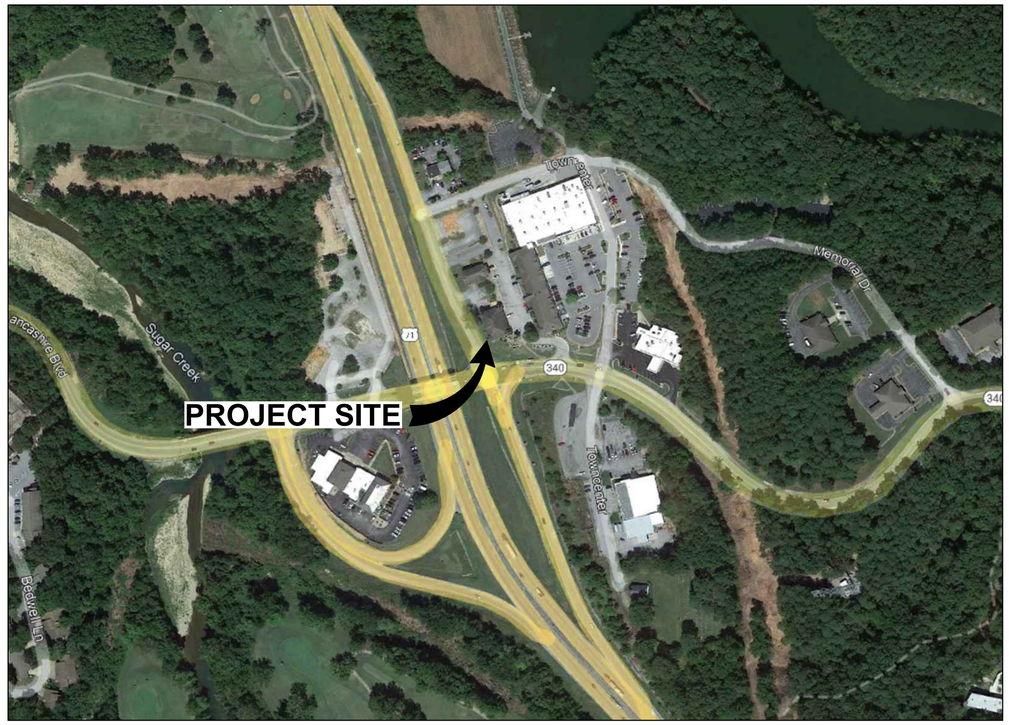
© 2025 Crafton, Tull & Associates, Inc.

LSD-2025-58745

SITE PLAN

C-102

MECHANICALLY STABILIZED EARTH RETAINING WALL
FOR
TOWNCENTER EAST, PHASE 3
BELLA VISTA, ARKANSAS



NOTE: SITE IMAGE PROVIDED BY GOOGLE EARTH, PRO, 2016.

VICINITY MAP

SHEET INDEX	
SHEET NUMBER	SHEET DESCRIPTION
RW-01	COVER SHEET
RW-02	TECHNICAL SCOPE OF WORK
RW-03	TECHNICAL SCOPE OF WORK
RW-04	SITE PLAN
RW-05	WALL PLAN & PROFILE
RW-06	WALL PLAN AND PROFILE
RW-07	TYPICAL WALL CROSS SECTION
RW-08	TYPICAL WALL CROSS SECTION
RW-09	TYPICAL WALL CROSS SECTION
RW-D1	WALL CONSTRUCTION DETAILS
RW-D2	WALL CONSTRUCTION DETAILS

PREPARED FOR:

CRI
Cooper Realty Investments, Inc.

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

REV	DATE	BY	DESCRIPTION
1	5/21/25	JP	REVISED GRADING PLAN AND WALL ALIGNMENT

COVER SHEET

TOWNCENTER EAST, PHASE 3
BELLA VISTA WAY & LANCASHIRE BLVD
BELLA VISTA ARKANSAS

terracon
4685 SOUTH ASH AVENUE, SUITE H-4
PH. (480) 897-5200
TEMPE, AZ 85282
FAX. (480) 897-1133

PRELIMINARY NOT FOR CONSTRUCTION

RW-01

DESIGNED BY:	JP
DRAWN BY:	JP
APPVD. BY:	TMK
SCALE:	AS SHOWN
DATE:	5/21/23
JOB NO.	65235108
ACAD NO.	01 RW-01
SHEET NO.:	01 OF 11

SECTION 1: GENERAL TECHNICAL NOTES

1.01 Description:

The work shall consist of furnishing and constructing a combination of modular KeyStone block/Miragrid geogrid and rock anchor retaining wall system in accordance with this technical scope of work and in reasonably close conformity with the lines, grades, and dimensions shown on the Grading for Bella Vista Towne Center East Phase 3 by Crafton Tull, Sheet No. C-103, Project No. 19105800, dated 03/17/2022.

1.02 Work Included:

A. Furnishing KeyStone segmental concrete facing, and cap units as shown on the construction drawings.

B. Furnishing Miragrid structural geogrid reinforcement as shown on the construction drawings.

C. Storing, cutting and placing structural geogrid reinforcement as specified herein and as shown on the construction drawings.

D. Storing, cutting and placing geotextile as specified herein and as shown on the construction drawings.

E. Excavation, placement and compaction of unit wall fill and backfill material as specified herein and as shown on the construction drawings.

F. Construction of subsurface drainage systems as shown on the construction drawings.

G. Excavation of soils, Limestone bedrock to the planned grades shown on the grading plans and for the retaining wall construction as specified in the construction drawings. Load and haul excavated soil and bedrock.

H. Erection of KeyStone segmental concrete units and placement of structural geogrid.

I. Drilling rock anchor holes as specified herein and as shown on the construction drawings.

J. Furnishing, placing and grouting rock anchor bar tendons into drill holes.

K. Furnishing and attaching steel pipes, nuts and other fittings to the rock anchors as shown on the construction drawings

1.03 Reference Documents:

A. American Association of State Highway and Transportation Officials (AASHTO)
T-99 Moisture-Density Relations of Soils Using a 5.5 Pound Rammer in a 12-inch Drop

B. American Society for Testing and Materials Standards (ASTM)
A-53 Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
A-775 Specification for Epoxy-Coated Reinforcing Steel Bars
C-33 Specification for Concrete Aggregates
C-140 Methods of Sampling and Testing Concrete Masonry Units
C-150 Specification for Portland Cement
C-1372 Standard Specifications of Segmental Retaining Wall Units
D-422 Method for Particle Size Analysis of Soils
D-698 Method for Laboratory Compaction Characteristics of Soils Using Standard Effort
D-732 Shear Strength of Plastic by the Punch Tool Method
D-790 Flexural Properties Testing of Plastic
D-1556 Method for Density and Unit Weight of Soil in-Place by the Sand Cone Method
D-6938 Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods
D-4253 Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table
D-4254 Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density
D-4595 Tensile Properties of Geotextiles by The Wide-Width Strip Method
D6637 Standard Test Method for Determining Tensile Properties of Geogrids by the Single or Multi-Rib Tensile Method
D6706 Standard Test Method for Measuring Geosynthetic Pullout Resistance in Soil
D-1785 Specification for Rigid Poly (Vinyl Chloride)(PVC) Plastic Pipe, Schedules 40, 80, and 120
D-3963 Specification for Epoxy-Coated Reinforcing Steel

C. National Concrete Masonry Association (NCMA)
NCMA Design Manual for Segmental Retaining Walls

D. Federal Highway Administration (FHWA) – Geotechnical Engineering Circular No. 7 – Soil Nail Walls, 2003, FHWA 0-IF-03-17.

E. Federal Highway Administration (FHWA) – Manual for Design and Construction Monitoring of Soil Nail Walls, 1998, FHWA-SA-069R

F. Crafton Tull, Grading for Bella Vista Towne Center East phase 3, Sheet No. C-103.0, Project No. 19105800, dated 03/17/2022.

G. Terracon Consultants, Inc., Geotechnical Engineering Report, Bella Vista Retaining Wall, Project No. KB235027, Dated July 14, 2023.

H. Where specifications and reference documents conflict, the Engineer shall make final determination of the applicable document.

1.04 Special Provisions:

A. The designs presented herein are based on wall profiles, soil parameters, foundation conditions and loadings stated in documentation as outlined in Section 1.03, Items F and G, Section 4.01.

B. The reinforced backfill to be used in the wall construction must meet specific engineering requirements as outlined in the Technical Scope of Work. The suitability of on-site materials for use in the MSE wall construction, as specified herein, should be determined prior to construction.

C. The Contractor shall be responsible for the cost of all means of subsoil improvement; cost of additional subsoil exploration; and for all labor tools, equipment and incidentals necessary to complete the work.

D. The Contractor shall be responsible for complying with all federal, state and local requirements for execution of the work, including local building inspection and current OSHA excavation regulations.

E. Prior to undertaking any grading or excavation of the site, the Contractor shall confirm the location of proposed retaining walls and all underground features, including utility locations within the area of construction.

F. All work undertaken in the construction of the retaining walls are subject to the quality control/assurance and special inspection provisions outlined in Section 3.15.

G. Work on this project will require careful wall facing deconstruction and removal of existing geogrid reinforcement and backfill soils in a portion of wall A. The contractor shall provide temporary shoring if necessary to complete work on this project.

H. The plans provided to Terracon for the project currently show proposed utilities within the reinforced backfill for the retaining wall. Any utilities constructed behind the wall shall be equipped with a pressure meter to indicate if a wet utility line has ruptured. In no case should water be allowed to collect behind the retaining wall at any time Construction of wet utilities including but not limited to water lines and landscape irrigation should be coordinated with construction of the wall system.

I. Where there is potential for conflict between geogrids and other construction on the project, Terracon should be afforded the opportunity to review construction documents and make a determination on the appropriate course of action. Under no circumstance should geogrid reinforcement be cut or severed unless otherwise explicitly indicated by these construction documents. Any severing of the geogrid performed without the recommendation of Terracon shall be repaired at no cost to the Terracon or the Owner.

J. Excavation along and behind portions of the wall alignment will likely encounter Limestone Bedrock. Contractor shall review the referenced geotechnical engineering report by Terracon for anticipated subsurface conditions at the site. Special wall construction will be necessary where competent bedrock is encountered and full geogrid embedment lengths cannot be installed. The use of rock anchors will be necessary in this case.

K. Terracon has completed engineering design of the proposed retaining walls, including internal stability and local external stability where applicable, based upon the information provided to us as outlined above.

L. Any changes in planned grading, locations of structures or changes in wall profiles should be brought to the attention of Terracon for modification of the wall designs as necessary.

M. Verify all dimensions and grades prior to wall construction.

SECTION 2: MATERIALS

2.01 Definitions:

A. Structural Geogrid – a Miragrid geogrid formed by a regular network of integrally connected tensile elements with apertures of sufficient size to allow interlocking with surrounding soil, rock, or earth and function primarily as reinforcement.

B. Geotextile – a spun-bound non-woven engineering fabric intended for tensile reinforcement with high filtration and permeability characteristics.

C. Segmental Concrete Facing Units – KeyStone segmental concrete facing machine made from portland cement, water and mineral aggregates.

D. Limestone Bedrock - Intact bedrock that is very hard and having few or no fractures.

E. Cap Unit – a KeyStone segmental concrete cap unit.

F. Subdrain – a combined system of slotted pipe, geotextile fabric and gravel, provided for internal drainage behind or below the reinforced backfill.

G. Unit Fill/Gravel Fill Layer – granular fill which is within and behind the segmental concrete facing units.

H. Post Foundation System- a 12" diameter post fence foundation system, used to facilitate fence/railing installation.

I. Reinforced Backfill – compacted soil which is within the reinforced soil volume as outlined on the plans.

J. Foundation Soil – compacted or in-situ soil beneath the entire wall. Foundation Material for this project may also consist of Limestone bedrock.

K. Leveling Pad – a level compacted gravel or non-reinforced concrete footing upon which the first course of segmental concrete facing units are placed.

L. Solid Bar Anchor Tendons – a deformed epoxy coated threaded bar used as rock anchor as shown on plans.

M. Anchor Pipe – a galvanized pipe and fittings used to secure the geogrid to the head of the rock anchors.

N. Epoxy Coating – a fusion bonded electrostatically applied coating.

O. Centralizers – a PVC or steel pipe or tube attached to rock anchor bars sized to allow tremie pipe insertion to bottom of the drill hole.

P. Anchor Grout – Neat cement or sand/cement mixture.

Q. Engineer – Terracon Consultants, Inc.- Phoenix, AZ.

R. Geotechnical Engineer – Terracon Consultants, Inc. – Rogers, AR.

2.02 Structural Geogrids:

A. The geogrids shall be Miragrid structural geogrid as shown on the plans, or geogrid of equivalent long-term design and connection strength with the segmental concrete facing, consisting of regular grid structure of high tenacity polyester multifilament yarns woven in tension and finished with PVC coating.

B. The manufacturer shall provide the certification that the ultimate strength of the geogrid as per ASTM D6637 is equal to or greater than the ultimate strength called for on the drawings.

Geogrid Type Miragrid	Ultimate Strength (lb./ft)	Long Term Design Strength (lb./ft)
3XT	3,500 plf	1,768 plf

2.03 Geotextiles:

A. The geotextile shall be Mirafi 160N as shown on the plans, or equivalent, consisting of spun-bound 100% continuous filament polyester needle punched engineering fabric.

2.04 Segmental Concrete Facing Units:

A. The segmental concrete facing units shall be manufactured by a licensed KeyStone Representative.

B. All concrete wall units including cap units shall have a minimum net 28-day compressive strength of 3,000 psi. The concrete units shall have the required freeze/thaw protection with a maximum absorption rate of 8 percent in southern climates.

1. Cementitious materials used in the manufacture of the units shall be Type I or Type II Portland cement in accordance with ASTM C-150.

2. All aggregates used in the manufacture of the units shall be normal weight conforming to ASTM C-33.

3. Other Constituents - Air entraining agents, coloring pigments, integral water repellents, finely ground silica, and other constituents shall be previously established as suitable for use in segmental concrete retaining wall units and shall conform to applicable ASTM Standards or shall be shown by test or experience not to be detrimental to the durability of the segmental concrete facing units or any material customarily used in masonry construction.

C. Exterior dimensions of units may vary in accordance with ASTM C-1372. KeyStone Compac units shall have a minimum of 1 square foot face area each. Segmental concrete facing unit dimensions shall not differ more than ± 1/8 inch from the manufacturer's published dimensions.

D. KeyStone Compac block units with unit fill shall provide a minimum of 150 psf of wall face area. Fill which is placed within the dimensions of the units may be considered as 80% of the effective weight.

E. KeyStone units shall have angled sides capable of concave and convex alignment curves with a minimum radius of 3-1/2 feet.

F. KeyStone Units shall be interlocked with non-corrosive fiberglass pins.

G. Finish and Appearance

1. All units shall be sound and free of cracks or other defects that would interfere with the proper placing of the unit or significantly impair the strength or permanence of the construction. Minor cracks incidental to the usual method of manufacture, or minor chipping resulting from shipment and delivery, are not grounds for rejection.

2. The exposed surfaces of units shall be free of chips, cracks or other imperfections when viewed from a distance of 10 feet under diffused lighting.

H. Sampling and Testing

1. Sample and test units for compressive strength and absorption in accordance with the applicable provisions of ASTM Method C-140. Compressive strength test specimens shall conform to the saw-cut coupon provisions of section 5.2.4 of ASTM C-140 with the following exceptions:

a. Coupons shall have a minimum thickness of 1-1/2 inches (38.1 mm).

I. Color

1. Block samples, indicating available colors, shall be provided to the Owner/developer for color selection prior to construction.

J. Facing units removed from the existing wall may be reused in the wall reconstruction provided they are reasonably sound and meet the requirements of this specification. Alternatively, if existing facing units have minor cracks, they may be used in the below grade portions of the retaining wall.

2.05 Base Leveling Pad Materials and Gravel Fill for Block:

A. Base Leveling Pad Material: Material for leveling pad shall consist of compacted sand, gravel, crushed rock or any combination thereof (use soil types GP, GW, SW, SP or SM), a minimum of 8 inches in thickness, constructed to the minimum dimensions shown on the construction drawings. Non-reinforced concrete may also be used.

B. Gravel Fill for units shall consist of clean 1" minus free-draining well graded crushed stone or granular fill, meeting the requirements of the following gradation tested in accordance with ASTM D-422:

Sieve Size	Percent Passing
1 inch	100
3/4 inch	75-100
No. 4	0 – 60
No. 40	0 – 50
No. 200	0 – 5

2.06 Wall Backfill:

A. Reinforced backfill shall consist of suitable granular materials meeting the following gradation as determined in accordance with ASTM D-422:

Sieve Size	Percent Passing
1 1/2 inch	100
1 inch	95 – 100
1/2 inch	25 – 60
No. 4	0 – 10
No. 8	0 – 5

B. USCS soil types CL, CH, ML, MH, or SC shall not be used in any portion of the wall reinforced backfill.

C. All reinforced backfill materials shall also have the minimum engineering properties shown in Section 4.01, Item A.

D. All backfill materials, whether on-site or imported, shall be approved by the Engineer prior to construction.

E. Test results of all proposed backfill materials, whether on-site or imported, shall be submitted to the Engineer for approval prior to construction.

2.07 Subdrain:

A. Geotextile used for subdrain construction shall be non-woven needle-punched fabric such as Mirafi 160N or equivalent.

B. Drain pipe shall be 4-inch diameter slotted PVC or HDPE such as ADS Drainguard or approved equivalent.

C. Gravel shall be clean 3/4-inch minus free draining stone or crushed rock with no more than 5% passing a U.S. No. 200 sieve. Material meeting requirements of Gravel Fill specified in Section 2.05 B is considered acceptable for use in subdrain system.

2.08 Post Foundation System:

A. Post foundation system used for handrail or fence post installation shall be a polypropylene sleeve such as Sleeve-It™ SD-1.

B. The Sleeve-It™ SD-1 product shall be evenly spaced no farther apart than 8 feet on centers in any case.

C. Use of the Sleeve-It™ SD-1 system is limited to the following fencing applications without consideration of wind loading:

1. 8-foot high and under chain link fences

2. 6-foot high and under wood fence with gaps between boards

3. 6-foot high and under balustrade PVC, steel, aluminum or wrought iron fences.

D. For other fencing systems not meeting the criteria above, contact the Sleeve-It™ system manufacturer to determine suitability.

2.09 Rock Anchor Tendons:

A. The tendons shall be AASHTO M31/ASTM A615, Grade 60 deformed steel bar or as shown on plans. All bars used as rock anchors shall be galvanized or epoxy coated.

B. The tendons shall be new, straight, undamaged continuous without splices or welds.

C. The tendons shall be threaded a minimum of 6-inches (150 mm) on the wall anchorage end to allow proper attachment of the steel anchor pipe, nut and other fittings as shown on the plans.

D. The threading may be continuous spiral deformed ribbing provided by the bar deformations (continuous thread bars) or may be cut into a reinforcing bar. If threads are cut into a reinforcing bar, provide the next larger bar size from that shown on plans.

2.10 Epoxy Coating:

A. The epoxy coating, when required, shall be an ASTM A775 fusion bonded electrostatically applied coating.

B. The coating shall be a minimum of 0.016 inches (0.4 mm) in thickness.

C. The coating at the wall anchorage end of the epoxy-coated bars may be omitted over the length provided for threading the nut against the bearing plate.

2.11 Centralizers:

A. Centralizers shall be manufactured from Schedule 40 PVC pipe or tube, steel or other material not detrimental to the anchor steel. Wood shall not be used as a material for fabricating centralizers.

B. The centralizer shall be securely attached to the anchor bar.

C. Centralizer Sizing

1. The centralizer shall be sized to position the anchor bar within 1 inch (25mm) of the center of the drill hole.
2. The centralizer shall allow the tremie pipe to be inserted to the bottom of the drill hole.
3. The centralizer shall allow grout to flow freely up the drill hole.

2.12 Anchor Grout:

A. The material for anchor grout shall consist of neat cement or a sand/cement mixture.

B. The anchor grout shall have a minimum 3 day compressive strength of 1500 psi (10.5 Mpa) and a minimum 28 day compressive strength of 3000 psi (21 Mpa) per AASHTO T106/ASTMC109 and shall consist of one or more of the following materials:

1. Cementitious materials used in anchor grout mixture shall consist of Type I, II, III or V Portland cement in accordance with AASHTO M85ASTM C150.

2. Fine aggregate materials used in anchor grout mixture shall be in accordance with AASHTO M6/ASTM C33.

3. Admixtures shall be compatible with the grout and mixed in accordance with the manufacturer's recommendations and AASHTO M194/ASTM C494.

a) Admixtures which control bleeding, improve flowability, reduce water content, and retard setting shall be approved by the Engineer prior to construction.

b) Expansive admixtures may be used only for filling sealed encapsulations.

c) Accelerators shall not be used in the anchor grout mixture.

2.13 Steel Anchor Pipe:

A. The steel anchor pipe shall consist of a 3-inch diameter (AISC Pipe 3 x-Strong) steel pipe. The steel anchor pipe shall be galvanized.

