SUBDIVISION REPORT - CONCEPT/DEVELOPMENT PLAN

Planning
KNOXVILLE | KNOX COUNTY

▶ **FILE #:**	**1-SF-23-C**	**AGENDA ITEM #:**	**24**
	1-E-23-DP	**AGENDA DATE:**	**9/14/2023**
POSTPONEMENT(S):	1/12/2023, 2/9/2023		
▶ **SUBDIVISION:**	**BEELER ROAD SUBDIVISION**		
▶ **APPLICANT/DEVELOPER:**	**MESANA INVESTMENTS - BEELER ROAD**		
OWNER(S):	Mesana Investments, LLC		
TAX IDENTIFICATION:	29 188.03	**View map on KGIS**	
JURISDICTION:	County Commission District 8		
STREET ADDRESS:	0 BEELER RD		
▶ **LOCATION:**	**East and west side of Beeler Rd, south of Beeler Farms Ln**		
SECTOR PLAN:	Northeast County		
GROWTH POLICY PLAN:	Planned Growth Area		
WATERSHED:	Beaver Creek		
▶ **APPROXIMATE ACREAGE:**	**27.65 acres**		
▶ **ZONING:**	**PR (Planned Residential)**		
▶ **EXISTING LAND USE:**	**Agriculture/Forestry/Vacant Land**		
▶ **PROPOSED USE:**	**Detached residential subdivision**		
SURROUNDING LAND USE AND ZONING:	North: Single family residential -- PR (Planned Residential) up to 3.25 du/ac South: Single family residential, rural residential, agriculture/forestry/vacant -- A (Agricultural) East: Agriculture/forestry/vacant -- PR (Planned Residential) up to 2 du/ac West: Agriculture/forestry/vacant, rural residential, single family residential -- PR (Planned Residential) up to 3 du/ac & A (Agricultural)		
▶ **NUMBER OF LOTS:**	**86**		
SURVEYOR/ENGINEER:	David Harbin Batson, Himes, Norvell and Poe		
ACCESSIBILITY:	Access is via Beeler Road, a minor collector with 19 ft of pavement width within a 40-ft right-of-way.		
▶ **SUBDIVISION VARIANCES REQUIRED:**	**VARIANCES** **1. Reduce the minimum vertical curve on Road 'A' from K=25 to K=15 at STA 0+75** **ALTERNATIVE DESIGN STANDARDS REQUIRING KNOXVILLE-KNOX COUNTY PLANNING COMMISSION APPROVAL** **1. Reduce the minimum horizontal curve radius from 250 ft to 150 ft at STA 2+25 on Road 'D'** **ALTERNATIVE DESIGN STANDARDS REQUIRING KNOX COUNTY**		

ENGINEERING AND PUBLIC WORKS APPROVAL
**** See the Requested Variances and Alternative Design Standards memo attached to the staff report.**

STAFF RECOMMENDATION:

- **Approve the requested variance and alternative design standard based on the recommendations of the Knox County Department of Engineering and Public Works.**

Approve the Concept Plan subject to 13 conditions.

1) Connection to sanitary sewer and meeting other relevant utility provider requirements.
2) Provision of street names consistent with the Uniform Street Naming and Addressing System within Knox County (County Ord. 91-1-102).
3) Providing a sight distance easement across the lots on the inside of the horizontal curves with a radius less than 200 ft per the requirements of Knox County Engineering and Public Works during the design plan phase. Any driveways on these lots must be located outside the sight distance easement and shown on the plat, or the driveways must have a depth of 20 ft beyond the sight distance easement if they cannot be located outside the sight distance easement.
4) Partnering with Knox County to implement the recommended turn lane improvements to Beeler Road at the E. Emory Road intersection as outlined in the Fairview Road and Beeler Road Subdivision Transportation Impact Study, AJAX Engineering, revised December 2022 (see Exhibit A). The developer is responsible for designing the turn lane, grading the area, and installing the base stone and binder course. Knox County is responsible for installing the surface course, striping the lane, and installing any necessary signage. A Memorandum of Understanding with Knox County Engineering and Public Works is required per Chapter 54, Article V of the Knox County Code (Ord. O-23-4-102). The turn lanes on E. Emory Road recommended by the TIS, are not required to be installed by this condition.
5) Obtaining all necessary permits from TDOT for the improvements at the Beeler Road and E. Emory Road intersection.
6) The submitted geotechnical report (GEOServices, LLC, August 4, 2023) must be reviewed and approved by Knox County Engineering and Public Works during the design plan phase to determine if the pond between lots 10-20 is required to be shown on the final plat as a closed contour sink hole. If so, the closed contour and 50 ft buffer shall be shown on the final plat. If any building construction is proposed within the 50 ft buffer area around the designated sinkholes/depressions (including the depressions), a geotechnical report must be prepared by a registered engineer to determine soil stability and that report must be submitted to the Knox County Department of Engineering and Public Works for consideration. Any construction in these areas is subject to approval by the County following a review of the report. Engineered footings must be designed for these areas. For those lots that do not have a building site outside of the 50 ft buffer, approval by Knox County will be required prior to final plat approval. The sinkholes/depressions and 50 ft' buffer shall be designated on the final plat even if they are approved to be filled.
7) Providing a temporary turnaround at the eastern terminus of Road ‘D’ per the requirements of Knox County Engineering and Public Works during the design plan phase. The 50 ft public right-of-way shall be extended to the eastern property boundary as shown on the concept plan with notification of future connection provided per section 3.04.C.2 of the Subdivision Regulations. The temporary turnaround area outside the 50 ft right-of-way may be in an easement with the approval of Knox County Engineering and Public Works. The turnaround easement can be eliminated if the public road is extended and the turnaround is no longer required.
8) Revising the Road ‘B’ intersection grade to 2 percent or less if a crosswalk is required.
9) Providing a greenway easement on the Final Plat, from either the Road 'A' cul-de-sac or Road 'D' between lots 46 and 47, that extends to approximately where the blue line stream crosses the southern boundary line. This easement can be relocated if Knox County Parks and Recreation and Knox County Engineering and Public Works determine that this location is not feasible or a more appropriate location is identified in the Beeler Road Subdivision or Fairview Road Subdivision. The width of the greenway easement will be determined during the design plan phase.
10) Providing a note on the final plat that lots 84-86 must have a vehicle turnaround on each driveway.
11) Installing sidewalks per Chapter 54, Article IV of the Knox County Code. The location of the sidewalks will be determined by Knox County Engineering and Public Works during the design plan phase.
12) Meeting all applicable requirements of the Knox County Department of Engineering and Public Works and TDOT.
13) Before certification of the final plat for the subdivision, establish a property owners association or other legal entity responsible for maintaining common facilities, such as common areas, amenities, private roads, and/or stormwater drainage systems.

- **Approve the development plan for a residential subdivision with up to 86 detached dwellings on**

individual lots and reduction of the 35-ft peripheral setback to 25-ft for lots 8, 10, 22, 23, 63-69, and the Beeler Road frontage of lots 84-86, as shown on the plan, subject to 1 condition.

1) Meeting all applicable requirements of the Knox County Zoning Ordinance.

With the conditions noted, this plan meets the requirements for approval in the PR district and the criteria for approval of a development plan.

COMMENTS:

SUMMARY
This proposal is an 86-lot detached residential subdivision on 27.65 acres at a density of 3.11 du/ac. This includes 83 detached residential lots on the east side of Beeler Road and 3 detached residential lots on the west side of Beeler Road. The property was rezoned from A (Agricultural) to PR (Planned Residential) up to 3.3 du/ac in June 2022 (5-L-22-RZ). The new internal roads will be public with 26 ft of pavement within a 50-ft right-of-way. Road 'D' will extend to the east property boundary to provide access to the Fairview Road Subdivision approved in December 2022 (11-SA-22-C / 11-A-22-DP), or a new proposal, which would require a new Concept Plan and/or Development Plan approval.

PREVIOUS APPROVAL
The previously approved B&B Builders subdivision (7-SA-22-C / 7-A-22-UR) had 86 total dwelling units, with 83 attached house lots and 3 detached house lots. A walking trail was provided around the large detention pond under the TVA powerline easement in the southwest portion of the property, and another trail to the existing pond on the north side of Road 'A', between Road 'B' and Road 'C'. The Planning Commission also added a condition to extend the walking trail in the property's southwest corner to the large property to the south (parcel 029 186) to provide pedestrian access between the properties since a road connection or greenway easement was not proposed or required at that time.

PROPOSED MODIFICATIONS
The subdivision layout remains relatively unchanged. The only significant changes are extending Road 'D' to the eastern property line and adding 4 lots east of the stream on Road 'D' (lots 43-46). The walking trails around the detention pond and existing pond are removed from the plan. A greenway easement is provided along the east side of the stream, adjacent to lot 46.

ROAD CONNECTIVITY
The proposed Beeler Road Subdivision has 83 lots on the east side of Beeler Road, and it is currently the only access for the 128-lot Fairview Road Subdivision. The two subdivisions combined will have up to 211 lots using the single entrance, which exceeds the long-standing unwritten design policy requiring a second entrance or a boulevard entrance road when a subdivision has more than 150 lots. The purpose of this policy is to address access for emergency services, but it also has the secondary benefit of increasing connectivity when multiple entrances are established. The boulevard option should only be used when there are no feasible or logical connections that can provide secondary access to an external road, and the boulevard must extend into the subdivision far enough to provide a benefit, such as the first intersection that provides access to a significant portion of the lots, or preferably, a loop road.

The Fairview Road Subdivision is required to provide a stub-out on the north and south sides of the subdivision. These two stub-out locations allow for feasible extensions into adjoining properties and provide opportunities to connect to external streets other than Beeler Road.

PEDESTRIAN FACILITIES
The Knox County Sidewalk Ordinance (Chapter 54, Article IV of the Knox County Code) requires sidewalks along the frontage of existing adjoining roadways (Beeler Road) and internal street segments with 1,000 or more vehicle trips per day when the development is within a ¼ mile of public facilities, including proposed greenways per the Knox County Greenway Corridor Study. This development is within ¼ mile of the preferred route for the proposed Beaver Creek East greenway corridor (see Exhibit B). A sidewalk is required on one side of Road 'A', from Beeler Road to Road 'D', and on one side of Road 'D' from Road 'A' to the eastern terminus. The Road 'D' sidewalk will connect to the Fairview Road Subdivision sidewalk system. The concept plan proposes a sidewalk along the south side of Road 'A' and Road 'D'.

Staff is recommending a greenway easement on either side of the stream, from Road 'D' to the southern boundary line, for the future installation of a greenway connector. A greenway easement through the property to the south is necessary to connect to the greenway corridor. This easement can be moved to a more feasible connection point during the design plan phase. This greenway easement can be considered a substitute for

providing a sidewalk along the Beeler Road frontage at the discretion of Knox County Engineering and Public Works during the design plan phase.

VARIANCES AND ALTERNATIVE DESIGN STANDARDS
The proposed vertical curve variance at the entrance is the same as previously approved for the B&B Builders Subdivision. Staff supports this request because it will not create a traffic hazard at this location. The horizontal curve reduction on Road 'D' is also supported because it is near a stop-controlled intersection, where reduced speeds are expected. The horizontal curve radius hasn't changed from the previous plan, however, the road is now longer than 1,000' because it extends into the Fairview Road Subdivision, which increases the minimum horizontal curve radius from 100' to 250'.

DEVELOPMENT PLAN ANALYSIS PER ARTICLE 6, SECTION 6.50.06 (APPROVAL OR DENIAL)
In the exercise of its administrative judgment, the Planning Commission shall determine if the proposed plan is in harmony with the general purpose and intent of the zoning ordinance and adopted plans.

1) ZONING ORDINANCE
PR (Planned Residential) up to 3.3 du/ac:
a) The PR zone allows houses as a permitted use. The administrative procedures for the PR zone require the Planning Commission to approve the development plan before permits can be issued (Article 5, Section 5.13.15).
B) This PR zone district is approved for a maximum of 3.3 du/ac. The proposed density is 3.11 du/ac.
C) The peripheral setback is 35 feet, however, the planning commission may reduce it to 15 feet when the adjacent property is zoned agricultural or residential. The applicant is requesting a peripheral setback of 25 ft for lots 63-69, and the Beeler Road frontage of lots 8, 10, 22, 23, 63-69, and 84-86. The requested reduction will have minimal impact on adjacent properties. The reduction for lots 84-86 will help move the buildable area out of the floodplain of Kerns Branch Creek. Other houses along Beeler Road have a similar front setback.

2) GENERAL PLAN – DEVELOPMENT POLICIES
a) Policy 9.3, Ensure that the context of new development, including scale and compatibility, does not impact existing neighborhoods and communities – The development will consist of detached houses, which is the same as other nearby residential developments. The proposed peripheral setback reduction should have minimal impact on adjacent properties.

3) NORTHEAST COUNTY SECTOR PLAN
a) The property is classified LDR (Low Density Residential), which allows consideration of up to 5 du/ac. The proposed density is 3.11 du/ac.
B) The three detached house lots on the west side of Beeler Road are almost entirely within the sector plan's SP (Stream Protection) classification. The plan doesn't make specific recommendations that apply to this site.

4) KNOXVILLE – FARRAGUT – KNOX COUNTY GROWTH POLICY PLAN
a) The property is within the Planned Growth Boundary. The purposes of the Planned Growth Boundary designation are to encourage a reasonably compact pattern of development, promote the expansion of the Knox County economy, offer a wide range of housing choices, and coordinate the actions of the public and private sectors, particularly with regard to the provision of adequate roads, utilities, schools, drainage and other public facilities and services.

ESTIMATED TRAFFIC IMPACT: A traffic impact study was prepared by the applicant. The findings of that study were used in formulating the recommendations of this staff report.