2.14 Delivery, Storage, Handling:

A. Structural Geogrid and Geotextiles

1. Contractor shall check to ensure that the proper materials have been received upon delivery.

2. All geogrids shall be stored above -20°F (-29°C).

3. Contractor shall prevent excessive mud, wet cement, epoxy, and like material which may affix themselves to the gridwork, from coming in contact with the geogrid material.

4. Rolled geogrid material may be laid flat or stood on end for storage.

5. Geogrids shall be stored according to manufacturer's recommendations.

B. Segmental Concrete Facing Units

1. Contractor shall check the units upon delivery to ensure that proper materials have been received.

2. Contractor shall prevent excessive mud, wet cement, epoxy, and like materials from coming in contact with and affixing to the units.

3. Contractor shall protect the units from damage (i.e. cracks, chips, spalls). Damaged units shall be evaluated for usage in the wall according to ASTM: C-90 and ASTM: C-1372.

C. Cement, Aggregate and Liquid Admixtures

1. Contractor shall check to ensure that the proper materials have been received upon delivery.

2. Contractor shall store cement to prevent moisture degradation and partial hydration.

3. Cement that is caked or lumpy shall not be used.

4. Cement shall be stored according to manufacturer's recommendations.

5. Contractor shall store aggregates to prevent segregation and contamination from foreign materials.

6. Contractor shall not use bottom 6 inches of aggregate pile when in contact with ground surface.

7. Contractor shall store liquid admixtures to prevent evaporation and freezing.

D. Steel Components

4. Contractor shall check the steel components upon delivery to ensure that proper materials have been received.

5. Steel shall be stored on supports to prevent steel from coming in contact with the ground.

6. Contractor shall protect steel from dirt, rust, and other deleterious substances prior to installation.

7. Contractor shall reject steel with heavy corrosion or pitting, abrasion damage, cuts, nicks, welds and weld splatters. Light rust that has not resulted in pitting is acceptable.

8. Contractor shall place protective wrap over threaded portions of steel reinforcing during handling, installing, grouting and shotcreting.

E. Epoxy Coated Bars

1. Contractor shall handle and store epoxy coated bars in accordance with ASTM D3963.

2. Contractor shall repair damaged epoxy coating in accordance with ASTM A775 and the coater's recommendations. Repairs shall be made using an epoxy repair kit approved by the epoxy manufacturer and repaired areas shall have a minimum coating thickness of 0.01 inch (0.3 mm).

SECTION 3: EXECUTION

3.01 Construction:

A. The excavation shall be carried to the lines and grades shown on the construction drawings and to the extent necessary to place structural geogrid at the required embedment lengths. Contractor shall be careful not to disturb base or existing soils/fills beyond the lines shown except for that necessary to comply with applicable safety regulations.

B. Excavations will be made in a manner which will not disturb the existing construction on the site. Contractor will provide protection or will construct the walls in such a manner to maintain the integrity of existing improvements during construction.

C. In-situ materials excavated from the location of the retaining walls shall be stockpiled on-site at locations designated by the Owner and in locations which will not interfere with the execution of the work.

D. The required excavation for this project is expected to encounter a combination of soil and in-place Limestone bedrock. Refer to the geotechnical Engineering Report for anticipated subsurface conditions.

3.02 Subgrade Preparation:

A. Subgrade shall be excavated as required for placement of the leveling pad as shown on the construction drawings, or as directed by the Geotechnical Engineer.

B. Subgrade shall be examined by the Geotechnical Engineer to confirm that the actual foundation conditions meet or exceed assumed design assumptions. As a minimum, soil shall be proof rolled before construction proceeds. Subgrade conditions not meeting the required strength shall be removed and replaced with acceptable material.

C. Over-excavated areas shall be replaced with compacted granular backfill material or soils approved by the Geotechnical Engineer to the lines and grade shown on the construction drawings.

D. Granular backfill shall be placed in loose lifts not exceeding 10 inches in thickness, compacted to a minimum of 95 percent of the maximum density as determined by AASHTO T-99 or ASTM D-698. The moisture content of the backfill prior to, and during compaction shall be uniformly distributed throughout each layer and shall be within a range of 2% below, to 2% above optimum moisture content.

3.03 Base Leveling Pad:

A. Leveling Pad materials shall be placed as shown on the plans, upon undisturbed soils or compacted subgrade, to a minimum depth of 8 inches.

B. Leveling Pad materials shall be compacted to provide a level hard surface on which to place the first course of units. Leveling Pad materials shall be compacted to a minimum of 95 percent of the maximum density as determined by AASHTO T-99 or ASTM D-698. The moisture content of the backfill material prior to and during compaction shall be uniformly distributed throughout each layer and shall be within a range of 2% below, to 2% above optimum moisture content. If a well-defined maximum density curve cannot be generated by impact compaction in the laboratory, the backfill shall be compacted to a minimum of 75 percent of relative density as determined by ASTM D-4253 and D-4254.

C. Leveling Pad shall be prepared to insure complete contact of retaining wall units with the base.

D. Provided that compaction is maintained, leveling pad materials may be extended linearly beyond the profiles shown on the plans to accommodate full-sized facing units.

3.04 Segmental Concrete Facing Unit Installation:

A. The first course of concrete wall units shall be placed on top of and in full contact with the leveling pad. The units shall be checked for proper elevation and alignment.

B. Units shall be placed side by side for the full length of the wall. Proper alignment may be achieved with the aide of a string line or offset from baseline.

C. All voids between and within concrete wall units shall be filled with tamped unit fill. A minimum of 12 inches of unit fill shall be placed behind concrete wall units.

D. All excess material shall be swept from the top of the units prior to installing the next course. Each course shall be filled prior to proceeding to next course.

E. Install each succeeding course. Backfill as each course is completed. Pull the units forward until the locating surface of the unit contacts the locating surface of units in the preceding course. Pull the units forward as far as possible. Repeat procedure to the extent of wall height.

F. Where the wall changes elevation, units can be stepped or turned into the embankment with a convex return end as appropriate. Provide appropriate buried units on leveling pad in area of convex return end.

3.05 Cap Installation:

A. Place KeyStone Cap units over projecting pins from units below. Pull forward to set back position. Backfill and compact to finished grade.

B. As required, provide permanent mechanical connection to wall units with construction adhesive or epoxy. Apply adhesive or epoxy to bottom surface of cap units and install on units below per the manufacturer's recommendations.

3.06 Subdrain Construction:

A. Subdrains shall be constructed directly behind the segmental facing units to the lines, grades and dimensions shown on the plans.

B. Subdrains should be sloped and drained through weep holes in the face of the wall at a maximum of 30 feet on center.

3.07 Structural Geogrid Installation:

A. Geogrid shall be oriented with the highest strength axis perpendicular to the wall alignment.

B. Geogrid reinforcement shall be placed at the elevation(s) and to the extent(s) shown on the construction drawings or as directed by the Engineer. Where required reinforcements lengths cannot be placed due to the presence of limestone bedrock, refer to Wall Cross Section 2 and related rock anchor sections of this specification for wall construction.

C. The geogrid soil reinforcement shall be laid horizontally on compacted backfill. The geogrid shall be pulled taut and anchored prior to backfill placement on the geogrid. No tensioning of the geogrid materials shall be required.

D. Geogrid reinforcements shall be continuous throughout their embedment length(s). Spliced connections between shorter pieces of geogrid will not be allowed.

E. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.

F. No changes to geogrid layout, including, but not limited to, length, geogrid type, or elevation, shall be made without the approval of the Engineer.

3.08 Reinforced Backfill Placement:

A. Reinforced backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack in the geogrid.

B. Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches where hand compaction is used, or 8-10 inches where heavy mechanical compaction equipment is used.

C. Reinforced backfill shall be compacted to a minimum of 95 percent of the maximum density as determined by AASHTO T-99 or ASTM D-698. The moisture content of the backfill material prior to and during compaction shall be uniformly distributed throughout each layer and shall be within a range of 2% below, to 2% above optimum moisture content. If a well defined maximum density curve can not be generated by impact compaction in the laboratory, the backfill shall be compacted to a minimum of 70 percent of relative density as determined by ASTM D-4253 and D-4254.

D. Reinforced backfill shall be compacted in all areas to the lines and grades shown on the plans including all sloped areas above the wall.

E. Only lightweight hand-operated compaction equipment shall be allowed within 4 feet of the face of the wall.

3.09 Post Foundation System Installation:

A. Place the Sleeve-It™ SD-1 Systems at locations of fence posts or railings supports at a maximum spacing of 8 feet on center.

B. Assemble and Install Sleeve-It™ SD-1 Systems per manufacturer's recommendations.

C. Prepare a level area approximately 24" wide by 36" deep behind the wall face. The prepared area should be 24" below the proposed top of wall not including the cap stone.

D. Place the Sleeve-It™ unit on the level surface in an upright position with the front edge of the unit flush against the back of the wall. Multiple units should be spaced in accordance with fence specifications no longer than 8 feet on centers.

E. Encapsulate and stabilize the Sleeve-It™ unit by placing and compacting sufficient backfill material layers as required. Slit the geogrid perpendicular to the wall face just enough to fit around the base of the unit while ensuring the geogrid remains properly attached to the wall. Continue the backfilling process until the material reaches the top of the tower. Do not remove the perforated lid until ready to place post. Do not step on perforated lid, as this could cause serious bodily injury.

F. Punch the perforated lid using a mallet or hammer to expose the inside of the Sleeve-It™ unit. Detached lids can be left inside the unit or discarded prior to pouring the infill material.

G. Place post through the exposed area and rest of the flat ground surface area inside the Sleeve-It™ cavity. Ensure that the post is upright and level and hold in place while carefully pouring infill material such as concrete through the exposed cavity. Follow guidelines as specified by infill supplier. Concrete is highly recommended as infill material.

3.10 Geotextile Installation:

A. Geotextiles shall be placed at the elevations, locations and to the extent shown on the Construction drawings.

B. A minimum of 3 inches of soils shall be maintained between any geogrid reinforcement and the geotextile fabric.

C. Geotextile fabric shall also be used for separation of dissimilar materials as shown on the drawings.

3.11 Rock Anchor Installation:

A. The drill holes for the rock anchors shall be made at the locations, orientations, and lengths shown on the plans or as directed by the Engineer.

B. The use of drilling muds such as bentonite slurry is not allowed.

C. Rock Anchor bars shall be as shown on plans or as directed by the Engineer.

D. Rock Anchor bars shall have centralizers sized to position the bar within 1 inch of the center of the drill hole. Centralizers shall be positioned as shown on plans so their maximum center-to center spacing does not exceed 4 feet. Centralizers shall be within 2 feet from the top and bottom of the drill hole.

E. Drill holes shall be inspected for cleanliness prior to insertion of rock anchor bar.

F. Rock anchor bars shall be inserted freely into the entire length of the hole.

G. The rock anchor head location shall be within 6 inches and rock anchor inclination shall be within 3 degrees as shown on plans.

H. Rock anchors not within the specified tolerances shall be replaced. All abandoned drill holes shall be filled with tremied grout.

I. The drill hole shall be grouted after installation of the anchor bar. Each drill hole will be grouted within 2 hours of completion of drilling, unless otherwise approved by the Engineer.

J. Grout shall be injected at the lowest point of each drill hole through a grout tube. Keep the outlet end of the conduit delivering the grout below the surface of the grout as the conduit is withdrawn to prevent the creation of voids. Completely fill the drill hole in one continuous operation. Cold joints in the grout column are not allowed except at the top of the test bond length of proof tested production anchors. Grouting before insertion of the anchor is allowed provided the anchor bar is immediately inserted through the grout to the specified length without difficulty.

K. Maintain grout head or grout pressures sufficient to ensure that the drill hole will be completely filled with grout and to prevent unstable soil/rock or groundwater from contaminating or diluting the grout. Record the grout pressures for rock anchors installed using pressure grouting techniques. Control grout pressures to prevent excessive ground heave or fracturing.

L. Remove the grout and anchor if grouting is suspended for more than 30 minutes or does not satisfy the requirements of this specification or the Plans, and replace with fresh grout and undamaged anchor bar.

3.12 Rock Anchor Testing:

A. Testing Equipment

1. A hydraulic jack and pump capable of providing at least 2 times the design load will be used to apply the load to the anchor.

2. A chair or reaction base will be used to distribute the jack load onto the rock face. The area of the reaction base plate will not be less than 100 square inches.

3. A testing anchor is used behind the jack to grip the tendon during loading.

4. The jack pressure gauge will be calibrated as a set prior to the start of the project. It will be recalibrated if pressure movements are too erratic to obtain valid data of the anchor's capacity.

5. The pressure gauge used for the testing will be large enough to distinguish a 100 psi change in pressure. Also, a force gauge may be used to indicate the force being applied to the anchor. If a pressure gauge is used, the contractor shall provide a pressure vs. force chart for use by the testing team.

6. The ram travel of the jack will be long enough to enable the anchor to deform.

7. The hydraulic jack will be capable of raising the load from one load increment to another in less than one (1) minute.

8. A dial gauge capable of reading a movement to the nearest 0.001 inches will be used to measure anchor movement. The gauge will be located independent of the ground conditions and immediately adjacent to the reaction base.

9. The measurement of deflection shall be taken from an immovable object adjacent to the apparatus and not from the base plate or any other object that could move during the deflection testing.

B. Verification testing shall be performed to verify installation methods and anchor pullout resistance. Verification tests will be performed at locations selected by the contractor and approved by the Engineer. A minimum of two verification tests shall be performed in each different rock unit (i.e. in-place limestone) and for each different drilling/grouting method proposed to be used. Bare anchor bars can be used for the sacrificial verification test anchors.

1. Construct verification test anchors using the same equipment, installation methods, anchor inclination, and drillhole diameter as planned for the production anchors. Changes in the drilling or installation method may require additional verification testing as determined by the Engineer.

2. Verification test anchors shall have both bonded and unbonded lengths. Along the unbonded length, the anchor bar is not grouted. The unbonded length of the test anchors shall be at least 3 feet unless approved otherwise by the Engineer

REV.	DATE	BY	DESCRIPTION
1	5/21/25	JP	REVISED GRADING PLAN AND WALL ALIGNMENT

TECHNICAL SCOPE OF WORK

TOWNCENTER EAST, PHASE 3

BELLA VISTA WAY & LANCASHIRE BLVD

BELLA VISTA ARKANSAS

terracon
4665 SOUTH ASH AVENUE, SUITE H-4
PH: (480) 897-8200
TEMPE, AZ 85282
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PRELIMINARY NOT FOR CONSTRUCTION

RW-02

DESIGNED BY:	JP
DRAWN BY:	JP
APPVD. BY:	TMK
SCALE:	AS SHOWN
DATE:	5/21/23
JOB NO.	65235108
ACAD NO.	02 RW-02
SHEET NO.:	02 OF 11

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3. The bond length of the test anchors shall be determined by the Contractor. The bonded length of the rock anchor during verification tests, LBVT, shall be at least 8 feet but not longer than a maximum length of LBVTmax, such that the anchor load does not exceed 90 percent of the anchor bar tensile allowable load during verification test. Therefore, the following requirements shall be met:

L_{BVTmax} = $C_{RT}\ f_y\ A_t\ /\ 2\ A_d$
L_{BVTmax} = Maximum Verification Test Anchor Bonded Length (ft.)
C_{RT} = 0.9 for Grade 60 bars
f_y = Bar Yield or Ultimate Stress (ksi)
(Note: f_y = 60 kips/in^2 for Grade 60 bars)
A_t = Bar Steel Area (in^2)
2 = Pullout resistance safety factor
A_d = Allowable pullout resistance (lb/ft)

The Design Test Load (DTL) during verification testing shall be determined by the following equation:

DTL = Design Test Load (lb) = LBVT x Ad
LBVT = As-built bonded test length (ft); Maximum length is LBVTmax; Minimum length is 4 feet.
Ad = Allowable pullout resistance (lb/ft)

4. Verification test anchors shall be incrementally loaded and unloaded to a maximum test load of 200 percent of the Design Test Load (DTL) in accordance with the following loading schedule. The rock anchor movements shall be recorded at each load increment.

Load	Hold Time
AL (05 DTL max.)	1 minute
0.25 DTL	10 minutes
0.50 DTL	10 minutes
0.75 DTL	10 minutes
1.00 DTL	10 minutes
1.25 DTL	10 minutes
1.50 DTL (Creep Test)	60 minutes
1.75 DTL	10 minutes
2.00 DTL (Max Test Load)	10 minutes

5. The alignment load (AL) should be the minimum load required to align the testing apparatus and should not exceed 5 percent of the Design Test Load (DTL). Dial gauges should be set to "zero" after the alignment load has been applied.

6. Each load increment shall be held for at least 10 minutes. The verification test anchor shall be monitored for creep at the 1.50 DTL load increment. Anchor movements during the creep portion of the test shall be measured and recorded at 1 minute, 2, 3, 5, 6, 10, 20, 30, 50, and 60 minutes. The load during the creep test shall be maintained within 2 percent of the intended load by use of the load cell.

C. Proof Testing Criteria: To be performed on 5% of the Production Anchors in each anchor row or minimum of 1 per row. Proof Testing shall not be performed until anchor grout and shotcrete facing have cured at least 72 hours:

1. Proof Tests shall be performed by incrementally loading the proof test anchor to the maximum test load of 150 % of the Design Load.

2. At load increments other than maximum test load, the load shall be held long enough to obtain a stable reading.

3. Rock anchor movements shall be recorded at each load increment.

4. Production proof test anchors shall have both bonded and temporary unbonded lengths. The temporary unbonded length of the proof test anchor shall be at least 3 feet. The bonded length of the soil anchor during proof production tests, L_{BPT}, shall be at least 4 feet but not longer than a maximum length, L_{BPTmax}, such that the anchor load does not exceed 90 percent of the anchor bar tensile allowable load during verification test. Therefore, the following requirements shall be met:

L_{BPTmax} = $C_{RT}\ f_y\ A_t\ /\ 1.5\ A_d$
L_{BPTmax} = Maximum Proof Test Anchor Bonded Length (ft)
C_{RT} = 0.9 for Grade 60 steel bars
f_y = Bar Yield or Ultimate Stress (ksi)
(Note: f_y = 60 ksi)
A_t = Bar Steel Area (in^2)
1.5 = Pullout resistance safety factor
A_d = Allowable pullout resistance (lb/ft)

The Design Test Load (DTL) during proof testing shall be determined by the following equation:

DTL = Design Test Load (lb) = L_{BPT} x A_d
L_{BPT} = As-built bonded test length (ft), Maximum length is L_{BPTmax}; Minimum length is 5 feet.
A_d = Allowable pullout resistance (lb/ft)

5. Incremental loading for proof testing shall be in accordance with the following loading schedule:

Load	Hold Time
5% of Design Test Load	Until Stable
25% of Design Test Load	Until Stable
50% of Design Test Load	Until Stable
75% of Design Test Load	Until Stable
100% of Design Test Load	Until Stable
125% of Design Test Load	Until Stable
150% of Design Test Load	10 minutes or 60 minutes

A 10-minute or 60 minute creep test shall be performed at the maximum test load. The creep period shall start as soon as the maximum test load is applied and the anchor movement shall be measured and recorded at 1, 2, 3, 5, 6 and 10 minutes. Where anchor movement exceeds 1 mm (0.04-inch) after 10 minute period, the maximum test load shall be maintained for an additional 50 minutes with anchor movement measured and recorded at 20, 30, 50 and 60 minutes.

D. A test anchor shall be considered acceptable when:

1. A total creep movement is less than 1mm (0.04 inch) between 1 and 10 minute reading

2. A total creep movement is less than 2mm (0.08 inches) measured between the 6 and 60 minute readings and the creep rate is linear or decreasing throughout the creep test load hold period.

3. A pullout failure does not occur at the maximum test load. Pullout failure is the load at which attempts to increase the test load result in continued pullout movement.

E. The Engineer may require the Contractor to replace some or all of the installed production anchors between a failed proof test anchor and the adjacent passing proof test anchor. Alternatively, the Engineer may require the installation and testing of additional proof test anchors to verify that adjacent previously installed production anchors have sufficient load carrying capacity. The anchors may not be lengthened beyond the temporary construction easements or the permanent right-of-way shown on the Plans

3.13 Steel Pipe:

A. The steel pipes are to be continuous at every anchor head with the geogrid wrapped around the pipe as shown on plans. The Cantilever end length of the pipe shall not exceed half the maximum anchor horizontal spacing required by the plans.

3.14 Site Drainage:

A. At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the wall facing to rapidly direct runoff away from the wall face.

B. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

C. Finished grading at the top of the wall should provide positive drainage away from the retaining wall system to prevent infiltration of water into retained soils which may increase lateral pressures on the structure.

D. Contractor shall place an 8-inch thick low permeable soul layer at the top of wall as required by the drawings

3.15 Quality Assurance:

A. Quality Assurance and Special Inspection for the project, shall be conducted in accordance with the applicable portions of the Uniform Building Code, International Building Code and the Building Construction and Safety Code, NFPA 5000, or as required by the governing building department.

B. All Special Inspectors shall be under the supervision of a registered engineer. Testing and inspection services shall be performed only by trained and experienced personnel and experienced technicians currently qualified for the work they are to perform.