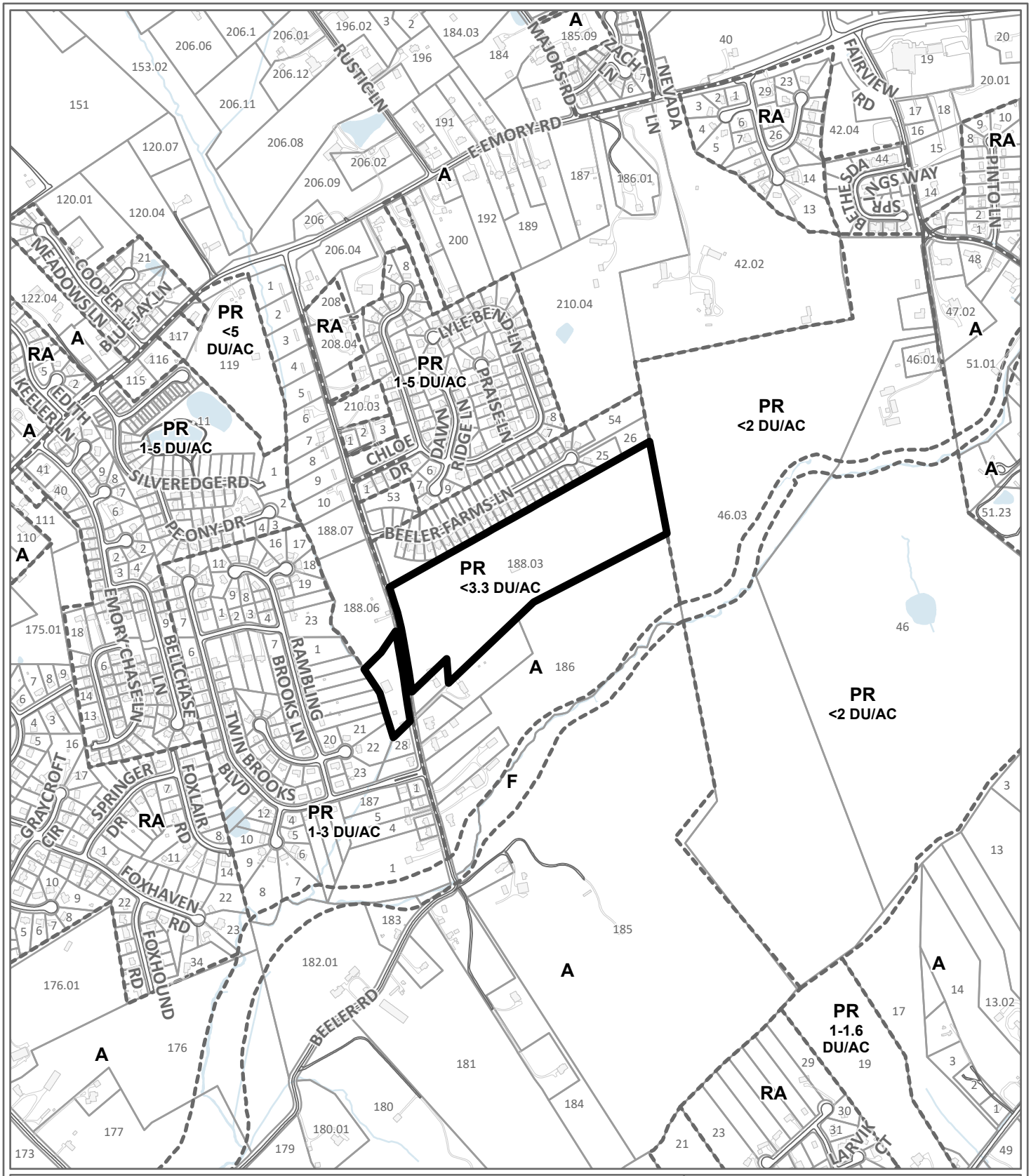
ESTIMATED STUDENT YIELD: 41 (public school children, grades K-12)

Schools affected by this proposal: Gibbs Elementary, Gibbs Middle, and Gibbs High.

- Potential new school population is estimated using locally-derived data on public school student yield generated by new housing.
- Students are assigned to schools based on current attendance zones as determined by Knox County Schools. Students may request transfers to different zones, and zone boundaries are subject to change.
- Estimates presume full build-out of the proposed development. Build-out is subject to market forces, and timing varies widely from proposal to proposal.
- Student yields from new development do not reflect a net addition of children in schools. Additions occur incrementally over the build-out period. New students may replace current population that ages through the system or moves from the attendance zone.

Knoxville-Knox County Planning Commission's approval or denial of this concept plan request is final, unless the action is appealed to Knox County Chancery Court. The date of the Knox County Chancery Court hearing will depend on when the appeal application is filed.

The Planning Commission's approval or denial of this development plan request is final, unless the action is appealed either to the Board of Zoning Appeals or to a court of competent jurisdiction within thirty (30) days of the decision being appealed (Knox County, Tennessee Code of Ordinances, Appendix A, Zoning, 6.50.08).



CONCEPT PLAN / DEVELOPMENT PLAN

1-SF-23-C / 1-E-23-DP

Detached residential subdivision in PR (Planned Residential)

Original Print Date: 8/18/2023

*Knoxville - Knox County Planning Commission * City / County Building * Knoxville, TN 37902*

Petitioner: Mesana Investments - Beeler Road

Map No: 29

Jurisdiction: County

0 900

Feet

N

Requested Variances & Alternative Design Standards

1-SF-23-C / 1-E-23-DP– Mesana Investments – Beeler Road

VARIANCES

1. Reduce the minimum vertical curve on Road 'A' from K=25 to K=15 at STA 0+75

ALTERNATIVE DESIGN STANDARDS REQUIRING KNOXVILLE-KNOX COUNTY PLANNING COMMISSION APPROVAL

1. Reduce the minimum horizontal curve radius from 250' to 150' at STA 2+25 on Road 'D'

ALTERNATIVE DESIGN STANDARDS REQUIRING KNOX COUNTY ENGINEERING AND PUBLIC WORKS APPROVAL

1. Increase the maximum intersection grade from 1% to 3% on Road 'A' at Beeler Road
2. Increase the maximum intersection grade from 1% to 3% on Road 'B' at Road 'A'
3. Increase the maximum intersection grade from 1% to 2% on Road 'C' at Road 'A'
4. Increase the maximum intersection grade from 1% to 2.09% on Road 'D' at Road 'A'

KNOX COUNTY ENGINEERING AND PUBLIC WORKS RECOMMENDATION:

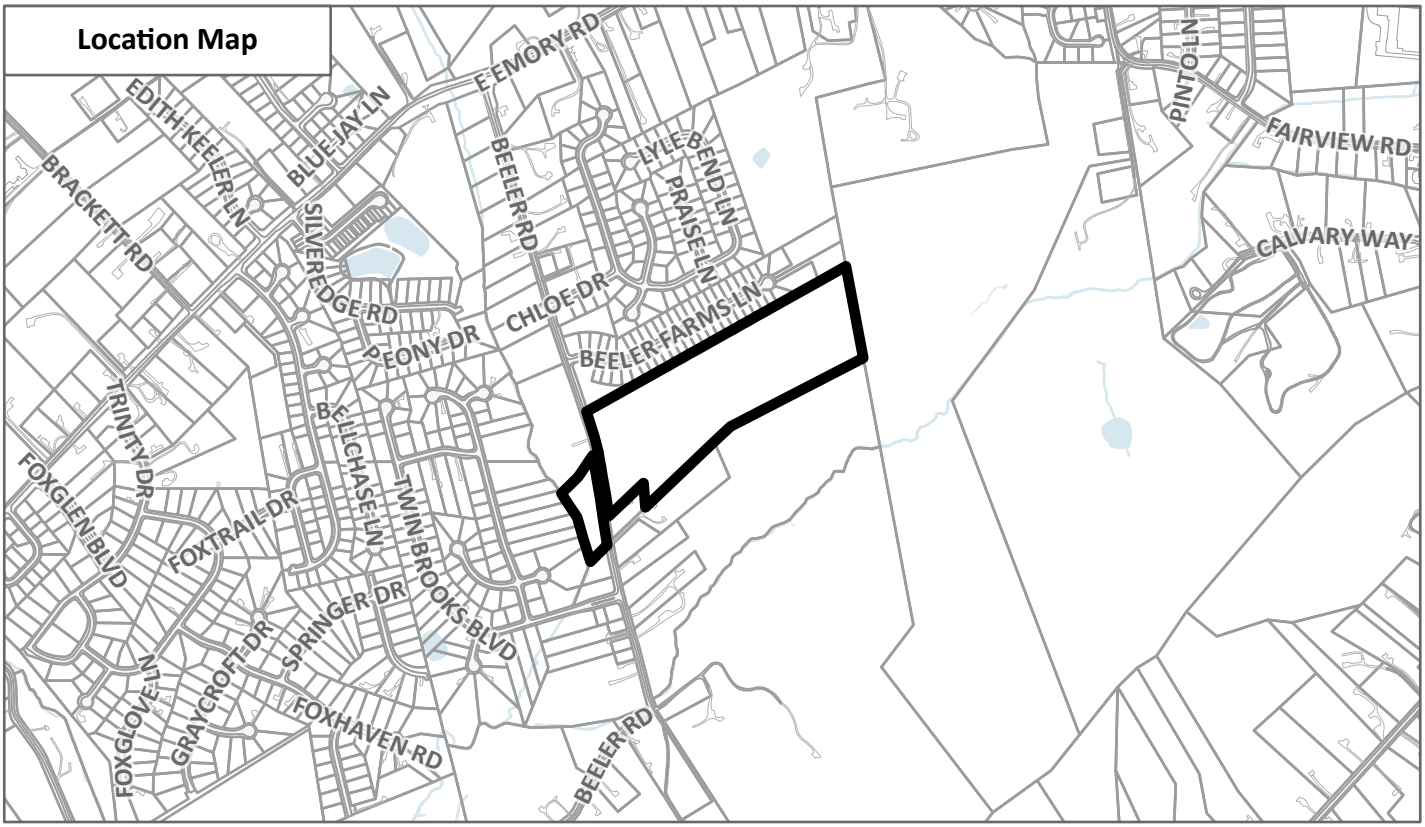
Approve since the requested variances will not create unsafe conditions.