C. If Special Inspection is provided by anyone other than the Engineer of Record, the qualifications of all special inspectors shall be reviewed and approved by the Engineer of Record.

D. All work requiring Special Inspection shall be made available and remain accessible and exposed until it is observed by the Special Inspector.

E. Duties of the Special Inspector:

1. The Special Inspector shall observe the work requiring special inspection for conformance with the approved design drawings and specifications.

2. The Special Inspector shall furnish inspection reports to be kept at the site for use by the Building Official, the Contractor and the Engineer of Record. If Special Inspection is provided by anyone other than the Engineer of Record, reports shall be submitted to the office of the Engineer of Record on a weekly basis. All discrepancies shall be brought to the attention of the Contractor for correction, then if uncorrected, to the design authority and the Building official.

3. Upon completion of the assigned work, the Special Inspector shall complete and sign a final report certifying that to the best of his knowledge, the work is in conformance with the approved plans and specifications, and the applicable workmanship provisions of the code.

H. The following Special Inspection Schedule provides the types, extents and frequency of specific items requiring special inspections and structural tests as part of this project:

SPECIAL INSPECTION SCHEDULE

Areas requiring special inspection:	Frequency: Continuous	Frequency: Periodic	Comments:
SPECIAL CASES (1705.1)			
Geogrid and Geotextile	X		Special Inspection shall be made of the type, location, orientation and extent of geogrid and geotextile placement in the wall.
Subdrain Installation		X	Special inspection shall be made of the placement and extent of the subdrain system within the wall.
SOILS (1705.6)			
Excavations		X	Verify excavations are extended to proper depth and have reached proper material. Verify competency of Limestone bedrock where encountered.
Field Density		X	In accordance with ASTM D-6938 or ASTM D-1556. • Subgrade – One test every 500 to 1000 square feet of subgrade area. • Base Leveling Pad – One test every 100 lineal feet of wall length. • Reinforced Backfill – One test every 500 to 1000 square feet of backfill per lift.
Moisture-Density Relationships		X	In accordance with AASHTO or ASTM criteria as specified for subgrade, base leveling pad, and reinforced backfill.
Gradation Analysis And Atterberg Limits		X	In accordance with ASTM D-422. • Gravel Fill – One test every 250 cubic yards of material. • Wall Backfill – One test every 500 cubic yards of material.
Wall Backfill	X		Verify use of proper materials, densities and lift thickness during placement and compaction of reinforced backfill.
ROCK ANCHORS AND ANCHOR PIPE			
Verification and Proof Tests		X	At intervals outlined in Section 3.12.
Grout Tests		X	In accordance with ASTM C-109. One test for every 50 cubic yards of grout placed or once per day.
Anchor installation	X		Verify location, orientation, length, bar size and strength, and hole diameter.
Geogrid Anchor Pipe		X	Verify the cantilever end length of the pipe does not exceed half the minimum anchor horizontal spacing.
Face Drain Installation		X	Special inspection shall be made of the placement and extent of the face drain system within each soil anchor wall.

SECTION 4: DESIGN NOTES FOR RETAINING WALL SYSTEM

4.01 Design Parameters:

A. Design of the reinforced soil structure is based on the following parameters:

Wall Segment	Friction Angle	Cohesion	Unit Weight
Reinf. Backfill	32°	0 psf	120 pcf
Clayey Gravel (GC)	32°	0 psf	115 pcf
Clayey Sand (SP/SC)	28°	0 psf	110 pcf
Gravelly Fat Clay (CH)	22°	0 psf	120 pcf
Limestone Bedrock	40°	0 psf	120 pcf

B. Internal Stability of Walls
Minimum Factor of Safety on Geogrid Strength.....1.5
Minimum Factor of Safety on Geogrid Pullout.....1.5
Minimum Factor of Safety on Connections (Peak Load Criterion).....1.5
Internal Compound Stability.....1.3
Percent Coverage of Geogrid.....100%

C. External Stability
Minimum Factor of Safety Against Base Sliding.....1.5
Minimum Factor of Safety Against Overturning.....2.0
Minimum Factor of Safety for Bearing Capacity.....2.0
Minimum Factor of Safety (Global Stability).....1.5
Heavy Traffic Surcharge..... 250 psf

D. RocK Anchor Service Load Design Safety and Strength Factors
Strength Factor for Anchor Tendon Strength.....1.8
Strength Factor for Anchor Pullout Resistance.....2.0
Bending Moment Factor for Anchor Pipe.....1.5

E. Factor of Safety Seismic Conditions.....0.75xStatic FS

F. Seismic Acceleration Coefficient (A).....0.071g
Horizontal Seismic Coefficient for Internal and External Stability (kh).....0.098
Horizontal Seismic Coefficient for Global Stability (kh).....0.036

G. Ultimate Bond Strength (Limestone Bedrock).....58 psi

REV.	DATE	BY	DESCRIPTION
1	5/21/25	JP	REVISED GRADING PLAN AND WALL ALIGNMENT

TECHNICAL SCOPE OF WORK

TOWNCENTER EAST, PHASE 3
BELLA VISTA WAY & LANCASHIRE BLVD
BELLA VISTA ARKANSAS

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PRELIMINARY NOT FOR CONSTRUCTION

RW-03

DESIGNED BY:	JP
DRAWN BY:	JP
APPVD. BY:	TMK
SCALE:	AS SHOWN
DATE:	5/21/23
JOB NO.	65235108
ACAD NO.	03_RW-03
SHEET NO.:	03 OF 11

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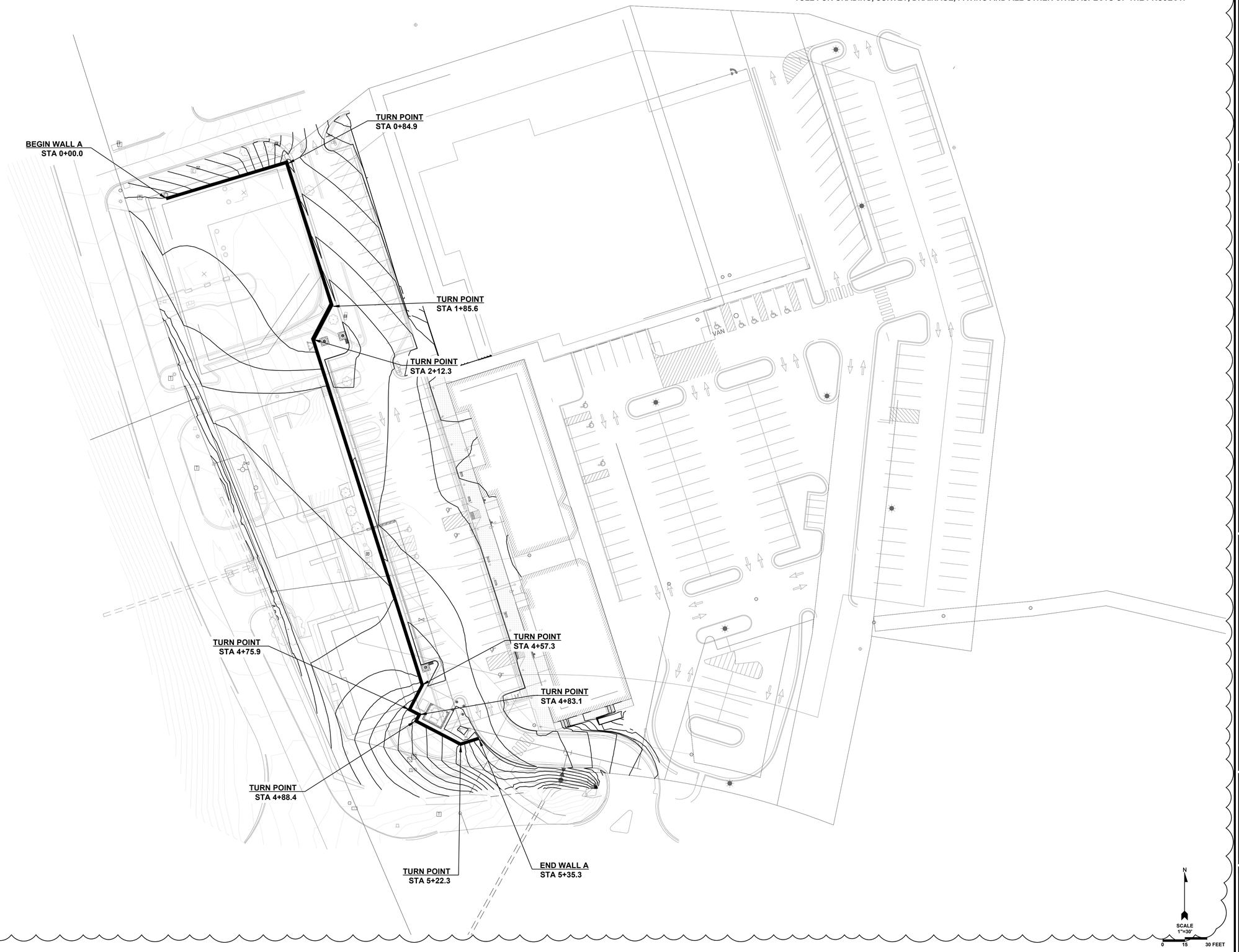
SITE PLAN BASED ON THE GRADING PLAN FOR TOWN CENTER EAST PHASE 3 BY CRAFTON TULL, SHEET NO. C-103, PROJECT NO.19105800. DATED MARCH 17, 2023.

THIS SITE PLAN IS FOR WALL LOCATION ONLY. REFER TO THE GRADING AND DRAINAGE PLAN BY CRAFTON TULL FOR GRADING, SURVEY, DRAINAGE, PAVING AND ALL OTHER CIVIL ASPECTS OF THE PROJECT.



REV.	DATE	BY	DESCRIPTION
1	5/21/25	JP	REVISED GRADING PLAN AND WALL ALIGNMENT

SITE PLAN

TOWNCENTER EAST, PHASE 3

BELLA VISTA WAY & LANCASHIRE BLVD

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RW-04

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APPV'D. BY:	TMK
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JOB NO.	65235108
ACAD NO.	04 RW-04
SHEET NO.:	04 OF 11

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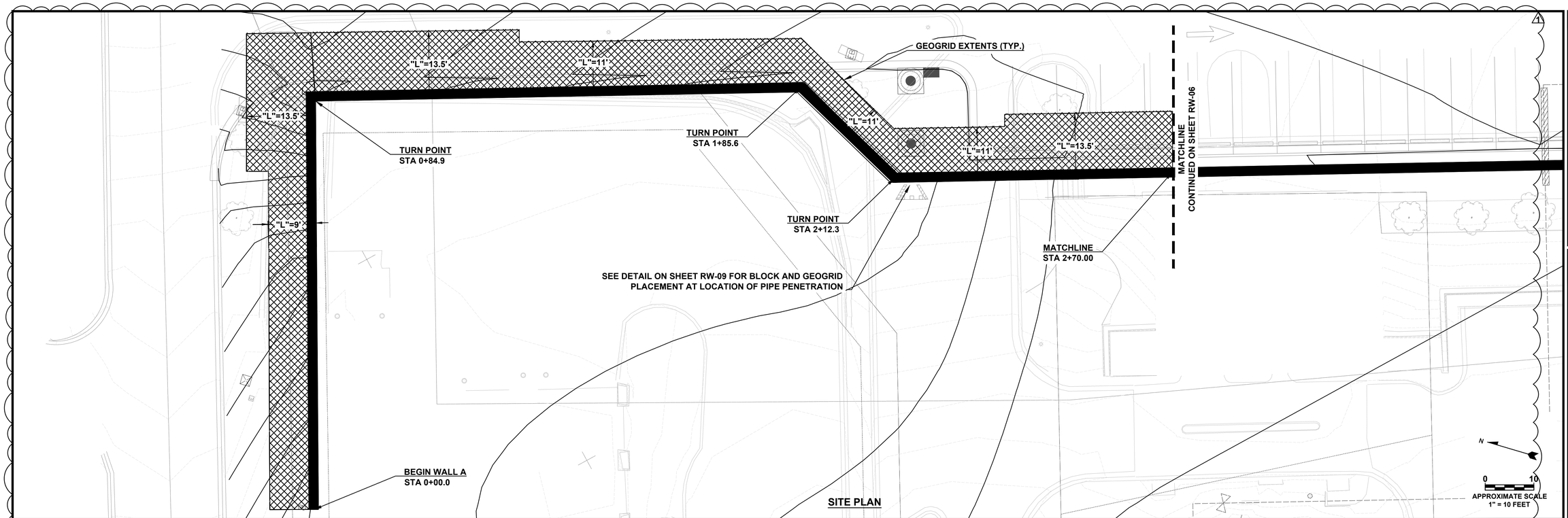
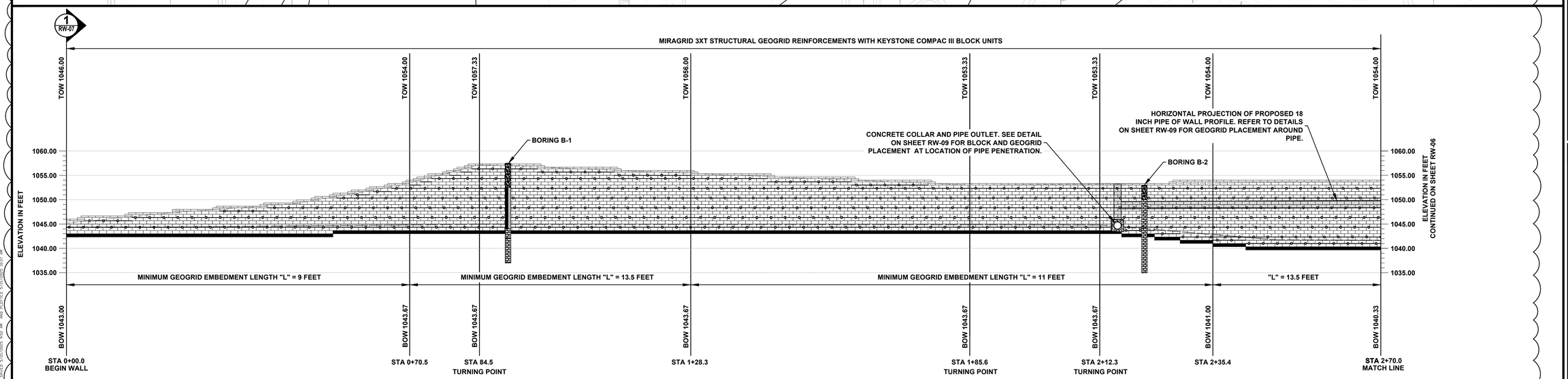


SITE PLAN



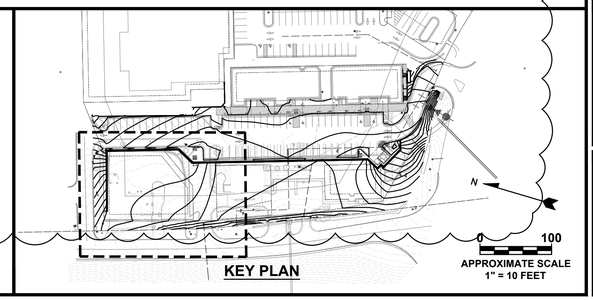
WALL A STA 0+00.0 TO 2+70.0: BLOCK AND GEOGRID PLACEMENT
SCALE: 1" = 10'

LEGEND:

- KEYSTONE CAP UNITS
- KEYSTONE COMPAC III BLOCK UNITS
- 8-INCH LEVELING PAD
- MIRAGRID 3XT STRUCTURAL GEOGRID
- FINISHED GRADE AT TOP OF WALL
- FINISHED GRADE AT BOTTOM OF WALL

STA	STATION ALONG RETAINING WALL ALIGNMENT
"L"	MINIMUM GEOGRID EMBEDMENT LENGTH
TOW	ELEVATION AT TOP OF CAP BLOCK
BOW	ELEVATION AT BOTTOM OF BLOCK; TOP OF LEVELING PAD

- ASPHALT
- LIMESTONE
- CLAYEY SAND
- CLAYEY GRAVEL
- GRAVELLY FAT CLAY
- POORLY GRADED SAND WITH CLAY
- CLAYEY SAND WITH GRAVEL



KEY PLAN

REV	DATE	BY	DESCRIPTION
1	5/21/25	JP	REVISED GRADING PLAN AND WALL ALIGNMENT

WALL PLAN & PROFILE

TOWNCENTER EAST, PHASE 3

BELLA VISTA WAY & LANCASHIRE BLVD

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RW-05

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APP'VD. BY:	TMK
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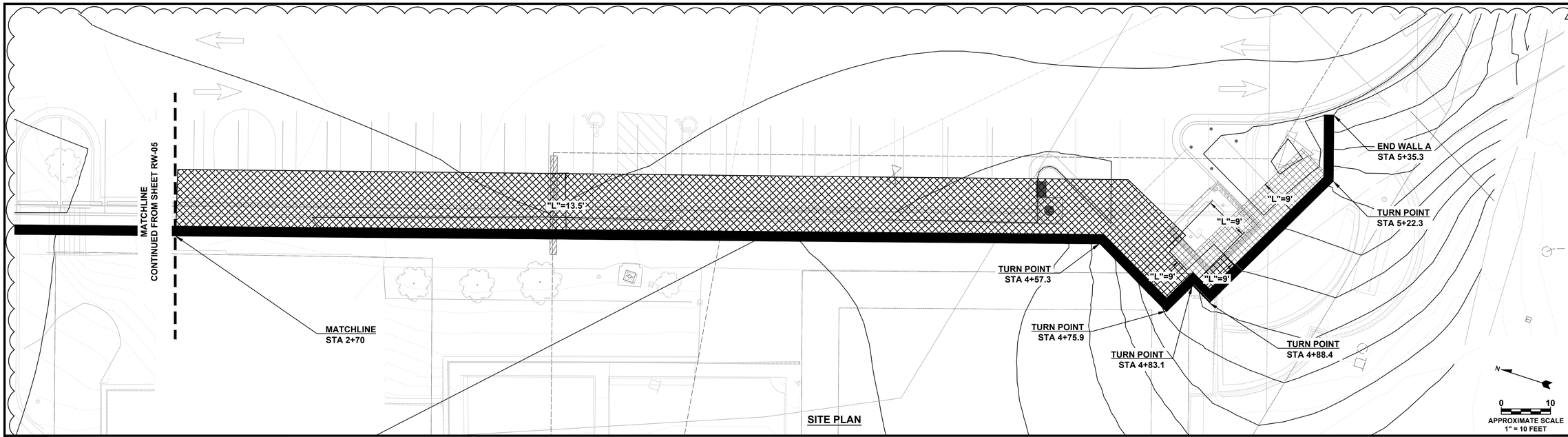
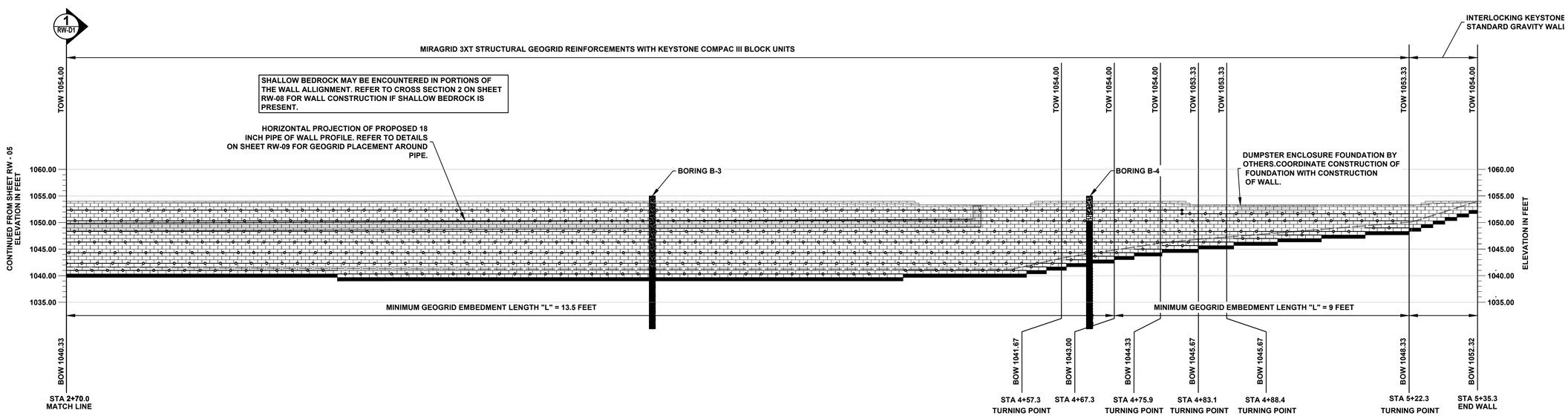
DATE:	5/21/23
JOB NO.	65235108
ACAD NO.	05 RW-05
SHEET NO.:	05 OF 11