Steve Elliott 7/5/2023

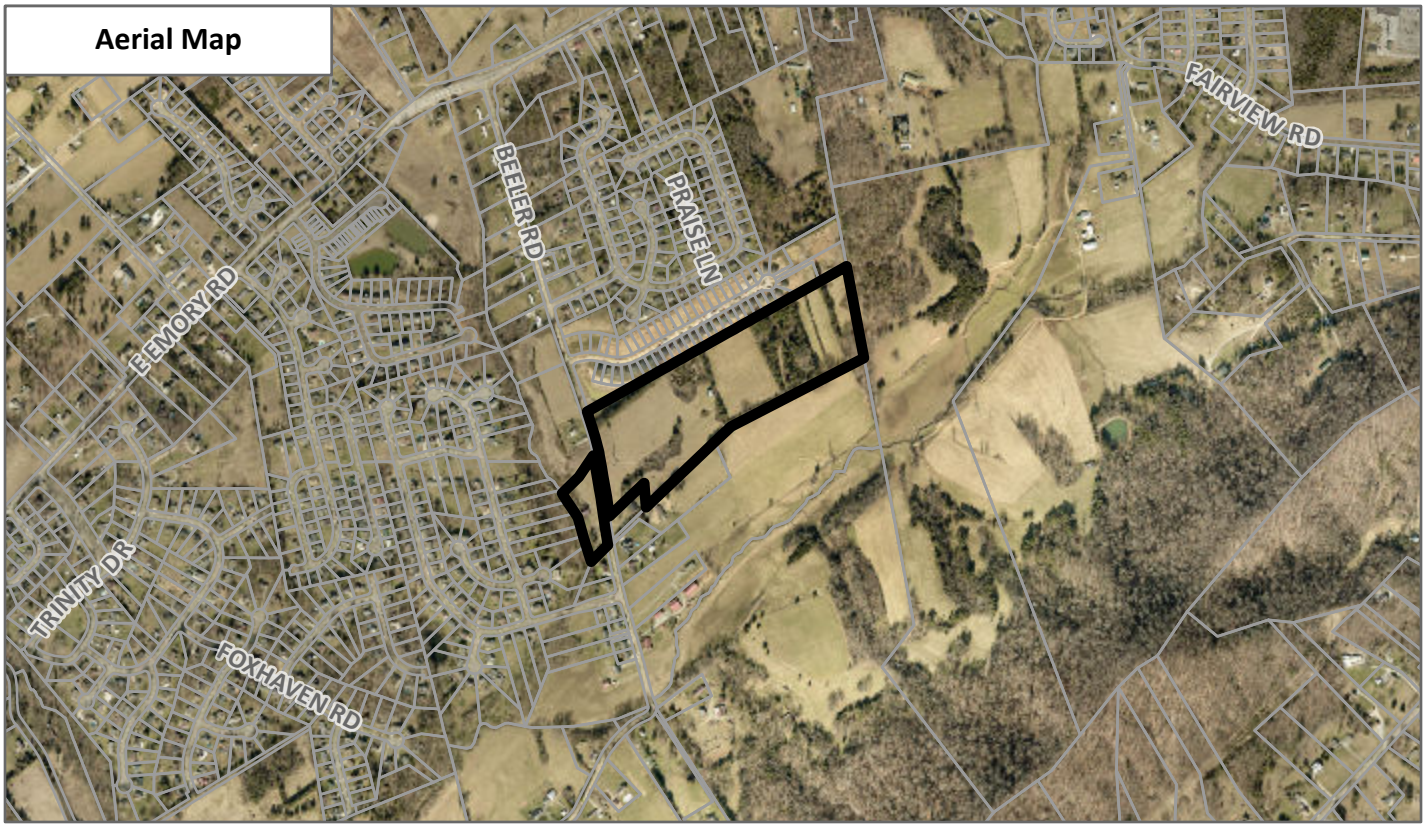
The maximum intersection grade is 2% where there is a pedestrian crosswalk