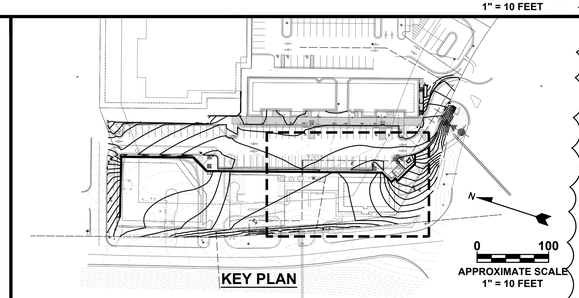
WALL A STA 2+70.0 TO 5+22.7: BLOCK AND GEOGRID PLACEMENT
SCALE: 1" = 10'

LEGEND:

- KEYSTONE CAP UNITS
- KEYSTONE COMPAC III BLOCK UNITS
- 8-INCH LEVELING PAD
- MIRAGRID 3XT STRUCTURAL GEOGRID
- FINISHED GRADE AT TOP OF WALL
- FINISHED GRADE AT BOTTOM OF WALL

STA	STATION ALONG RETAINING WALL ALIGNMENT
"L"	MINIMUM GEOGRID EMBEDMENT LENGTH
TOW	ELEVATION AT TOP OF CAP BLOCK
BOW	ELEVATION AT BOTTOM OF BLOCK; TOP OF LEVELING PAD
⬢	INDICATES CHANGE IN GRID ELEVATION

- ASPHALT
- CLAYEY GRAVEL
- POORLY GRADED SAND WITH CLAY
- LIMESTONE
- GRAVELLY FAT CLAY
- CLAYEY SAND WITH GRAVEL
- CLAYEY SAND



REV	DATE	BY	DESCRIPTION
1	5/21/25	JP	REVISED GRADING PLAN AND WALL ALIGNMENT

WALL PLAN AND PROFILE

TOWNCENTER EAST, PHASE 3

BELLA VISTA WAY & LANCASHIRE BLVD

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RW-06	
DESIGNED BY:	JP
DRAWN BY:	JP
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SCALE:	AS SHOWN
DATE:	5/21/23
JOB NO.	65235108
ACAD NO.	06 RW-06
SHEET NO.:	06 OF 11

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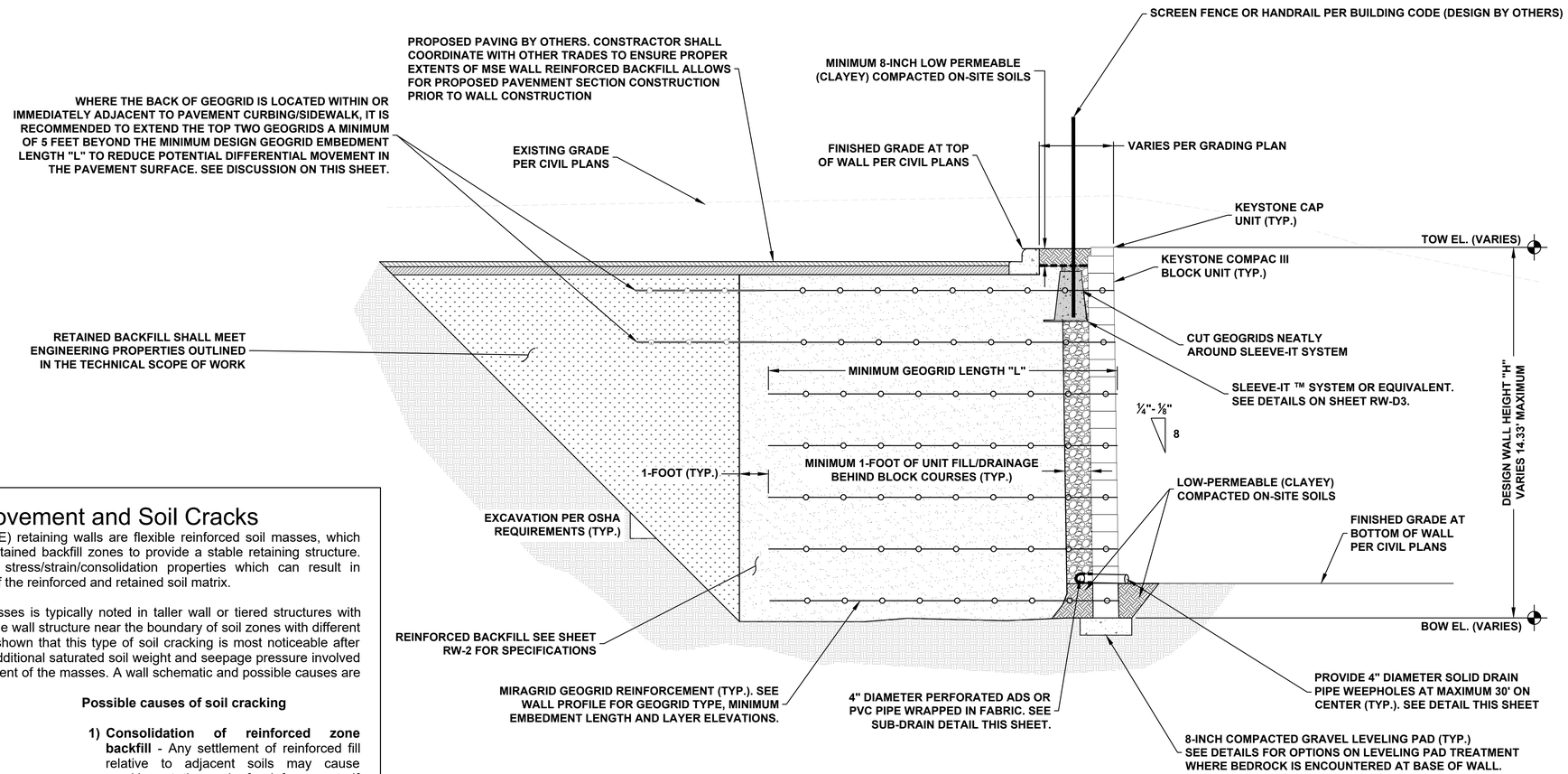


1 **TYPICAL RETAINING WALL A CROSS SECTION**
N.T.S

Backfill Movement and Soil Cracks

Mechanically Stabilized Earth (MSE) retaining walls are flexible reinforced soil masses, which interact with the foundation and retained backfill zones to provide a stable retaining structure. These soil zones have different stress/strain/consolidation properties which can result in differential movements and strain of the reinforced and retained soil matrix.

Relative movement of the soil masses is typically noted in taller wall or tiered structures with small soil cracks occuring behind the wall structure near the boundary of soil zones with different strain properties. Experience has shown that this type of soil cracking is most noticeable after very heavy rainstorms where the additional saturated soil weight and seepage pressure involved can cause slight differential movement of the masses. A wall schematic and possible causes are shown below:

Possible causes of soil cracking

1) **Consolidation of reinforced zone backfill** - Any settlement of reinforced fill relative to adjacent soils may cause cracking at the end of reinforcement. If soils are placed and compacted in dry conditions, water can cause secondary consolidation of the reinforced fill and cracking at the end of the reinforced zone.

2) **Consolidation of retained soil wedge** - Similar to Item 1 causing cracking at the back of fill wedge relative to existing soils.

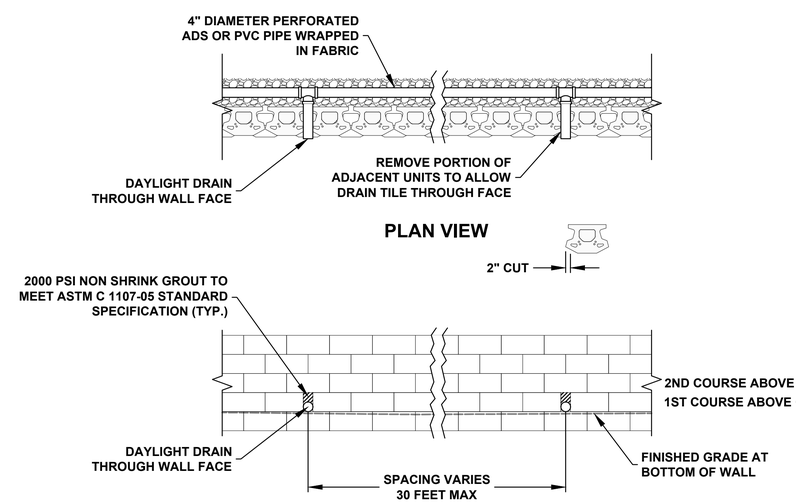
3) **Lateral wall movement due to active earth pressure state** - lesser quality backfill soils exhibit higher lateral movement to mobilize the active earth pressure state. If the reinforced wall mass strains laterally, the fill must settle accordingly and cracking can occur.

4) **Foundation settlement** - The foundation soils of many wall structures have not experienced the loading from the new fill which can cause differential settlement between the wall volume and cut slope.

5) **Toe Settlement** - The wall toe can experience more settlement than the wall heel due to the lack of overburden or confining pressure resulting in slight lateral wall movement in the upper wall section and tension cracking at the end of reinforcement.

Soil cracks can also be a sign of global instability or continuing settlement which requires evaluation by a geotechnical engineer. However, most minor soil cracking observed is structurally insignificant to the long term performance of the wall structure but can lead to reflective cracks in pavement sections and/or separation of curbs when of greater magnitude.

Significantly increasing the length of the upper reinforcement levels to help bridge the potential crack zones can be prudent precaution for projects with flexible pavements extending over all zones. High quality backfill, proper backfill placement and compaction, and firm foundations are the best precautions against soil cracking.



SUB-DRAIN DETAIL FOR TYPICAL WALL SECTION (N.T.S.)

REV	DATE	BY	DESCRIPTION
1	5/21/25	JP	REVISED GRADING PLAN AND WALL ALIGNMENT

TYPICAL WALL CROSS SECTION

TOWNCENTER EAST, PHASE 3
BELLA VISTA WAY & LANCASHIRE BLVD
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ACAD NO.	07 RW-07
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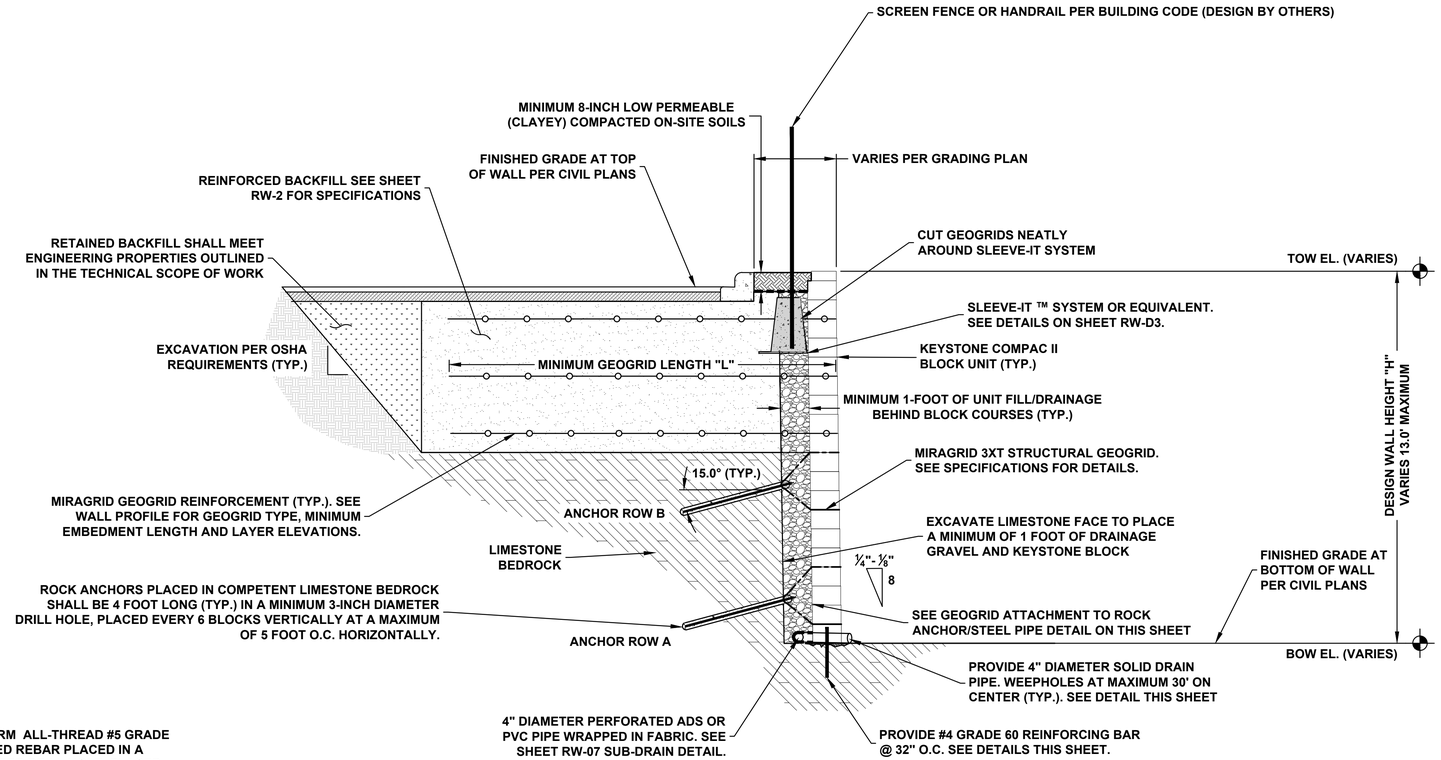
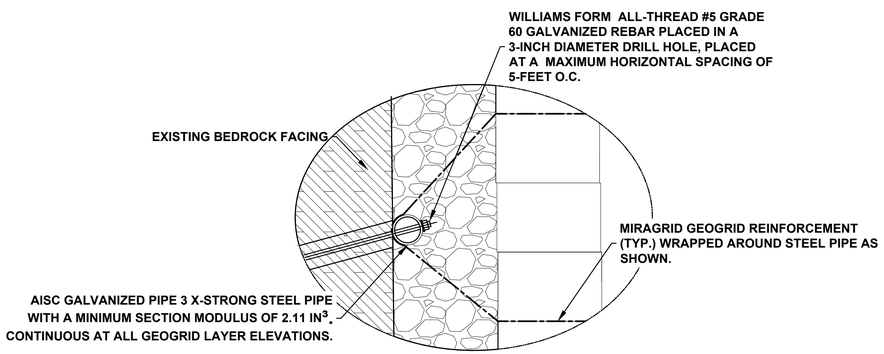
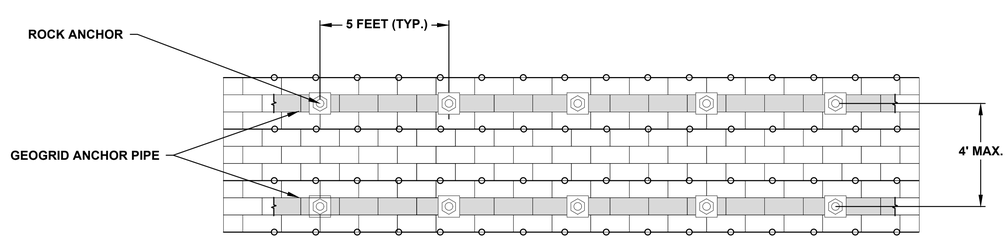


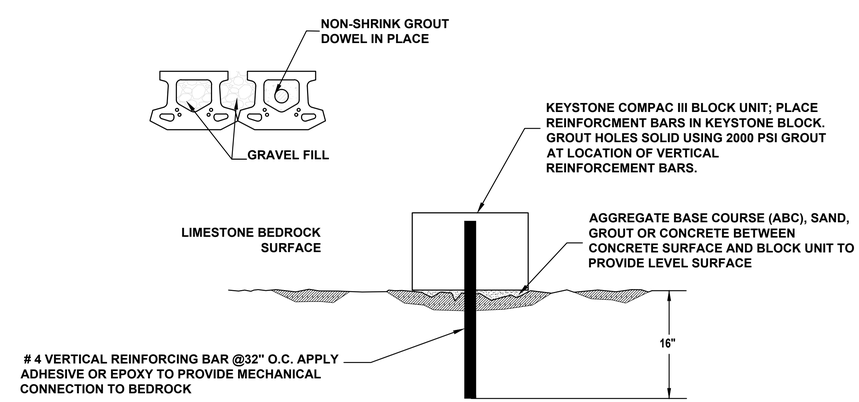
2 TYPICAL RETAINING WALL CROSS SECTION (NOT TO SCALE) WHERE SHALLOW BEDROCK IS ENCOUNTERED



GEOGRID ATTACHMENT TO ROCK ANCHOR/STEEL PIPE DETAIL



GEOGRID ANCHOR PIPE DETAILS (NTS)



REINFORCING BAR / BLOCK CONNECTION DETAIL

REV	DATE	BY	DESCRIPTION
1	5/21/25	JP	REVISED GRADING PLAN AND WALL ALIGNMENT

TYPICAL WALL CROSS SECTION

TOWNCENTER EAST, PHASE 3

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PRELIMINARY NOT FOR CONSTRUCTION

RW-08

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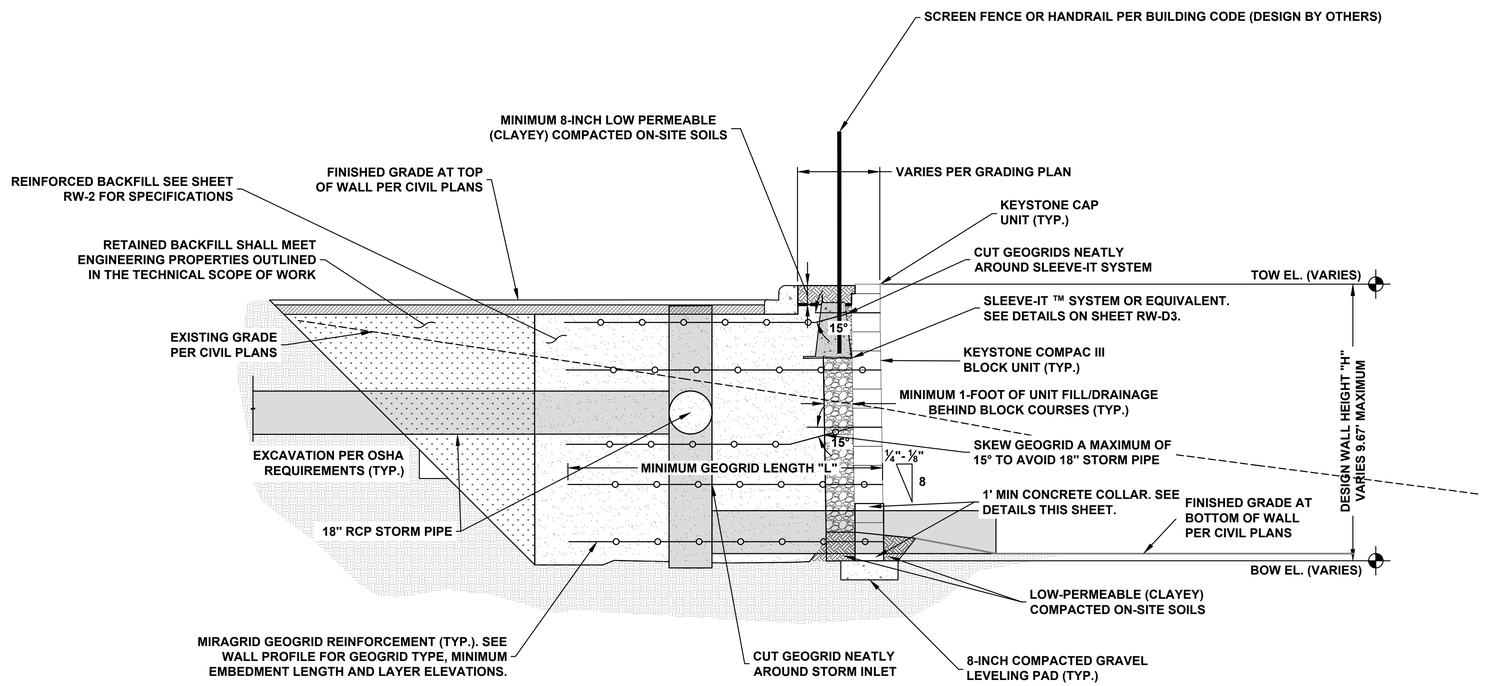
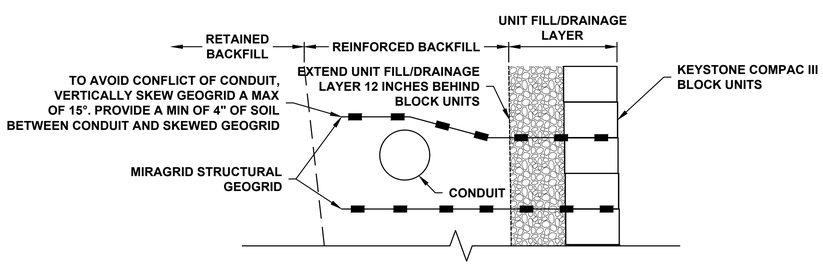
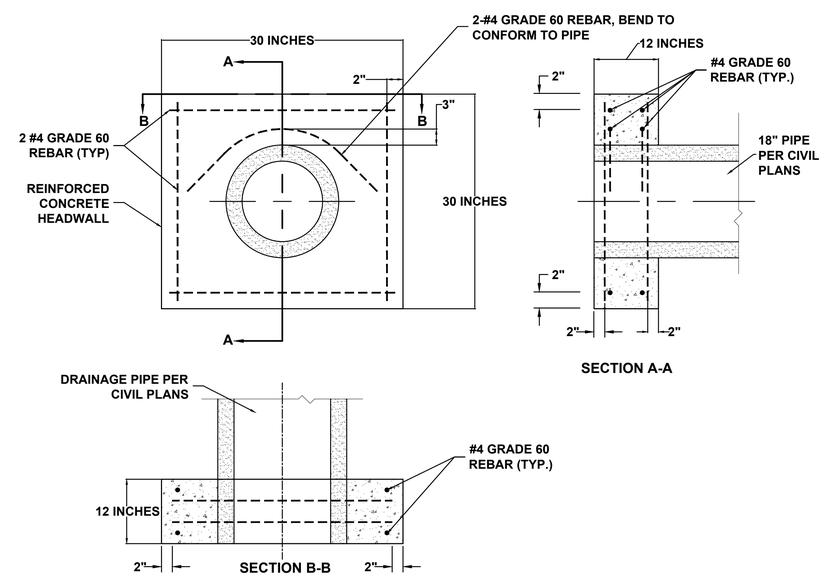
JOB NO.	65235108
ACAD NO.	08 RW-08
SHEET NO.:	08 OF 11



3 RETAINING WALL CROSS SECTION AT STORM PIPE OUTLET (NOT TO SCALE)



SKEWED GEOGRID WHEN CONDUIT EXISTS



CONCRETE HEADWALL REINFORCEMENT DETAIL (NTS.)

REV.	DATE	BY	DESCRIPTION
1	5/21/25	JP	REVISED GRADING PLAN AND WALL ALIGNMENT

TYPICAL WALL CROSS SECTION

TOWNCENTER EAST, PHASE 3

BELLA VISTA WAY & LANCASHIRE BLVD

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RW-09

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APPVD. BY:	TMK
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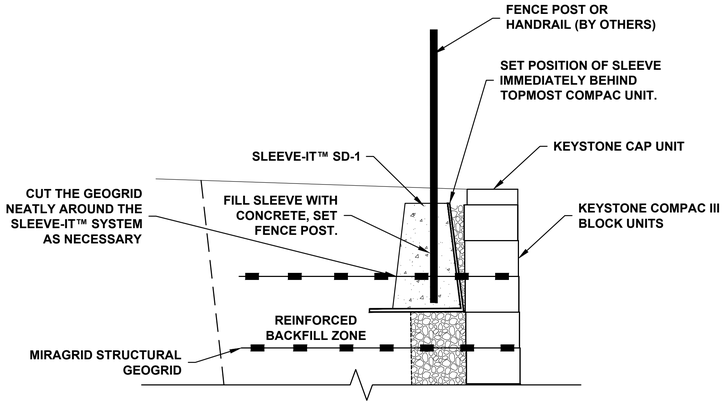
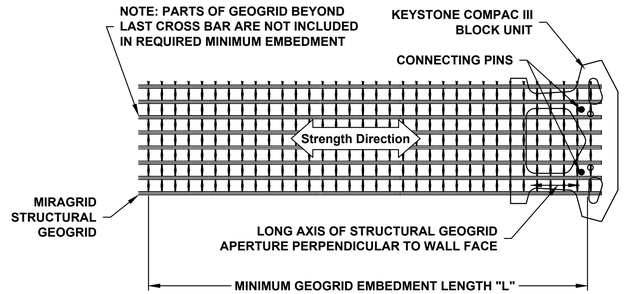
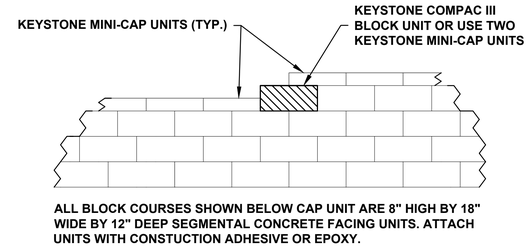
DATE:	5/21/23
JOB NO.	62235108
ACAD NO.	09 RW-09
SHEET NO.:	09 OF 11



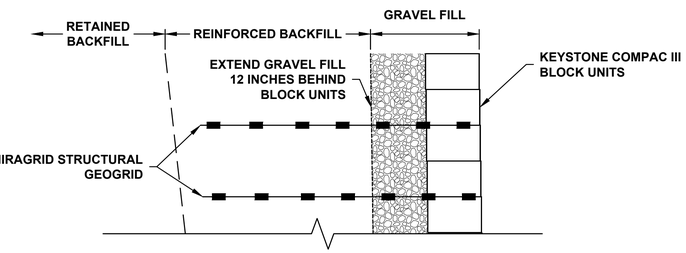
FENCE POST INSTALLATION USING SLEEVE-IT™ SD-1



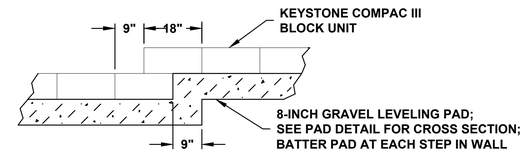
GEOGRID ORIENTATION ON BLOCK



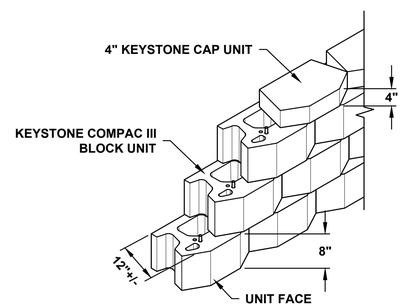
CAP STEP DETAIL



LIMITS OF UNIT FILL AND REINFORCED BACKFILL

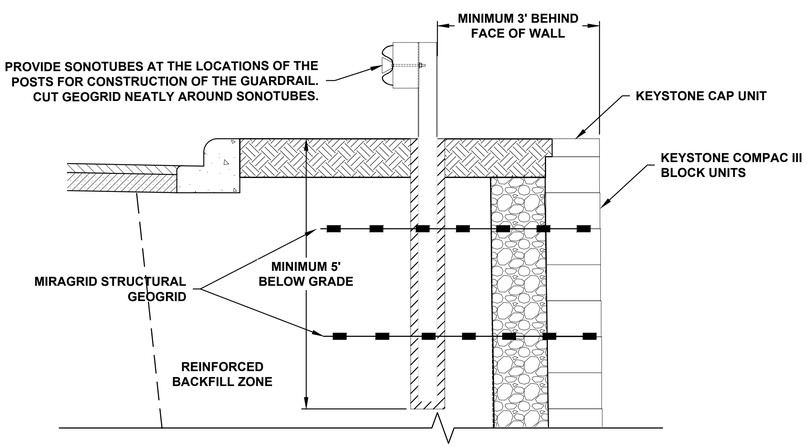


LEVELING PAD STEP DETAIL

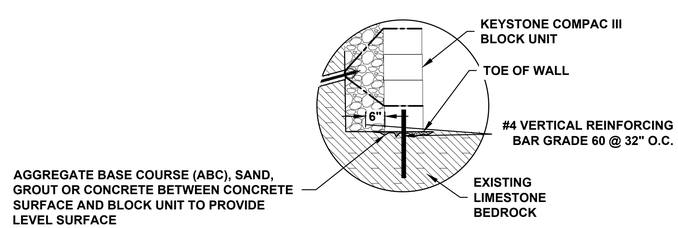


KEYSTONE COMPAC III BLOCK DETAIL

SLEEVE-IT™ SD1 COMPONENTS

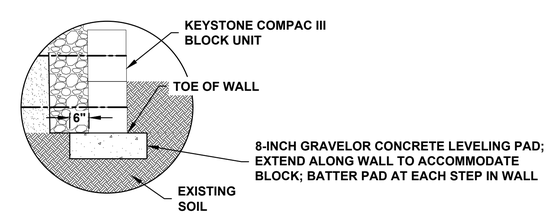


TYPICAL GUARDRAIL DETAIL



IF BEDROCK IS ENCOUNTERED AT OR ABOVE PROPOSED MSE BOTTOM OF WALL ELEVATION, PROVIDE # 4 VERTICAL REINFORCING BAR @32" O.C. APPLY ADHESIVE OR EPOXY TO PROVIDE MECHANICAL CONNECTION TO BEDROCK

OPTION 1



IF BEDROCK IS NOT ENCOUNTERED BELOW PROPOSED MSE BOTTOM OF WALL ELEVATION (VARIES, SEE WALL PROFILE), EXCAVATE INTO SOIL TO PLANNED BOTTOM OF WALL INTO THE SOIL. PLACE 8-INCH GRAVEL OR CONCRETE LEVELING PAD AS SHOWN ABOVE.

OPTION 2

LEVELING PAD OPTIONS DETAILS

REV	DATE	BY	DESCRIPTION
1	5/21/25	JP	REVISED GRADING PLAN AND WALL ALIGNMENT

WALL CONSTRUCTION DETAILS

TOWNCENTER EAST, PHASE 3

BELLA VISTA WAY & LANCASHIRE BLVD

BELLA VISTA ARKANSAS

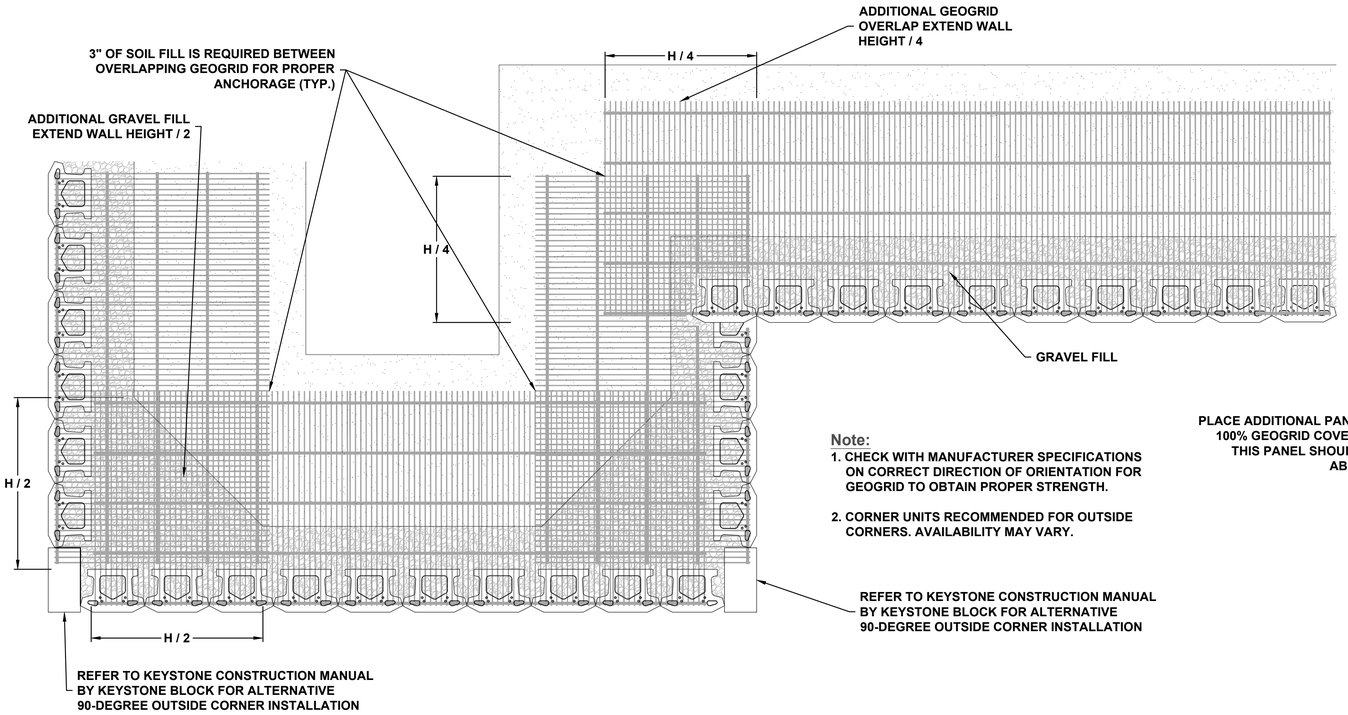
terracon
4655 SOUTH ASH AVENUE, SUITE H-4
TEMPE, AZ 85282
PH: (480) 897-8200
FAX: (480) 897-1133

PRELIMINARY NOT FOR CONSTRUCTION

RW-D1

DESIGNED BY:	JP
DRAWN BY:	JP
APPVD. BY:	TMK
SCALE:	AS SHOWN
DATE:	5/21/23
JOB NO.	65235108
ACAD NO.	10 RW-D1
SHEET NO.:	10 OF 11

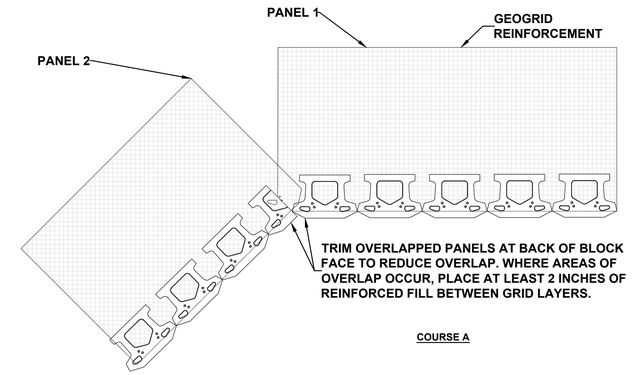
C:\Users\JRosser\OneDrive - Terracon Consultants Inc\65235108 Bella Vista - CAD\Rw-D1.dwg WAS LAST SAVED 5/19/2025 9:41 AM AND PLOTTED 5/21/2025 10:41 AM



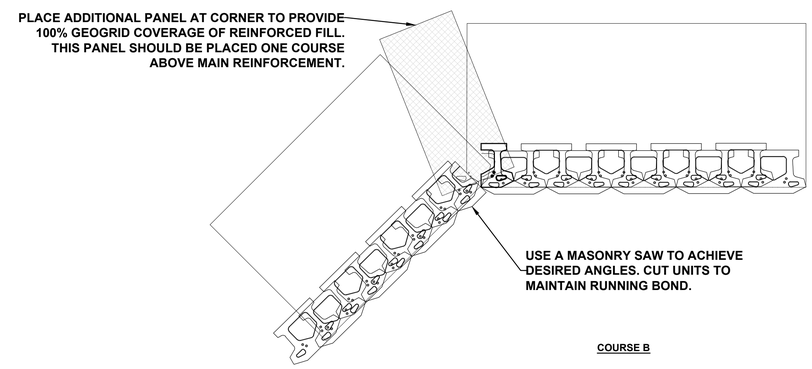
Note:

1. CHECK WITH MANUFACTURER SPECIFICATIONS ON CORRECT DIRECTION OF ORIENTATION FOR GEOGRID TO OBTAIN PROPER STRENGTH.
2. CORNER UNITS RECOMMENDED FOR OUTSIDE CORNERS. AVAILABILITY MAY VARY.

GEOGRID INSTALLATION AT CORNERS

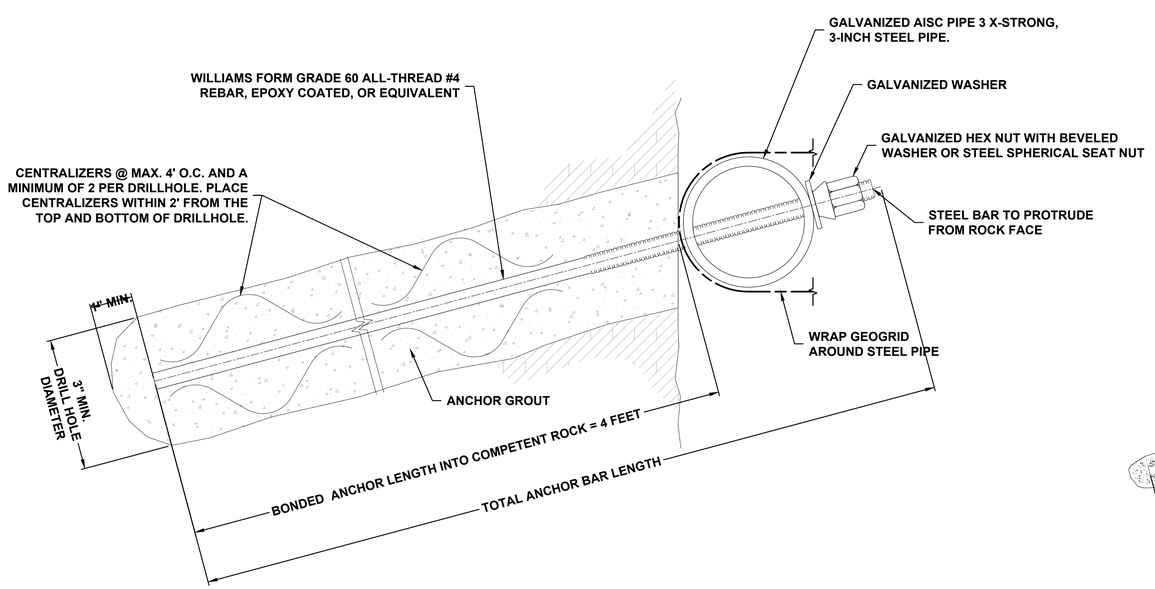


COURSE A

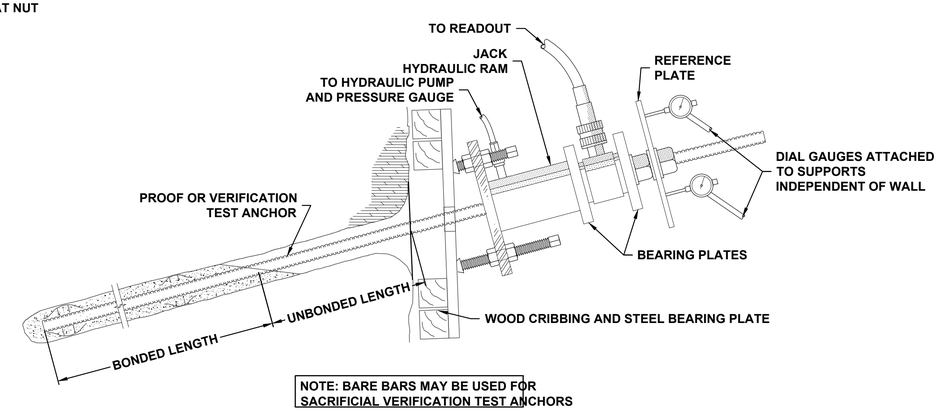


COURSE B

INSIDE ANGLES DETAIL (N.T.S.)



PRODUCTION ROCK ANCHOR DETAIL (N.T.S.)



NOTE: BARE BARS MAY BE USED FOR SACRIFICIAL VERIFICATION TEST ANCHORS

VERIFICATION/PROOF TEST ROCK ANCHOR DETAIL (N.T.S.)

REV	DATE	BY	DESCRIPTION
1	5/21/25	JP	REVISED GRADING PLAN AND WALL ALIGNMENT

WALL CONSTRUCTION DETAILS

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TEMPE, AZ 85282
FAX: (480) 897-1133

PRELIMINARY NOT FOR CONSTRUCTION

RW-D2

DESIGNED BY:	JP
DRAWN BY:	JP
APPVD. BY:	TMK
SCALE:	AS SHOWN
DATE:	5/21/23
JOB NO.	65235108
ACAD NO.	11 RW-D2
SHEET NO.:	11 OF 11

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Meeting Information:
2483 Forest Hills Blvd
August 28, 2025 at 4:30 pm

Reviewer:
Jessica Grady, CNU-A
Planning Technician

Project Number	RZN-2025-59940
Applicant	Jack Kehoe
Address/Location	Near the Lancashire & Oak Hill Intersection
Current Zoning	R-E Residential Estate
Site Area	1.64 acres
Nature of Request	Requesting a rezone from R-E to C-2

Current Zoning Map (Prior to Reform)

Future Land Use

Property Description
This property is located in Bella Vista along the south side of Lancashire Boulevard near the intersection of Oak Hill Road and is located on Parcel #16-43269-000 (Lot 23 of the Mountain Springs Estate (3rd) Subdivision).

Request
Per Sec. 109-40(c), the applicant is requesting to rezone their property from R-E, Residential Estate to C-2, Light/Local Commercial to better serve the existing land uses surrounding this parcel.

Background
Per the most recently adopted Zoning Map, this parcel is zoned R-E, Residential Estate. The Zoning Map currently under final stages with the Council also shows this lot as R-E, Residential Estate. Due to timing of the reform project, staff is recommending to consider the uses listed within the proposed C-2 Local Commercial as well as the current C-2 Light Commercial. The parcel is currently surrounded by the following zoning districts: C-2, Light Commercial to the north and R-E, residential estate to the south, east, and west. Additionally, existing adjacent land uses include residential on both sides. Commercial land uses exist to the north across the street. Further, the Master Street Plan depicts Lancashire as major arterial. The Future Land Use Plan shows this property to be within a future neighborhood. However, the 2040 Comprehensive Plan designates this general area as a Type 2 Village Center. The Village Center is intended to provide a mid-scale commercial activity center, that is limited to both scale and use intensity, to serve the needs of the greater community, such as core retail, service, or institutional use. These centers should be well connected to adjacent neighborhoods to promote walking or biking. Village Centers should also be supported by expanding housing types, small parks, civic open spaces that are promoted by the community. This area is not affected by the floodplain. It should be noted Staff finds the schedule of permitted uses for the requested zoning district to support the goals of the 2040 Comprehensive Plan such as retail centers, offices, clinics, and varied civic uses.