Exhibit A. Contextual Images

Location Map



Aerial Map

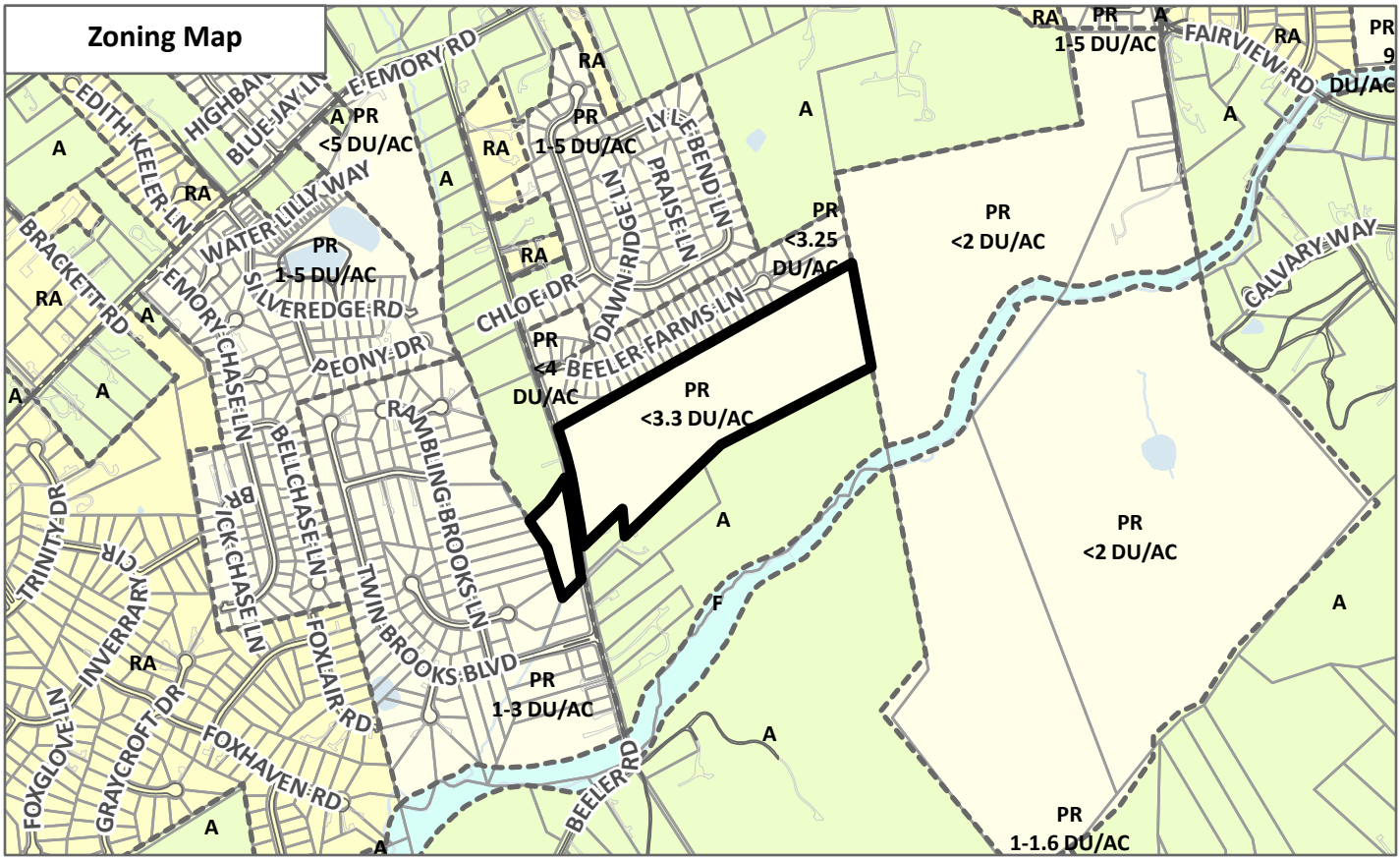


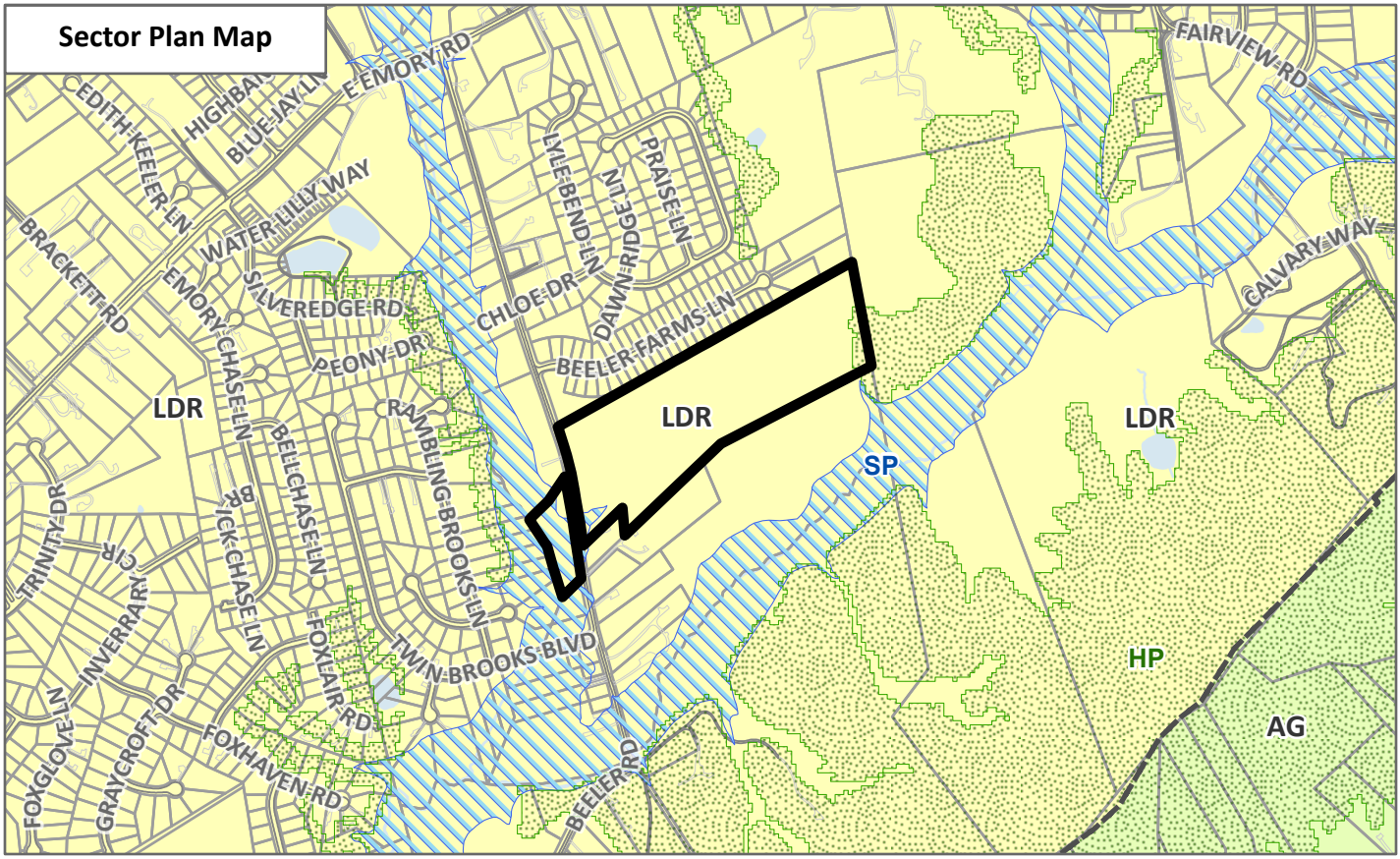
CONTEXTUAL MAPS 1 **1-E-23-DP / 1-SF-23-C**