Public Comment
None at the time of this report.

Legal Notifications
Staff posted a public hearing notice in the Weekly Vista on August 20, 2025. The applicant sent the required certified mail on August 22, 2025. Staff will post a public hearing sign on site August 29,2025.

Recommendation
Based on the above analysis and the surrounding land uses, staff does not recommend C-2 zoning at this time.

Appendix A of CURRENT Zoning Code: Table of Permitted Uses: "C" states that the use is allowed with a conditional use permit. "P" states that that use is permitted by right. Any of these uses shown in the C-2 column would be allowed by right (P) or conditionally (C). See the chart below for reference.

Residential Uses	**R-E**	**C-2**
Duplex		P
Single-Family	P	P
Townhouse		P
Civic Uses	**R-E**	**C-2**
Administration	C	P
Cemetery	C	P
Clubs	C	P
College	C	P
Convalescent Services		P
Cultural Services	C	P
Day Care	C	P
Education		P
Emergency		P
Group Care		P
Guidance Services		P
Health Care		P
Hospital		P
Maintenance Facility		P
Parks	P	P
Postal Services		P
Public Assembly	C	P
Recreation	C	P
Religious	C	P
Safety	C	P
Office Uses	**R-E**	**C-2**
General		P
Financial		P
Medical		P
Commercial Uses	**R-E**	**C-2**
Ag Services		P
Auctioneering		P
Auto		P
Bed & Breakfast		P
Business Support		P
Trade School		P
Campground		
Commercial Recreation	C	P

Commercial Cont.	**R-E**	**C-2**
Communications		P
Pharmacy		C
Construction		P
Consumer		P
Storage		C
Equipment Rental/Repair		
Food Sales		P
Funeral		P
Gaming		P
Laundry		P
Liquor		P
Lodging		P
Pawnshop		P
Personal Improvement		P
Personal Services		P
Pet Services		P
RV Storage		C
Restaurants		P
Retail		P
Surplus		P
Taverns		P
Trade Services		P
Travel Center		P
Vehicle Storage		P
Veterinary		P
Parking Uses	**R-E**	**C-2**
Off-Street Parking		P
Parking Structure		
Industrial Uses	**R-E**	**C-2**
Custom		P
Recycling		P
Office Warehouse		P
Misc. Uses	**R-E**	**C-2**
Communications Tower	C	C
Medical Marijuana		C

Sec. 109-40 – Zoning Ordinance Amendments

a) *Authority*. The city council shall have the authority to enact amendments to the text or map of this chapter in accordance with the provisions of this section. Such action may be initiated by the city council, on the recommendation of the planning commission or on petition from a property owner. Before action is taken in regard to any amendment of the ordinance, the planning commission or its staff, shall review the case and give a recommendation. However, nothing in this section shall be construed to limit the city council's authority to recall the ordinances and resolutions by a vote of the majority of the council.

b) *Guidelines for decision making*. The city council may consider several recommendations and planning documents when attempting to make a decision on the granting of an amendment. Such guidelines may be derived from recommendations from the planning commission or the planning staff; use of provisions of the any existing, master street plan, land use plan, capital improvements plan, or community facilities plan; as well as any other document created to provide required public facilities necessary to protect the public interest. A disapproval by the city council of an amendment shall be final for one year and the same application may not be reinitiated until the expiration of that deadline.

c) *Procedure for* amendments*; property owners.*

1. *Application*. An application giving the legal description of the property involved and both the current and requested zoning classification for the property shall be submitted to the planning commission by the owner or his agent pursuant to the city development calendar. The petition shall also include a statement and diagram explaining why the proposed changes will not conflict with the surrounding land uses. The owner shall submit a complete written legal description of the property with the application.
2. *Public notification and hearing*. The planning commission shall hold a public hearing on the proposed amendment. Public notification for property owner-initiated zoning ordinance amendments shall occur pursuant to subsections 109-45(d)(1) through (3) before such an application may be reviewed by the planning commission.

Sec. 109-42 – Appeals to City Council

a) *Notice of appeal.* Any decision by the planning commission regarding a rezoning or conditional use permit may be appealed to the city council. In order to make an appeal, the aggrieved party shall file a notice of appeal with the city clerk within 30 days of the planning commission's final action. The notice of appeal shall be filed on forms and in a format prescribed by the planning commission. As a minimum, however, the applicant shall provide the following information:

   a. Summary of any reasons provided by the planning commission concerning the decision made in the case;
   b. Reasons the applicant of the appeal contends that the planning commission erred in its decision;
   c. Reasons the applicant of the appeal believes that the public health, safety, welfare, and morals would be better served if the planning commission's action were reversed; and
   d. Any new and pertinent information bearing on the case which may not have been available or have been overlooked by the planning commission or which may have come to light following the meeting at which the planning commission made its decision.

b) *City council action.* Appeals to the city council shall be de novo (brand new); however, they shall first be considered on the record of the public hearing and planning commission meeting at which the original case was heard and the original decision made. Based on this review, the city council may affirm the planning commission's decision, reverse it, or send the case back to the planning commission for further study and re-certification. If new information is placed before the council that, in the opinion of the council, would affect the planning commission's decision, the council may refer the case back to the planning commission for further study, including the new information, and recertification.

Sec. 109-026. Use Table

(a) *Applicability*. This Division shall follow the requirements established in Table 026.1: Use Table.

(b) *Use-Specific Standards*. Use-specific standards are established in Division 2. and Division 3. of this Article.

Table 026.1: Use Table

Use Table														
Key	**P** = Use Allowed By-Right | **C** = Use Allowed by Conditional Use Permit | blank cell = Use Prohibited | Sec. 109-0XX = Applicable Use-Specific Standards													
Zoning District → Use ↓	**NP**	**AP**	**RE**	**R-1**	**R-2**	**R-3**	**CR**	**C-1**	**C-2**	**C-3**	**IA**	**TSO**	Use-Specific Standards	Parking Ratios
	Residential													
	Household Living													
Assisted Living						**P**		**P**	**P**	**P**				1.5/1,000 sf
Cottage Court					**P**	**P**		**P**					Division 2. Sec. 109-028. (a)	1/DU
Manufactured Home		**P**		**P**	**P**	**P**							Division 2. Sec. 109-028. (b)	2/DU
Mixed-Use Building					**P**	**P**		**P**	**P**	**P**			Division 2. Sec. 109-028. (c)	
Mobile Home		**P**				**P**								2/DU
Modular Home		**P**	**P**	**P**	**P**	**P**							Division 2. Sec. 109-028. (d)	2/DU
Multi-Family Dwelling					**P**	**P**		**P**	**P**	**P**			Division 2. Sec. 109-028. (e)	1/1 BRU 1.75/2 BRU 2/3 BRU
Single-Family Dwelling		**P**	**P**	**P**	**P**	**P**								2/DU
Townhome					**P**	**P**		**P**	**P**	**P**			Division 2. Sec. 109-028. (f)	2/DU
Triplex					**P**	**P**		**P**						2/DU
Two-Family Dwelling				**P**	**P**	**P**		**P**						2/DU
	Group Living													
Educational Housing						**C**		**P**	**P**	**P**				

Use Table														
Key	**P** = Use Allowed By-Right | **C** = Use Allowed by Conditional Use Permit | blank cell = Use Prohibited | Sec. 109-0XX = Applicable Use-Specific Standards													
Zoning District → Use ↓	**NP**	**AP**	**RE**	**R-1**	**R-2**	**R-3**	**CR**	**C-1**	**C-2**	**C-3**	**IA**	**TSO**	Use-Specific Standards	Parking Ratios
Emergency and Rehabilitative Housing		**P**				**P**		**C**	**P**				Division 2. Sec. 109-028. (g)	
	Commercial													
	Retail Sales													
Retail Store							**P**	**P**	**P**	**P**		**P**		
	Food and Beverage													
Outdoor, Mobile, or Temporary Vending		**P**				**P**	**P**	**P**	**P**	**P**		**P**	Division 2. Sec. 109-029. (a)	
Restaurant						**P**	**P**	**P**	**P**	**P**		**P**	Division 2. Sec. 109-029. (b)	
Tavern or Bar							**P**	**P**	**P**	**P**		**P**	Division 2. Sec. 109-029. (c)	
	Personal Services													
Day Care			**P**	**P**	**P**	**P**		**P**	**P**	**P**			Division 2. Sec. 109-029. (d)	
Personal Services								**P**	**P**	**P**				
	Lodging													
Bed and Breakfast			**C**	**C**	**C**	**C**		**P**				**P**	Division 2. Sec. 109-029. (e)	2/DU + 1/guest room
Hotel							**C**	**C**	**P**	**P**				
Recreational Vehicle Park							**P**						Division 2. Sec. 109-029. (f)	
Short-term Rental		**C**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**		**P**		
	Professional Services													
Alternative Financial Institution								**P**	**P**	**P**			Division 2. Sec. 109-029. (g)	
Professional and Trade Office								**P**	**P**	**P**				
Research Services											**P**			
Studio								**P**	**P**	**P**				
	Medical Facilities													

Use Table														
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Zoning District → Use ↓	**NP**	**AP**	**RE**	**R-1**	**R-2**	**R-3**	**CR**	**C-1**	**C-2**	**C-3**	**IA**	**TSO**	Use-Specific Standards	Parking Ratios
Clinic						**P**		**P**	**P**	**P**				
Hospital		**P**							**P**	**P**			Division 2. Sec. 109-029. (h)	
	Recreational Entertainment and Amusement													
Campground		**P**					**P**					**P**	Division 2. Sec. 109-029. (i)	
Indoor Entertainment and Amusement Venue							**P**	**C**	**P**	**P**				
Outdoor Entertainment and Amusement Venue		**C**					**P**		**P**				Division 2. Sec. 109-029. (j)	
Sport Shooting Range		**P**					**C**		**C**		**P**		Division 2. Sec. 109-029. (k)	
	Animal Services													
Animal Boarding		**P**						**P**	**P**	**P**			Division 2. Sec. 109-029. (l)	
Commercial Stables		**P**											Division 2. Sec. 109-029. (m)	
Veterinary Services		**P**						**P**	**P**	**P**	**P**		Division 2. Sec. 109-029. (n)	
	Automotive and Equipment Storage, Sales, and Service													
Auto Sales									**P**		**P**		Division 2. Sec. 109-029. (o)	
Heavy Auto Repair											**C**		Division 2. Sec. 109-029. (p)	
Large Equipment and Materials Storage and Sales											**P**		Division 2. Sec. 109-029. (q)	
Light Auto Repair									**P**		**P**		Division 2. Sec. 109-029. (r)	
	Adult Entertainment													

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Zoning District → Use ↓	**NP**	**AP**	**RE**	**R-1**	**R-2**	**R-3**	**CR**	**C-1**	**C-2**	**C-3**	**IA**	**TSO**	Use-Specific Standards	Parking Ratios
Gaming Facilities									C		C		Division 2. Sec. 109-029. (s)	
Sexually Oriented Business											C		Division 2. Sec. 109-029. (t)	
	Civic													
	Afterlife Care													
Cemetery	P	P	C	C	C	C		P					Division 2. Sec. 109-030. (a)	
Funeral Services								P	P	P			Division 2. Sec. 109-030. (b)	
	Assembly													
Public Assembly		P	C	C	C	P	P	P	P	P				
Religious Land Use		P	P	P	P	P	P	P	P	P	P			
Sporting Venue		C					P		C	C				
	Parks and Open Space													
Private Parks and Recreational Facilities	P				C	C	P	P	P			P		
Public Parks and Recreational Facilities	P	P	P	P	P	P	P	P	P	P	C	P		
	Government Facilities													
Detention Facilities		C									C			
Government Services		P	P	P	P	P	P	P	P	P	P			
Natural Resource Preservation Area	P	P	P	P	P	P	P					P	Division 2. Sec. 109-030. (c)	
Safety Services	C	P	P	P	P	P	P	P	P	P	P	P		
	Educational Facilities													
Business or Trade School		P						P	P	P				
College or University								P	P	C				

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Zoning District → Use ↓	**NP**	**AP**	**RE**	**R-1**	**R-2**	**R-3**	**CR**	**C-1**	**C-2**	**C-3**	**IA**	**TSO**	Use-Specific Standards	Parking Ratios
School			**P**	**P**	**P**	**P**		**P**	**P**	**P**			Division 2. Sec. 109-030. (e)	
	Cultural Facilities													
Library			**C**				**P**	**P**	**P**	**P**			Division 2. Sec. 109-030. (d)	
Museum							**P**	**P**	**P**	**P**				
	Agricultural													
Animal Production		**P**												
Confined Animal Feeding Operation		**C**												
Crop Production		**P**												
Horticulture		**P**												
Livestock Sales		**C**												
	Industrial													
Artisan Industry		**P**						**P**	**P**	**P**	**P**	**P**		
Heavy Industry											**C**		Division 2. Sec. 109-031. (a)	
Light Industry											**P**			
Personal Storage Facility									**P**		**P**		Division 2. Sec. 109-031. (b)	
Resource Extraction		**C**									**C**			
Warehousing											**P**			
	Miscellaneous													
	Infrastructure, Utilities, and Technology Uses													
Alternative Energy Production		**P**									**P**	**P**	Division 2. Sec. 109-032. (a)	
Communications Tower	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**		Division 2. Sec. 109-032. (b)	
Utility Facilities	**C**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**		
	High-Impact Uses													
Landfill											**C**		Division 2. Sec. 109-032. (c)	

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Zoning District → Use ↓	**NP**	**AP**	**RE**	**R-1**	**R-2**	**R-3**	**CR**	**C-1**	**C-2**	**C-3**	**IA**	**TSO**	Use-Specific Standards	Parking Ratios
	Marijuana Uses													
Medical Marijuana Cultivation Facilities		**P**									**P**		Division 2. Sec. 109-032. (e)	
Medical Marijuana Dispensaries									**C**		**C**		Division 2. Sec. 109-032. (f)	
	Accessory Uses													
	Residential													
Accessory Dwelling Unit		**P**	**P**	**P**	**P**	**P**		**P**				**P**	Division 3. Sec. 109-037. (a)	
Carport		**P**	**P**	**P**	**P**	**P**		**P**	**P**	**P**	**P**	**P**	Division 3. Sec. 109-037. (b)	
Dock or Pier	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**		Division 3. Sec. 109-037. (c)	
Home Occupation		**P**	**P**	**P**	**P**	**P**		**P**	**P**	**P**		**P**	Division 3. Sec. 109-037. (d)	
Private Stable		**P**	**P**	**C**										
Hobby Chickens		**P**	**P**	**P**	**P**	**P**							Article IV. Division 15. Sec. 109-111. (c)	
Livestock		**P**	**P**										Article IV. Division 15. Sec. 109-111. (d)	
Personal Recreational Facilities		**P**	**P**	**P**	**P**	**P**		**P**	**P**	**P**		**P**		
	Nonresidential													
Accessory Alternative Energy Production		**P**	**P**	**P**	**P**	**P**		**P**	**P**	**P**	**P**		Division 3. Sec. 109-037. (e)	
Accessory Building	**C**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	Division 3. Sec. 109-037. (f)	
Automatic Teller Machine								**P**	**P**	**P**			Division 3. Sec. 109-037. (g)	

Use Table														
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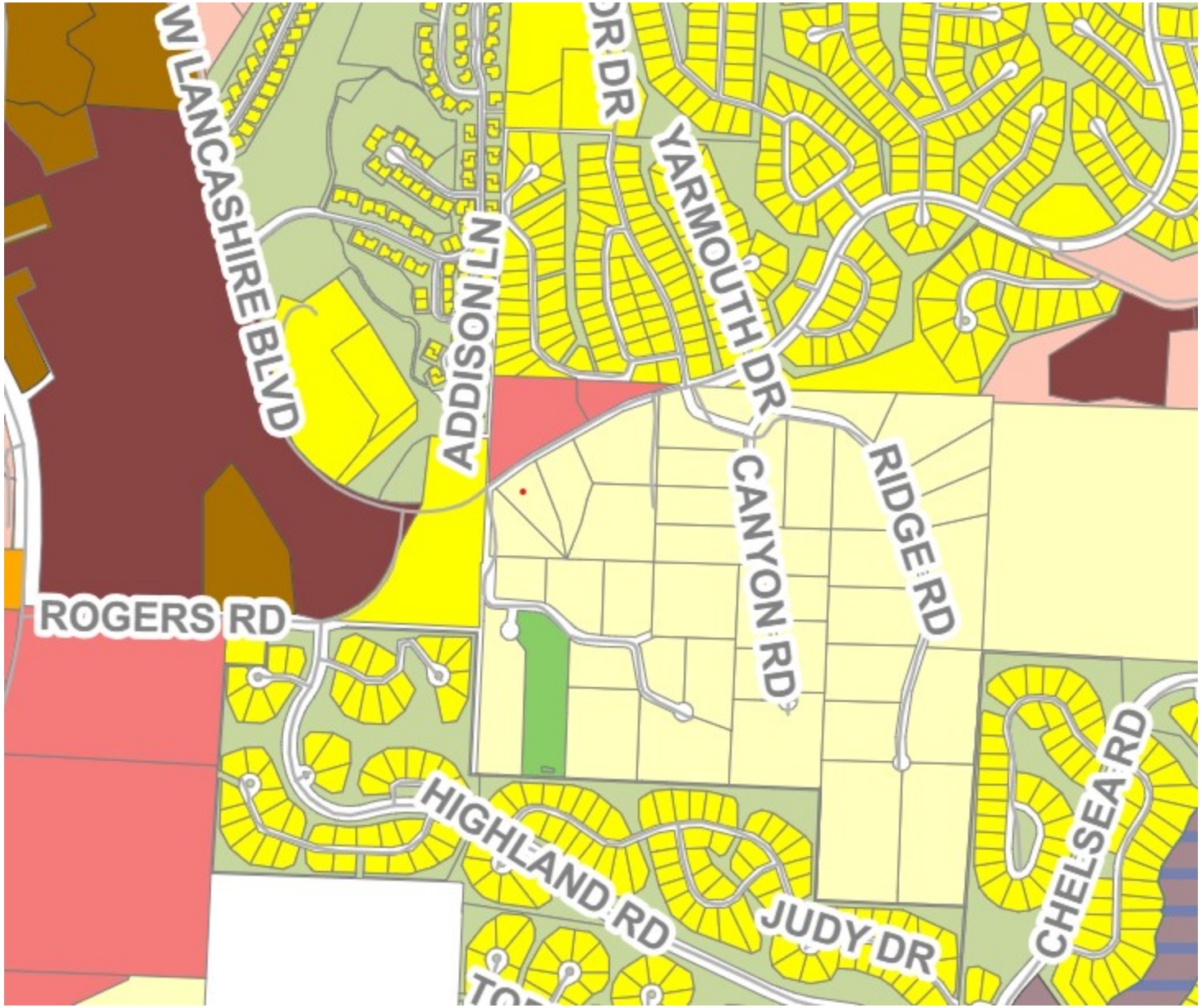
Zoning District → Use ↓	**NP**	**AP**	**RE**	**R-1**	**R-2**	**R-3**	**CR**	**C-1**	**C-2**	**C-3**	**IA**	**TSO**	Use-Specific Standards	Parking Ratios
Drive-in Facility									**P**				Division 3. Sec. 109-037. (h)	
Drive-through Facility								**C**	**P**				Division 3. Sec. 109-037. (i)	
EV Charging Station		**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**		Division 3. Sec. 109-037. (j)	
Fuel Pumps									**P**		**P**		Division 3. Sec. 109-037. (k)	
Marina	**C**						**P**	**P**	**P**	**P**			Division 3. Sec. 109-037. (l)	
Outdoor Dining							**P**	**P**	**P**	**P**		**P**	Division 3. Sec. 109-037. (m)	
Outdoor Display									**P**	**P**	**P**	**P**	Division 3. Sec. 109-037. (n)	
Outdoor Storage		**P**							**P**	**P**	**P**		Division 3. Sec. 109-037. (o)	


W LANCASHIRE BLVD
ADDISON LN
YARMOUTH DR
CANYON RD
RIDGE RD
ROGERS RD
HIGHLAND RD
JUDY DR
CHELSEA RD

June 13, 2025

To: Bella Vista Planning Commission and City Council

From: Jack Kehoe

1945 Carters Creek Pike

Franklin, TN 37064

Cell: 503-333-8650

Email: jack@yourpurposeproperties.com

Subject: Zoning Change Request – Parcel ID: 16-43269-000

Dear Planning Commission and City Council,

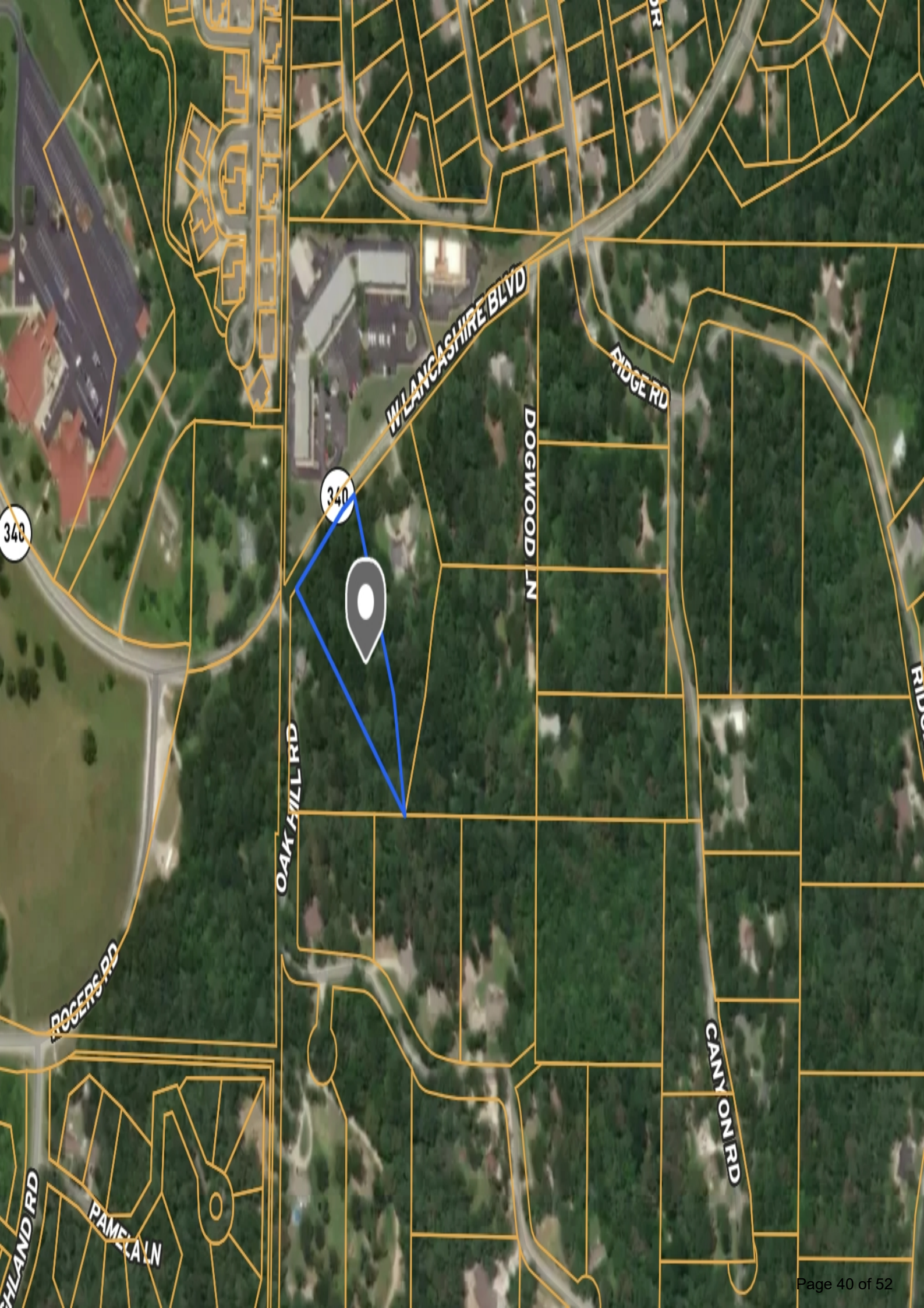
My name is Jack Kehoe, and I am the current owner of the property identified as Parcel ID: 16-43269-000 in Bella Vista, Arkansas. I am writing to respectfully request a zoning change for this property from its current zoning designation of R-E (Residential Estate) to C-2 (General Commercial).

The reason for this request stems from the property's location within the Future Land Use Type 2: Village Center area, as defined by the city's long-range planning documents. This designation envisions a mix of residential, commercial, and civic uses that foster vibrant, walkable centers of activity. Rezoning the parcel to C-2 would align with this vision by allowing for a broader range of commercial opportunities that support both community and economic development in Bella Vista.

While there is currently no sale pending, the intent behind the rezoning is to ensure that the land can be developed in a way that supports the Village Center goals. I believe this rezoning will benefit the city's long-term planning efforts and contribute positively to the surrounding community.

Thank you for considering this application. Please feel free to contact me at 503-333-8650 or jack@yourpurposeproperties.com if you have any questions or need additional documentation.

Warm regards,
Jack Kehoe


340
340
WILTSHIRE BLVD
RIDGE RD
DOGWOOD LN
OAK HILL RD
ROGERS RD
CANYON RD
PAMELA LN

Price Same as I + II

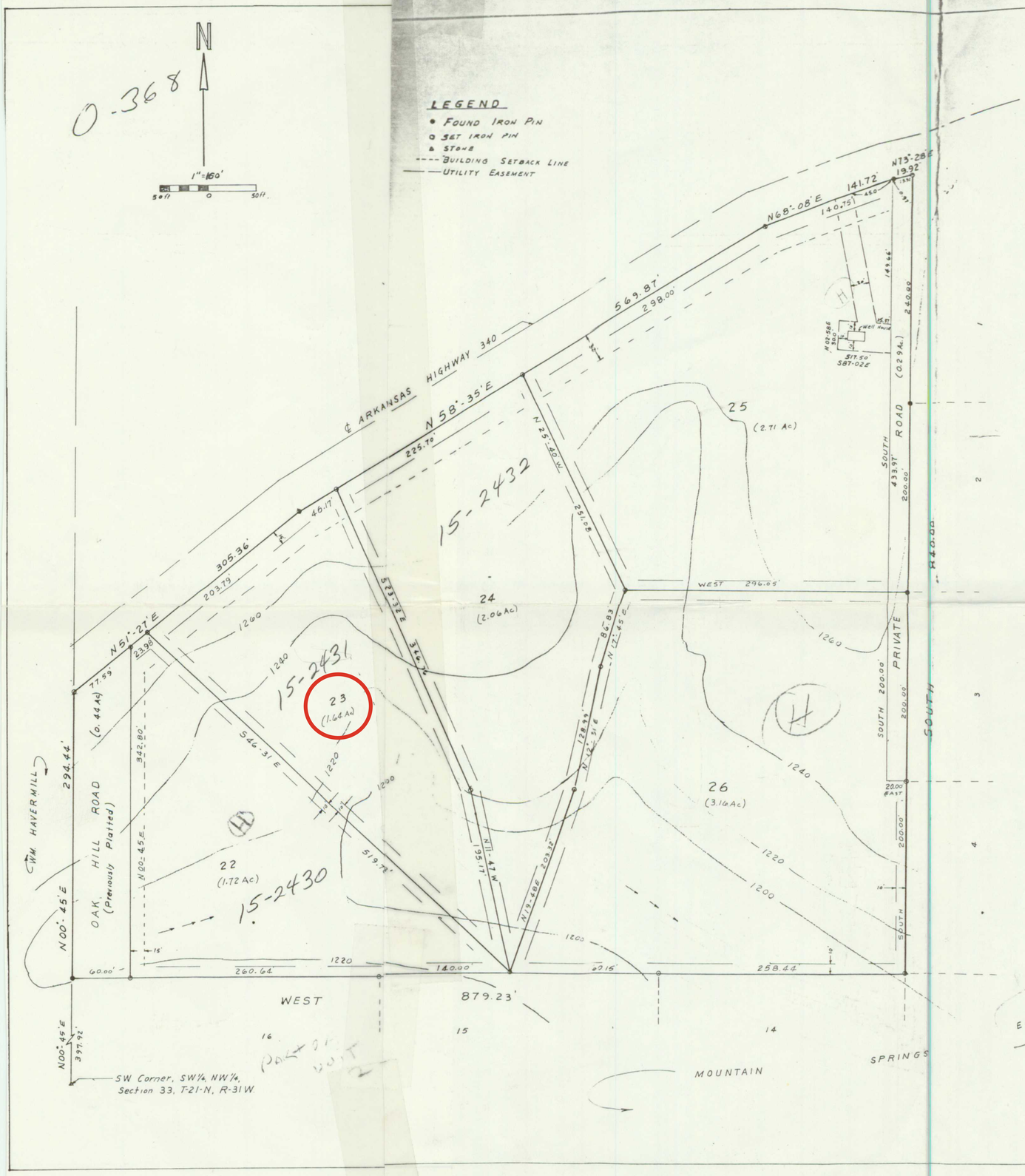
SD#20

MOUNTAIN SPRINGS ESTATES #3

(FINAL PLAT)

HIWASSE, ARKANSAS

APRIL 1975



LEGAL DESCRIPTION

Part of the SW 1/4, NW 1/4, Section 33, Township 21 North, Range 31 West, Fifth Principal Meridian, Benton County, Arkansas, being more particularly described as follows:

From the SW corner of said SW 1/4, NW 1/4, thence N 00°-45' E, 397.92 feet to the point of beginning, thence N 00°-45' E 294.44 feet to a point on the southerly right of way line of A340 Highway; thence N 51°-27' E, 305.36 feet along said R/W line; thence N 58°-35' E, 569.87 feet along said R/W line; thence N 68°-08' E 141.72 feet along said R/W line; thence N 73°-28' E 19.92 feet along said R/W line; thence South 840.00 feet; thence West 879.23 feet to the point of beginning, containing 12.02 acres, more or less.

OWNERS CERTIFICATION AND DEDICATION

As owner I hereby certify that I have caused the land described on this plat to be surveyed, divided, mapped, dedicated and access rights reserved as represented on the plat.

Mrs Helen Leithleiter — ROUTE 1, BOX 62
Kenneth Leithleiter — HIWASSE, ARK

Subscribed and sworn before me this 2 day of July, 1975

Ann Lepp — My commission expires 6-26-78
Notary Public

ENGINEERS CERTIFICATE

All improvements conform to all applicable engineering requirements and specifications.

Cecil E. Aycock — Date 7/1/75
Cecil E. Aycock P.E.#3343

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3343
CECIL E. AYCOCK

LAND SURVEYORS CERTIFICATE

This is to certify that the hereon platted and described parcel has been surveyed and that this plat conforms to that survey. Corners shown on plat, both exterior and interior lines, are, or will be set as shown in accordance with all regulations.

Cecil E. Aycock — Date 7/1/75
Cecil E. Aycock R.L.S. #708

CECIL AYCOCK
REGISTERED
LAND SURVEYOR
STATE OF
ARKANSAS
NO. 708
SIGNATURE

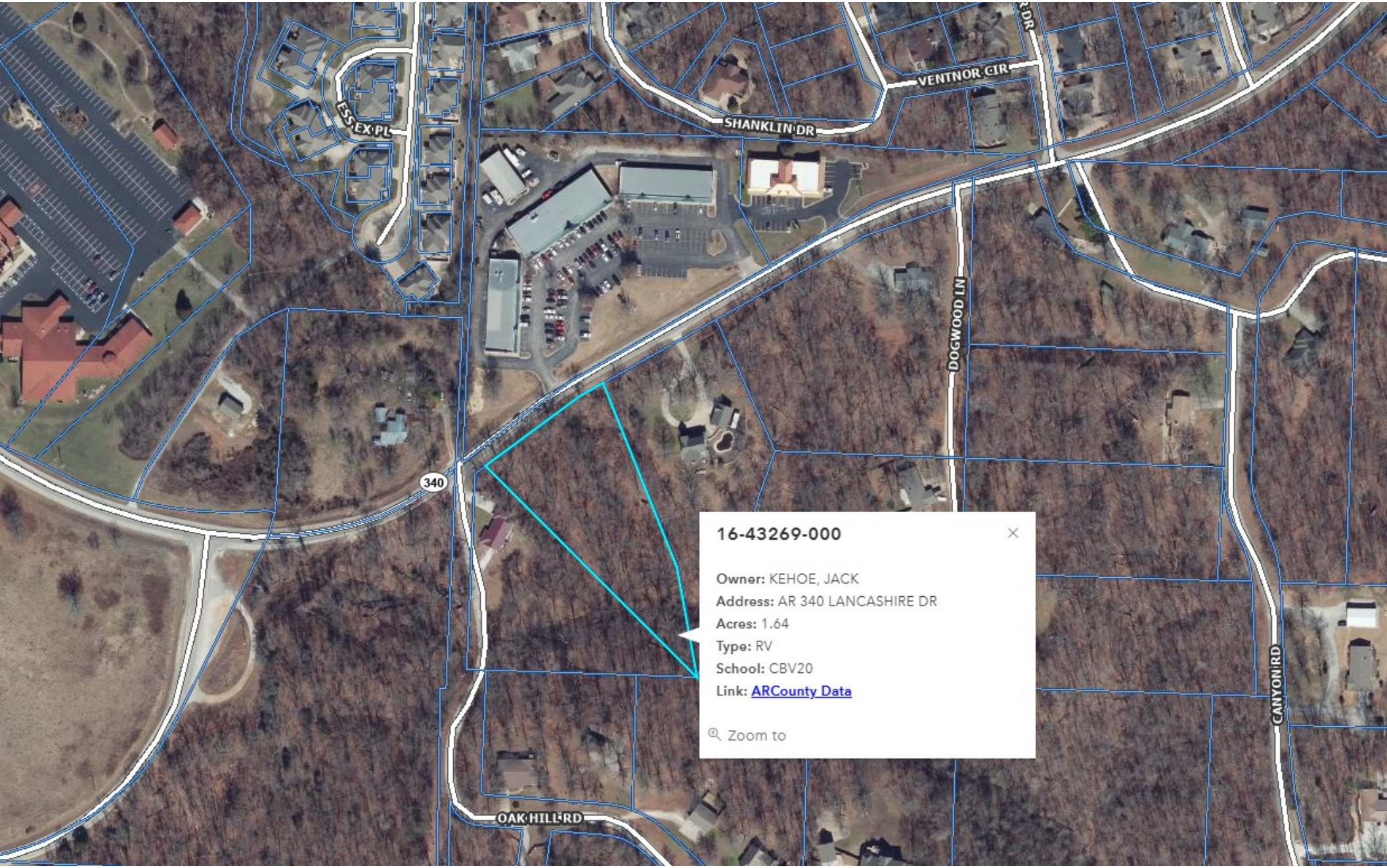
PLANNING BOARD ACCEPTANCE

This plat of MOUNTAIN SPRINGS ESTATES NO.3 is hereby accepted by the Benton County Planning Board on this 1st day of July 1975.

Chairman

NOTE:
KENNETH LEITHLEITER SHALL RETAIN A PERMANENT EASEMENT AROUND THE WELLHOUSE AS SHOWN AND OWNERSHIP OF EXISTING FACILITIES.

FILED FOR RECORD
At 10:45 O'Clock A M.
JUL 2 1975
JOSEPHINE R. HEYLAND
Clerk and Recorder
BENTON COUNTY, ARK.


ESSEX PL
SHANKLIN DR
VENTNOR CIR
DOGWOOD LN
340
OAK HILL RD
CANYON RD
16-43269-000
Owner: KEHOE, JACK
Address: AR 340 LANCASHIRE DR
Acres: 1.64
Type: RV
School: CBV20
Link: ARCounty Data
Zoom to

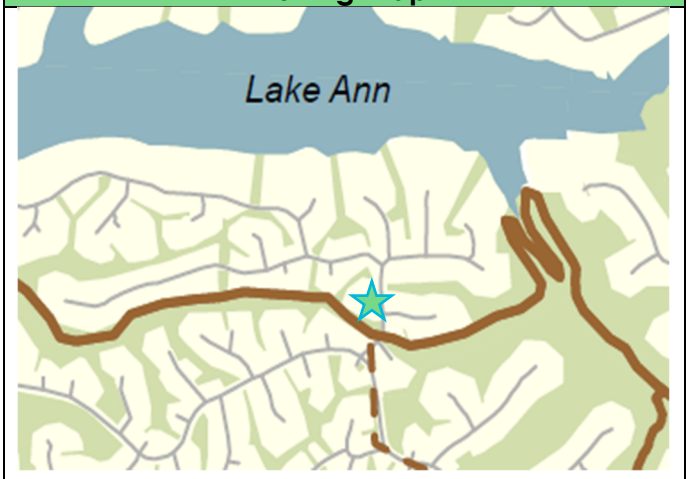
340
OAK HILL RD
1220
1230
16-43269-000
Owner: KEHOE, JACK
Address: AR 340 LANCASHIRE DR
Acres: 1.64
Type: RV
School: CBV20
Link: ARCounty Data
Zoom to

Meeting Information:
2483 Forest Hill Blvd
August 28, 2025 at 4:30 pm

Reviewer:
Christopher Hyatt
Senior Planner

Project Number	WVR-2025-60189
Applicant	Zachariah Smith
Address/Location	3 Buckingham Dr
Current Zoning	R-1, Single-Family Residential
Site Area	+/-0.39 acres
Nature of Request	Seeking a waiver of Sec. 107-342(e)(1) & (e)(2).

Zoning Map



Future Land Use Plan

Property Description
This property is located in the eastern area of Bella Vista City Limits and is located on Parcel #16-05904-000. Lot 10, Block 7 of the Buckingham Subdivision.

Regulation
Sec. 107-342(e)(1) states retaining walls shall be placed a minimum of ten feet or 1.5 times the height of the wall, whichever is greater, away from existing or proposed structures, unless such wall is exempted under section 107-339(c)(2). Sec. 107-342(e)(2) states retaining walls shall be placed a minimum of 7.5 feet or 1.5 times the height of the wall, whichever is greater, away from all property lines. In cases where the retaining wall is supporting an access drive, the wall shall be allowed up to the front property line.

Request
The applicant is requesting a waiver of retaining wall separation requirements for an existing, log, retaining wall.

Background
November 2023, a permit was submitted for a six-foot retaining wall, but the request did not meet separation requirements from the septic leach field or main structure. In December of 2023 staff was alerted to work being done at the subject site and adjacent lot, with additional reports coming in the following month regarding trees being removed from the adjacent lot and being stacked on the subject lot. Code Enforcement was alerted at the time and reached out on February 9th of 2024, giving the property owners a 30-day notice and to reach out to the Planning Staff. Code Enforcement did not issue any citations, but by April of 2024 the home owners reached out to planning staff to setup a meeting. Staff met with one of the homeowners and walked through the violations of code and requested to meet with the contractor who performed the work. The contractor met with us and began work obtaining on as built survey and engineered designs. The home owners picked up those tasks and got documents submitted for our current cycle of projects. Per the engineered designs, the wall consists of up to 7 stacked timber logs with the height of the wall varying from 1.36 feet to 6.1 feet sitting directly on top of three of the site's five septic lines. The subject site is zoned R-1 Single-Family Residential. Buckingham Drive is a non-classified road per the Master Street Plan.

Public Comment
None at the time of this report.

Outstanding Technical Comments
None at the time of this report.

Sec. 107-35 Waiver Review Requirements

When, by the strict interpretation of Chapter 107, an applicant incurs undue restrictions on the physical property to be subdivided or developed, a waiver for such requirements may be granted by the planning commission. **Under no circumstance** should a waiver be granted because of a personal hardship or for personal or emotional reasons. Waivers shall not be granted based strictly on financial hardship. A waiver is determined by the strict interpretation and enforcement of the rules and regulations upon a given piece of property to be subdivided or developed. No waiver shall be granted unless the planning commission finds all of the following:

1. That there are special circumstances or conditions affecting the land involved such that the strict application of the provision of these regulations would deprive the applicant of the reasonable use of this land.
2. That the waiver is necessary for the preservation and enjoyment of a substantial property right of the applicant.
3. That the granting of the waiver will not be detrimental to the public health, safety and welfare or injurious to other property in the area.
4. That the granting of the waiver will not have the effect of preventing the orderly subdivision of other land in the area in accord with the provision of these regulations.

Four affirmative votes of the planning commission's authorized membership shall be necessary for the passage of any waiver.

Sec. 107-35 Waiver Review Procedures

- Under exceptional circumstances, the planning commission may grant waivers at the time of final plat approval.
- In granting the waiver, the planning commission shall prescribe any conditions that it deems necessary to or desirable in the public interest.
- In considering the petition for a waiver, the planning commission shall take into account the nature of the proposed use of land involved, existing uses of land in the area, proximity to public utilities, the number of persons who will reside or work in the proposed subdivision, and the probable effect of such waiver upon traffic conditions and upon the public health, safety and general welfare in the vicinity.
- The findings of the planning commission, together with the specific facts upon which findings are based, shall be incorporated into the official minutes of the planning commission meetings at which such waiver is granted. Waivers may be granted only when in harmony with the general purpose and intent of these regulations.

Zachariah and Holly Smith
3 Buckingham Drive
Bella Vista, AR 72714
July 2, 2025

To:

Bella Vista Planning Commission
Community Development Services Department
Bella Vista, AR

Subject: Waiver Request – Retaining Wall Over Septic Lines
Parcel #: 16-05903-000
Property Address: 3 Buckingham Drive, Bella Vista, AR 72714

Dear Planning Commission Members,

We are submitting a formal request for a waiver from Chapter 107 of the Municipal Code concerning the placement of a retaining wall over portions of our septic system lateral lines.