Case boundary

0 1,000
Feet

N





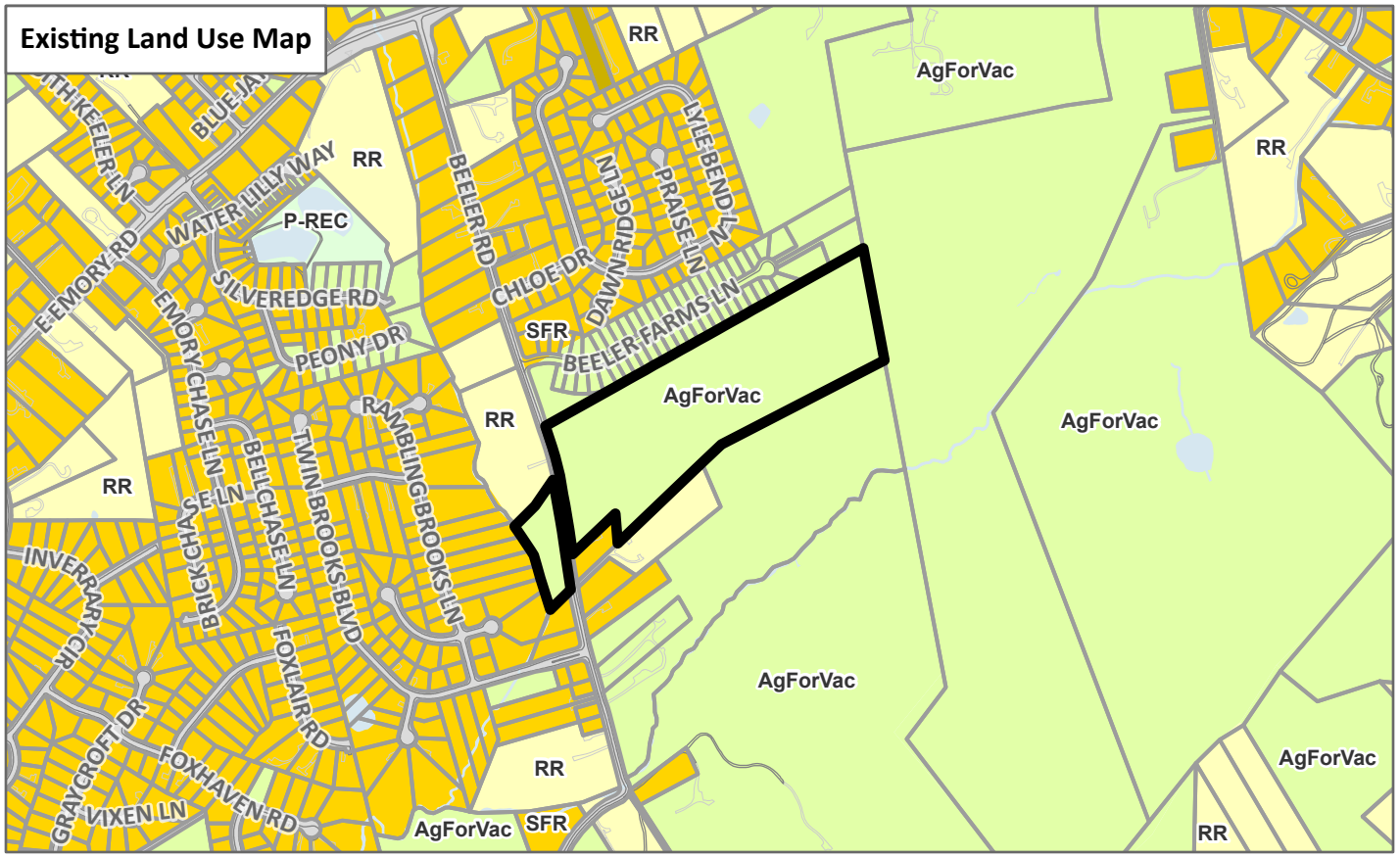
CONTEXTUAL MAPS 2

1-E-23-DP / 1-SF-23-C

Case boundary

0 1,000 Feet

N



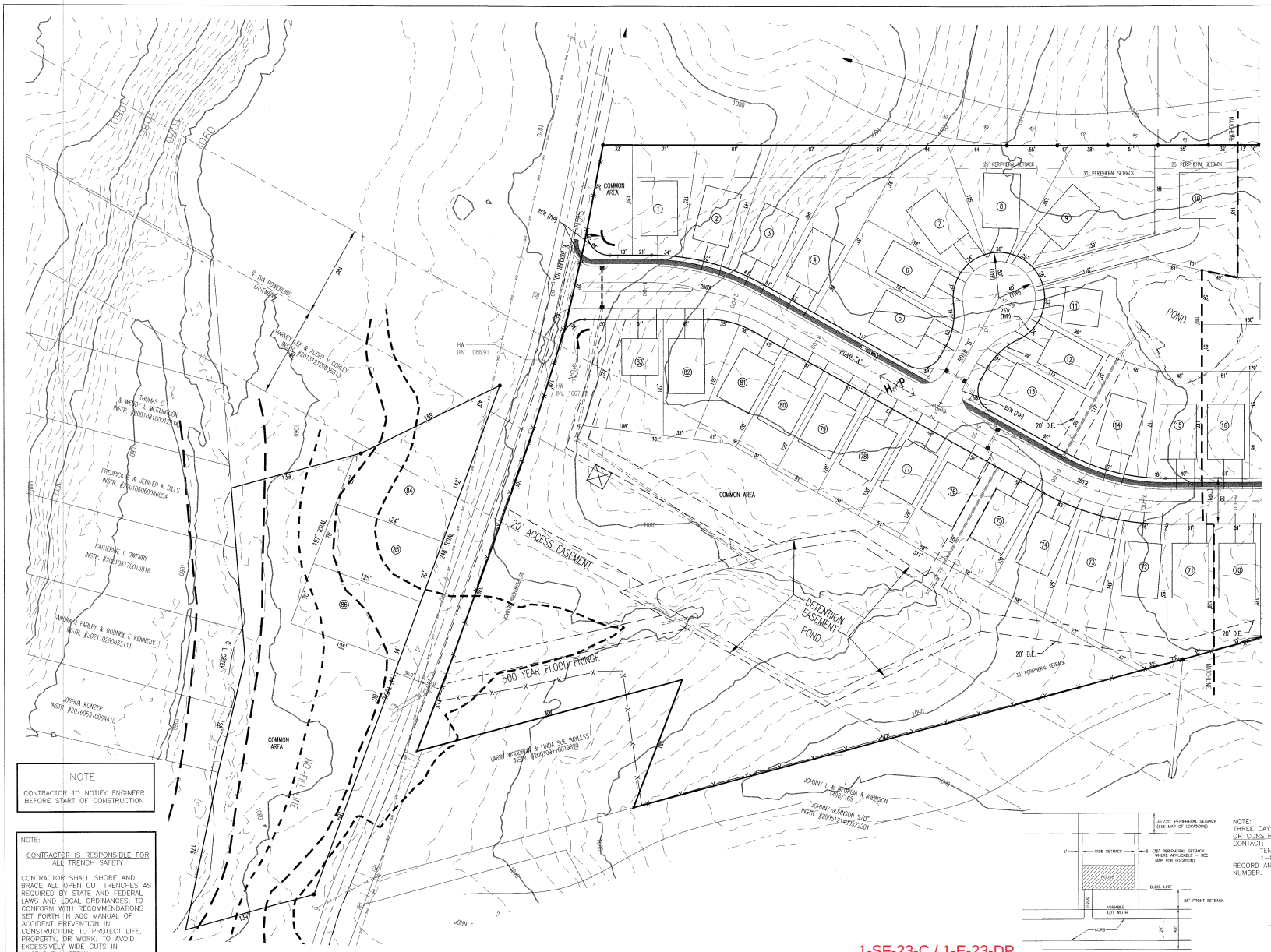
CONTEXTUAL MAPS 3 **1-E-23-DP / 1-SF-23-C**

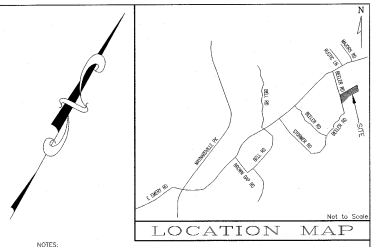
Case boundary

0 1,000

Feet

N





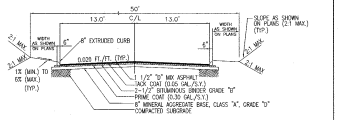
LOCATION MAP

NOTES:

1. ALL DIMENSIONS ARE SCALED AND SUBJECT TO CHANGE ON THE FINAL PLAT.
2. A 10' DRAINAGE, UTILITY AND CONSTRUCTION EASEMENT EXISTS INSIDE ALL EXTERIOR LOT LINES AND ROAD LINES, 5' EACH SIDE OF INTERIOR ROAD LINES.
3. A 15' UTILITY EASEMENT EXISTS 7.5' EACH SIDE OF CENTERLINE OF SANITARY SEWER AS INSTALLED.
4. THIS PROPERTY CONTAINS APPROXIMATELY 27.65 ACRES SUBDIVIDED INTO 86 SINGLE FAMILY DETACHED LOTS AND 5 COMMON AREAS.
5. THIS PROPERTY IS ZONED PR UP TO 3.3 UNITS PER ACRE.
6. ALL ROAD PROFILES ARE BASED ON BHM&P FIELD SURVEY.
7. UTILITIES:
   SEWER: NORTHEAST KNOX UTILITY DISTRICT
   WATER: HALLSDALE POWELL UTILITY DISTRICT
   ELECTRIC: KNOXVILLE UTILITIES BOARD
   GAS: KNOXVILLE UTILITIES BOARD
   TELEPHONE: 865 TELECOM
8. BOUNDARY BY BHM&P.
9. NO BUILDINGS OR STRUCTURES ALLOWED WITHIN THE TVA POWERLINE EASEMENT.
8. VARIANCE APPROVED BY KNOXVILLE/KNOX COUNTY PLANNING:
   a. REDUCE THE MINIMUM VERTICAL CURVE ON ROAD "A" FROM K=25 TO K=15 AT STA. 0+75
   b. REDUCE HORIZONTAL CURVE RADIUS FROM 250' TO 150', STA 2+25, ROAD "D".
9. GEOTECHNICAL ENGINEER SHALL CERTIFY THE SLOPE STABILITY ON ALL FILL SLOPES.
10. ALTERNATE DESIGN STANDARDS APPROVED BY KNOX COUNTY ENGINEERING AND PUBLIC WORKS ARE AS FOLLOWS:
   A. INCREASE THE MAXIMUM INTERSECTION GRADE FROM 1% TO 3% AT THE INTERSECTION OF ROAD "A" AT BEELER ROAD
   B. INCREASE THE MAXIMUM INTERSECTION GRADE FROM 1% TO 3% AT THE INTERSECTION OF ROAD "B" AT ROAD "A"
   C. INCREASE THE MAXIMUM INTERSECTION GRADE FROM 1% TO 2% AT THE INTERSECTION OF ROAD "C" AT ROAD "A"
   D. INCREASE THE MAXIMUM INTERSECTION GRADE FROM 1% TO 2.04% AT THE INTERSECTION OF ROAD "D" AT ROAD "A"
11. ALL LOTS ARE TO HAVE ACCESS FROM THE INTERNAL STREETS ONLY, EXCEPT LOTS 84–86
12. A TURNAROUND WILL BE REQUIRED ON EACH DRIVEWAY FOR LOTS 84–86
13. NEIGHBORHOOD ENTRANCE SIGNS ARE TO MEET THE REQUIREMENTS OF SECTION 3.90 (SIGNS, BILLBOARDS AND OTHER ADVERTISING STRUCTURES) OF THE KNOX COUNTY ZONING ORDINANCE
14. A REPORT BY GEOSERVICES HAS DETERMINED THAT THE POND IS NOT A SINKHOLE AND NO BUFFERS ARE REQUIRED.
15. BUILDING SETBACKS:

    FRONT.....20'
    SIDE.....5'
    REAR.....15' (UNLESS CONTROLLED BY A 35' OR 25' PERIPHERAL SETBACK – SEE MAP FOR LOCATIONS)

16. NO STRUCTURES ARE ALLOWED WITHIN TVA POWERLINE EASEMENT.
17. THE DEVELOPER WILL INSTALL A TEMPORARY TURNAROUND AT THE TERMINUS OF ROAD "D".
18. SIGHT DISTANCE EASEMENT ACROSS LOT 53 RESTRICTS THE PLACEMENT OF VEGETATION OR OTHER STRUCTURES WITHIN THE EASEMENT THAT WOULD IMPEDE THE VISION OF THE TRAVELING PUBLIC.



TYPICAL ROAD SECTION
THRU 50' ROAD
"PUBLIC ROAD"

NOTE:
CONTRACTOR TO NOTIFY ENGINEER BEFORE START OF CONSTRUCTION

NOTE:
CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH SAFETY

CONTRACTOR SHALL SHORE AND BRACE ALL OPEN CUT TRENCHES AS REQUIRED BY STATE AND FEDERAL LAWS AND LOCAL ORDINANCES; TO CONFORM WITH RECOMMENDATIONS SET FORTH IN ACC MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION; TO PROTECT LIFE, PROPERTY, OR WORK; TO AVOID EXCESSIVELY WIDE CUTS IN UNSTABLE MATERIAL.

OSHA RULES SHALL BE ABIDED BY.

TYPICAL LOT LAYOUT
FOR SINGLE FAMILY DETACHED

NOTE:
THREE DAYS PRIOR TO ANY EARTHWORK OR CONSTRUCTION CONTRACTOR MUST CONTACT:
TENNESSEE ONE-CALL
1-800-351-1111
RECORD AND SAVE YOUR CONFIRMATION NUMBER.

CERTIFICATION OF CONCEPT PLAN BY REGISTERED ENGINEER:

I HEREBY CERTIFY THAT I AM A REGISTERED ENGINEER, LICENSED TO PRACTICE ENGINEERING UNDER THE LAWS OF THE STATE OF TENNESSEE. I FURTHER CERTIFY THAT THE PLAN AND ACCOMPANYING DRAWINGS, DOCUMENTS AND STATEMENTS CONFORM, TO THE BEST OF MY KNOWLEDGE, TO ALL APPLICABLE PROVISIONS OF THE KNOXVILLE-KNOX COUNTY SUBDIVISION REGULATIONS EXCEPT AS MAY BE REMEDIED AND DESCRIBED IN A REPORT TO THE METROPOLITAN PLANNING COMMISSION.

David B. Hamby
PROFESSIONAL ENGINEER

TENNESSEE LICENSE NO. 101265 DATE: 8/30/23

DAVID B. HAMBY
REGISTERED PROFESSIONAL ENGINEER
No. 101265
STATE OF TENNESSEE
8/30/23

OWNER/DEVELOPER
MESANA INVESTMENTS, LLC
1515 ASHLAND SPRINGS WAY
KNOXVILLE, TN 37922
(865) 588-6472

1-SF-23-C / 1-E-23-DP
Revised: 8/30/2023

BATSON, HIMES, NORVELL & POE
REGISTERED ENGINEERS & LAND SURVEYORS
4334 PAPERMILL DRIVE
KNOXVILLE, TENNESSEE 37909
PHONE: (865) 588-6472
FAX: (865) 588-6473
email@bhnp.com

DESIGNED DBH
DRAWN SEW
CHECKED DBH

NO.	DATE	REVISION	APPR.
1	8-30-23	KKCP COMMENTS	

SCALE
HORIZONTAL: 1"= 50'
VERTICAL: 2' INTERVAL

DATE
06/16/23

0' 50' 100' 150' 200'
1"=50'

SITE PLAN FOR
MESANA INVESTMENTS–BEELER ROAD
TAX MAP 29 PARCEL 188.03
DISTRICT 6, KNOX COUNTY, TENNESSEE

25418–SP1

SHEET 1 OF 3 SHEET(S)