Background and Reason for the Project

Upon purchasing our home at 3 Buckingham Drive, we identified an existing retaining wall that was not constructed properly. Over time, this wall began to bulge due to inadequate drainage, which led to the deck sinking as the wall failed to retain the soil effectively.

To address these structural issues, we replaced the failing wall with a new retaining structure built from repurposed loblolly pine logs. The new wall includes proper drainage and has been evaluated by a licensed structural engineer, who confirmed its stability and compliance with accepted engineering practices.

Special Conditions and Justification

Due to the layout of our property and the location of the existing septic system, two of the lateral lines run beneath the retaining wall. This arrangement was necessary based on the existing infrastructure and topography. A recent inspection by BBB Septic confirmed that the system is functioning normally.

We believe this waiver is justified because:

- The retaining wall was necessary to prevent further structural damage to the property.

- The new wall is structurally sound and includes proper drainage to prevent future issues.
- The septic system remains functional and was not compromised during construction.
- Granting this waiver will not negatively impact neighboring properties or future development in the area.

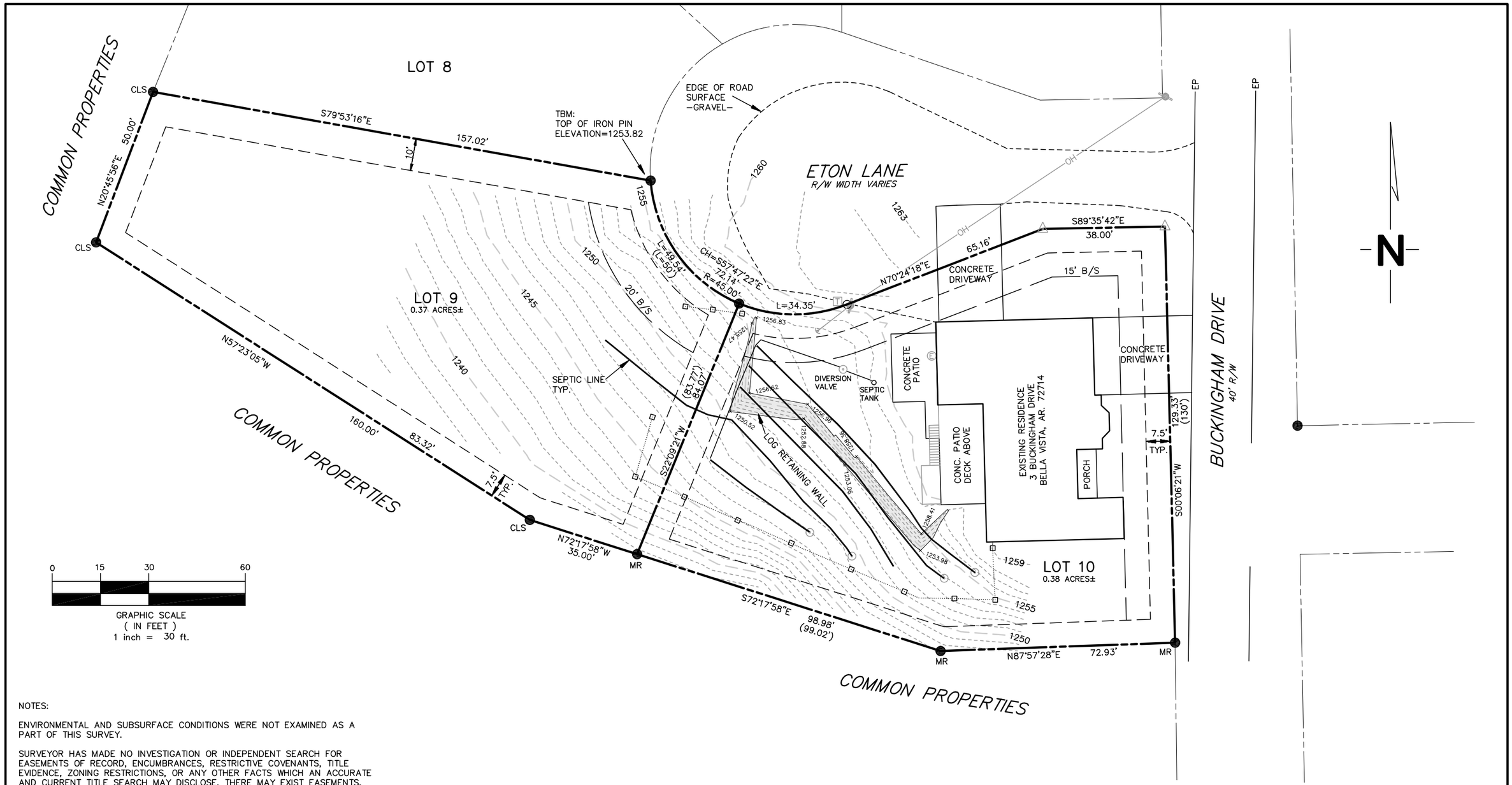
We respectfully request your consideration of this waiver so that we may bring our property into compliance while maintaining the safety and integrity of our home.

Thank you for your attention to this matter.

Sincerely,

Zachariah Smith
zachariah.smith@walmart.com | (317) 439-2541

Holly Smith
hollykatsmith@gmail.com | (910) 691-7478



NOTES:

ENVIRONMENTAL AND SUBSURFACE CONDITIONS WERE NOT EXAMINED AS A PART OF THIS SURVEY.

SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, TITLE EVIDENCE, ZONING RESTRICTIONS, OR ANY OTHER FACTS WHICH AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE. THERE MAY EXIST EASEMENTS, RIGHTS-OF-WAY OR COVENANTS NOT SHOWN OR NOTED HEREON.

THIS SURVEY IS MADE TO THE ORIGINAL PURCHASER OF THE SURVEY AND IS NOT TRANSFERABLE.

BASIS OF BEARINGS: ARKANSAS STATE PLANE, NAD-83, NORTH ZONE.

COUNTY JUDGMENT/COURT RECORDS WERE NOT EXAMINED AS A PART OF THIS SURVEY.

ONLY ABOVE GROUND OBSERVED UTILITIES WERE LOCATED. OTHER UTILITIES MAY EXIST NOT SHOWN HEREON.

REFER TO THE RECORDED PLAT OF BUCKINGHAM SUBDIVISION FOR RECORD BEARINGS.

SEPTIC LINES SHOWN ARE APPROIMATE AND ARE PER EXISTING IMPROVEMENTS, PAINT MARKINGS ON THE GROUND AND ARKANSAS DEPARTMENT OF HEALTH PERMIT NUMBER 138564.

SETBACKS SHOW ARE PER THE RECORDED PLAT. CITY ZONING MAY REQUIRE ADDITIONAL SETBACKS NOT SHOWN HEREON.

LEGEND

●	1/2" REBAR OR AS NOTED
● CLS	1/2" REBAR LS#1286
● MR	1/2" REBAR LS#352
○	SET 1/2" REBAR W/CAP OR AS NOTED
	PROPERTY LINE
	BUILDING SETBACK LINE (PLATTED)
	UTILITY & DRAINAGE EASEMENT
(XXX.XX')	RECORD DISTANCE WHEN MEASURES DIFFERS
	EXISTING UTILITY POLE W/GUY ANCHOR
	EXISTING PVC RISER
T	EXISTING TELEPHONE RISER
	EXISTING WOOD FENCE
E	EXISTING ELECTRIC METER
△	COMPUTED POINT
EP	EDGE OF PAVEMENT

REGISTERED
STATE OF ARKANSAS
NO.1286
SIGNATURE
THOMAS P. COSTELLO
PROFESSIONAL LAND SURVEYOR

07/26/2024

PARCEL #16-05903-000

RETAINING WALL SURVEY

for ZACHARIAH & HOLLY SMITH

LOT 9 & 10, BLOCK 7
BUCKINGHAM SUBDIVISION
BELLA VISTA, BENTON COUNTY, ARKANSAS

Costello Land Surveying
4342 E. STATE HIGHWAY 90
PINEVILLE, MO. 64856
(417) 226-4524

SHEET 1 OF 1	DRAWING: BNDY	FIELD DATE: 06/23 & 07/24	JOB NO. 23062

March 26th, 2025

3 Buckingham Drive
Bella Vista, AR 72714

Re: Site Retaining Wall

Dear Mr. Zachariah Smith,

The scope of this letter is to provide an engineering analysis of an existing retaining wall structure built in the back yard of aforementioned property last year in 2024. The retaining wall was built with on-site repurposed loblolly pine trees stacked on top of each other. I made a site visit on March 25th, 2025, to meet with the landscaper who built the wall and to observe the retaining wall structure, taking necessary field measurements for the design analysis. The retaining structure is then analyzed as a "stacked gravity wall" by using acceptable engineering principles and practice.

The following design criteria are used in design check:

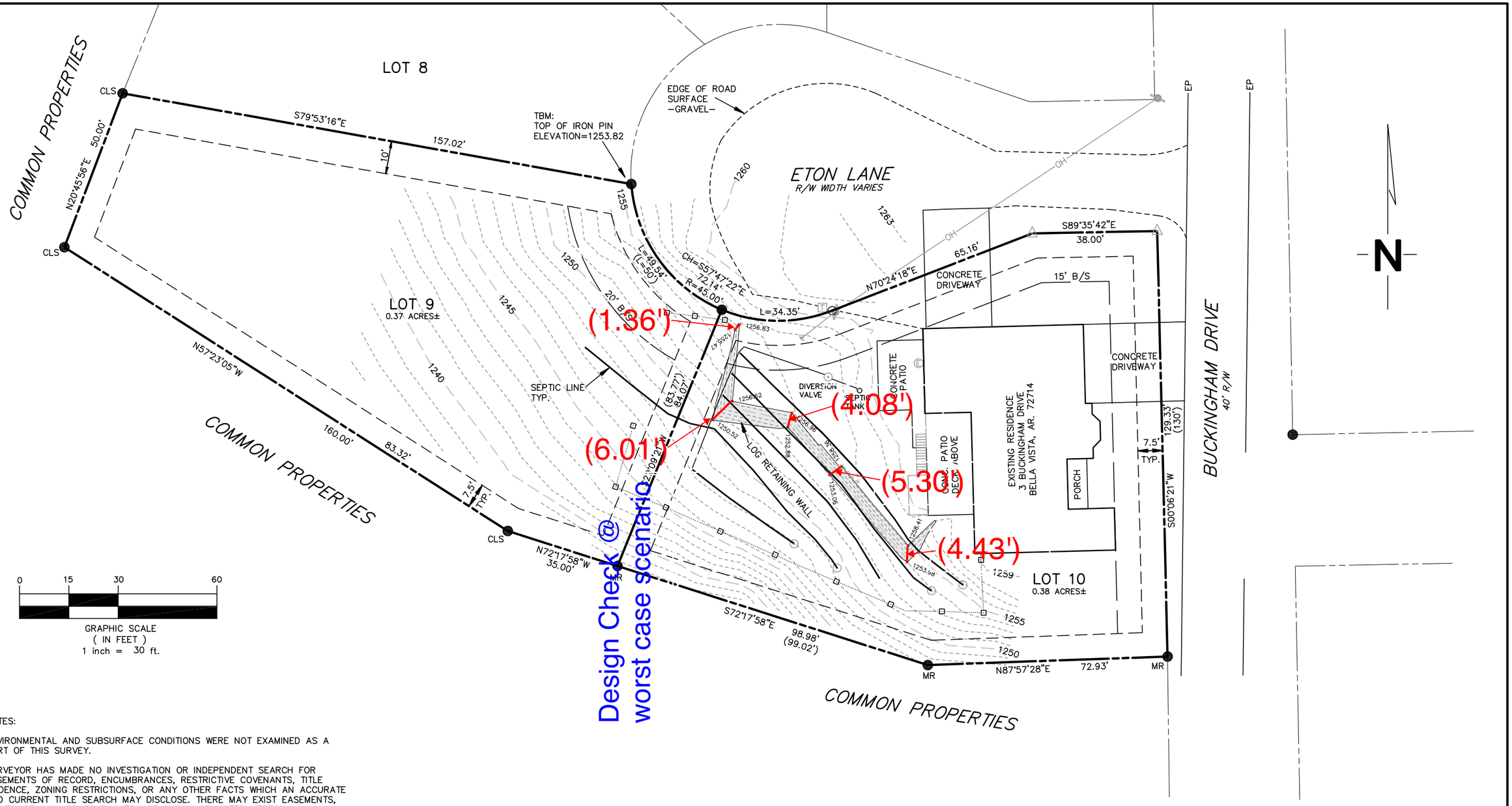
- 35 psf/ft active soil pressure is used for hydrostatic pressure calculation behind the retained side
- Density of Pine at 12% moisture content = 38 pcf
- Density of red clay backfill = 110 pcf
- Average on-site repurposed pine tree diameter = 17 inches
- 4" dia. drain pipe installed behind the wall

The as-built wall detail is illustrated on the following page. The structure has been checked for horizontal sliding and overturning. My analysis indicates that the wall retaining structure is structurally sound and stable with a satisfactory safety factor of more than 1.5. Hence, I do not find any structure issue nor recommend any further action taken to reinforce the structure.

Should you have any questions, please don't hesitate to contact me.

Sincerely,

Lungshen Tsao, PE (AR PE No. 12183)
Structural Engineer



0 15 30 60

GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.

NOTES:

ENVIRONMENTAL AND SUBSURFACE CONDITIONS WERE NOT EXAMINED AS A PART OF THIS SURVEY.

SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, TITLE EVIDENCE, ZONING RESTRICTIONS, OR ANY OTHER FACTS WHICH AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE. THERE MAY EXIST EASEMENTS, RIGHTS-OF-WAY OR COVENANTS NOT SHOWN OR NOTED HEREON.

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△	COMPUTED POINT
EP	EDGE OF PAVEMENT

REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF ARKANSAS
NO.1286
SIGNATURE
THOMAS P. COSTELLO

07/26/2024

PARCEL #16-05903-000

RETAINING WALL SURVEY

for ZACHARIAH & HOLLY SMITH

LOT 9 & 10, BLOCK 7
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BELLA VISTA, BENTON COUNTY, ARKANSAS

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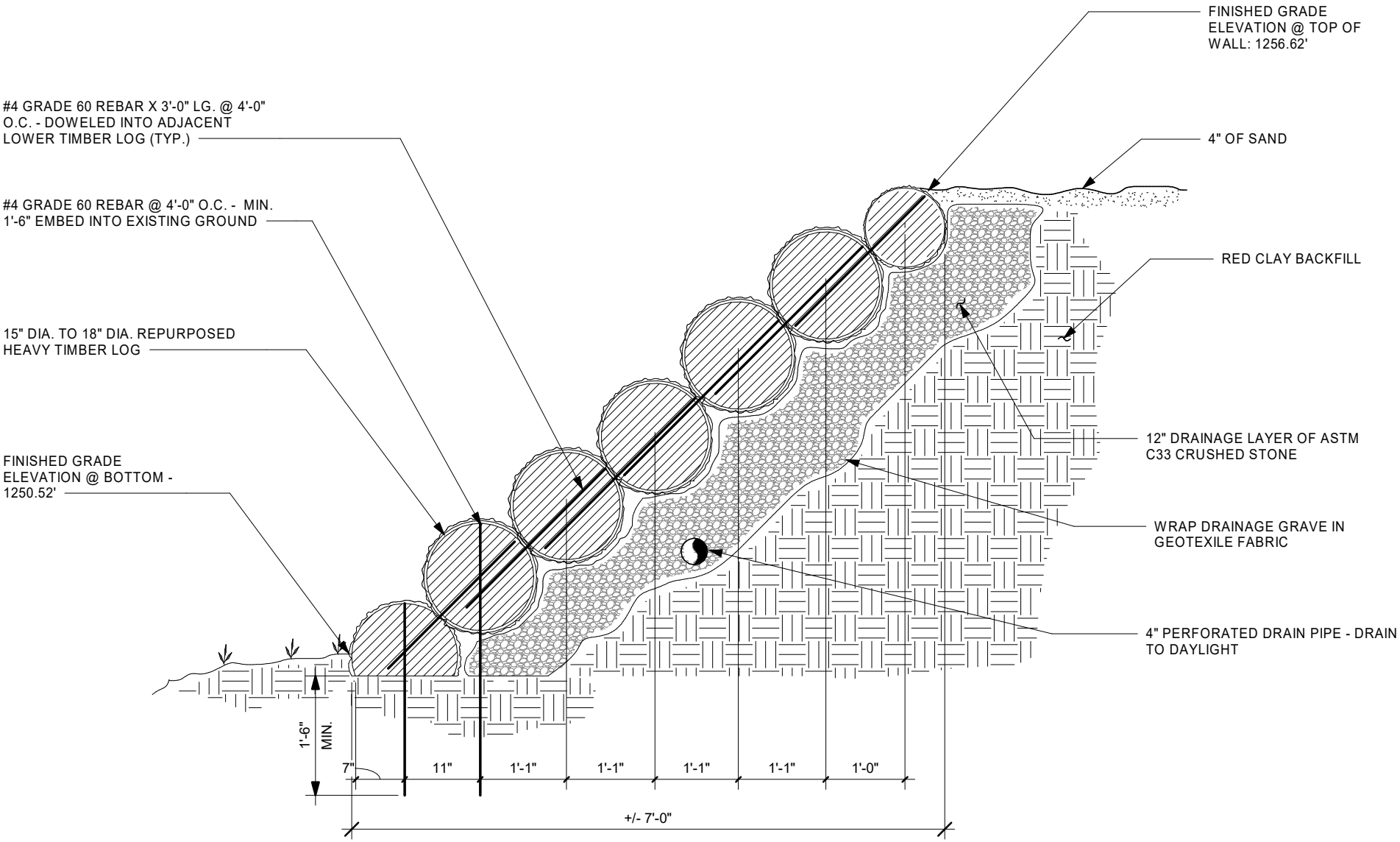
SHEET 1 OF 1	DRAWING: BNDY	FIELD DATE: 06/23 & 07/24	JOB NO. 23063


FINISHED GRADE ELEVATION @ TOP OF WALL: 1256.62'
#4 GRADE 60 REBAR X 3'-0" LG. @ 4'-0" O.C. - DOWELED INTO ADJACENT LOWER TIMBER LOG (TYP.)
4" OF SAND
#4 GRADE 60 REBAR @ 4'-0" O.C. - MIN. 1'-6" EMBED INTO EXISTING GROUND
RED CLAY BACKFILL
15" DIA. TO 18" DIA. REPURPOSED HEAVY TIMBER LOG
12" DRAINAGE LAYER OF ASTM C33 CRUSHED STONE
FINISHED GRADE ELEVATION @ BOTTOM - 1250.52'
WRAP DRAINAGE GRAVE IN GEOTEXILE FABRIC
4" PERFORATED DRAIN PIPE - DRAIN TO DAYLIGHT
1'-6" MIN.
7"
11"
1'-1"
1'-1"
1'-1"
1'-1"
1'-0"
+/- 7'-0"

Density of Loblolly pine (Pinus Taeda) = 38 pcf (air-dry density with 12% moisture content)

Approximate area of 17" dia. log = 3.14*(8.5")^2 = 226.86 inches^2 = 1.58 ft^ 2

Weight of each log approximately = 38 pcf x 1.53 ft^2 = 58.1 plf

Active Soil Pressure = 35 PCF

Retained Earth Height = 1256.62' - 1250.52' = 6.01'

Horizontal Lateral Force at base of timber wall = 35 pcf * (6')^2 /2 = 630 #/ft

Overturning Moment at base of timber wall = 630 #/ft * (6)(1/3) = 1260 #-ft/ft
*assuming horizontal earth pressure acting at 1/3 distance from the base

GLOBAL STABILITY CHECK:

A. Sliding Check

Active Sliding force = 630 #/ft

Total weight of timber logs = 58.1 x 7 = 406.7 #/ft *assuming (7) logs are approximately same in size

Density of soil (red clay) = 110 pcf

weight of soil under logs = 110 pcf * (6'x5')(0.5) = 1650 #/ft

Total resisting force = 406.7 + 1650 = 2056 #/ft

Safety Factor = 2056/630 = 3.26 > 1.5 **OKAY**

Also note that the bottom 2 rows of logs have #4 rebar dowels @ 4'-0" o.c. dowel into existing undisturbed ground that will provide extra resistance to the sliding lateral force. By inspection the weight of timber and soil along will provide enough resistance.

B. Overturning Check

Active Overturning Moment = 1260 #-ft/ft

Resisting moment from heavy timber =

(58.1x0.583')+(58.1x1.5')+(58.1x2.583')+(58.1x3.67')+(58.1x4.75')+(58.1x5.83')+(58.1x6.83') = 1495.8 #-ft /ft

Resisting moment from soil = 1650 #/ft x (6'/3) = 3300 #-ft/ft

Total Resisting Moment = 1495.8 + 3300 = 4795 #-ft/ft

Safety Factor = 4795/1260 = 3.8 > 1.5 **OKAY**

Also note that there is a 4" perforated drain pipe installed to alleviate hydrostatic pressure behind the retaining structure. 35 pcf of active pressure is conservative. By inspection this retaining structure is structurally stable.