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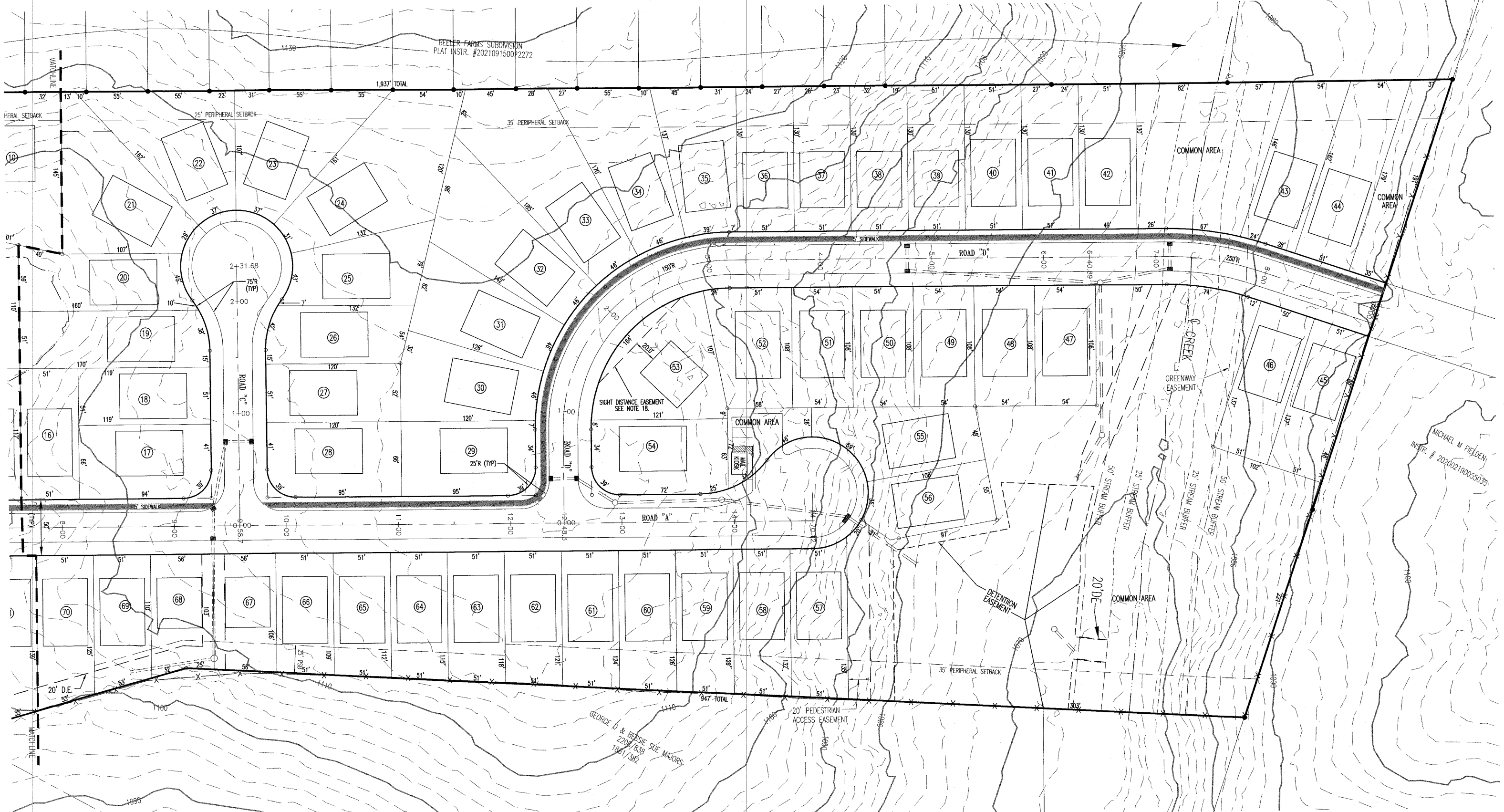

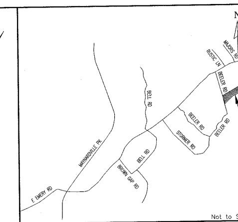

LOCATION MAP

NOTES:

1. ALL DIMENSIONS ARE SCALED AND SUBJECT TO CHANGE ON THE FINAL PLAT.
2. A 10' DRAINAGE, UTILITY AND CONSTRUCTION EASEMENT EXISTS INSIDE ALL EXTERIOR LOT LINES AND ROAD LINES, 5' EACH SIDE OF INTERIOR ROAD LINES.
3. A 15' UTILITY EASEMENT EXISTS 7.5' EACH SIDE OF CENTERLINE OF SANITARY SEWER AS INSTALLED.
4. THIS PROPERTY CONTAINS APPROXIMATELY 27.65 ACRES SUBDIVIDED INTO 86 SINGLE FAMILY DETACHED LOTS AND 5 COMMON AREAS.
5. THIS PROPERTY IS ZONED PR UP TO 3.3 UNITS PER ACRE.
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8. BOUNDARY BY BHN&P.
9. NO BUILDINGS OR STRUCTURES ALLOWED WITHIN THE TVA POWERLINE EASEMENT.
8. VARIANCE APPROVED BY KNOXVILLE/KNOX COUNTY PLANNING:
   a. REDUCE THE MINIMUM VERTICAL CURVE ON ROAD "A" FROM K=25 TO K=15 AT STA. 0+75
   b. REDUCE HORIZONTAL CURVE RADIUS FROM 250' TO 150', STA 2+25, ROAD "D".
9. GEOTECHNICAL ENGINEER SHALL CERTIFY THE SLOPE STABILITY ON ALL FILL SLOPES.
10. ALTERNATE DESIGN STANDARDS APPROVED BY KNOX COUNTY ENGINEERING AND PUBLIC WORKS ARE AS FOLLOWS:
   A. INCREASE THE MAXIMUM INTERSECTION GRADE FROM 1% TO 3% AT THE INTERSECTION OF ROAD "A" AT BEELER ROAD
   B. INCREASE THE MAXIMUM INTERSECTION GRADE FROM 1% TO 3% AT THE INTERSECTION OF ROAD "B" AT ROAD "A"
   C. INCREASE THE MAXIMUM INTERSECTION GRADE FROM 1% TO 2% AT THE INTERSECTION OF ROAD "C" AT ROAD "A"
   D. INCREASE THE MAXIMUM INTERSECTION GRADE FROM 1% TO 2.04% AT THE INTERSECTION OF ROAD "D" AT ROAD "A"
11. ALL LOTS ARE TO HAVE ACCESS FROM THE INTERNAL STREETS ONLY, EXCEPT LOTS 84-86
12. A TURNAROUND WILL BE REQUIRED ON EACH DRIVEWAY FOR LOTS 84-86
13. NEIGHBORHOOD ENTRANCE SIGNS ARE TO MEET THE REQUIREMENTS OF SECTION 3.90 (SIGNS, BILLBOARDS AND OTHER ADVERTISING STRUCTURES) OF THE KNOX COUNTY ZONING ORDINANCE
14. A REPORT BY GEOSERVICES HAS DETERMINED THAT THE POND IS NOT A SINKHOLE AND NO BUFFERS ARE REQUIRED.
15. BUILDING SETBACKS:

   FRONT......20'
   SIDE...........5'
   REAR.........15'(UNLESS CONTROLLED BY A 35' OR 25' PERIPHERAL SETBACK – SEE MAP FOR LOCATIONS)
16. NO STRUCTURES ARE ALLOWED WITHIN TVA POWERLINE EASEMENT.
17. THE DEVELOPER WILL INSTALL A TEMPORARY TURNAROUND AT THE TERMINUS OF ROAD "D".
18. SIGHT DISTANCE EASEMENT ACROSS LOT 53 RESTRICTS THE PLACEMENT OF VEGETATION OR OTHER STRUCTURES WITHIN THE EASEMENT THAT WOULD IMPEDE THE VISION OF THE TRAVELING PUBLIC.

DAVID B. HARBIN — REGISTERED PROFESSIONAL ENGINEER — AGRICULTURE — COMMERCE — NO. 101265 — STATE OF TENNESSEE
8/30/23

CERTIFICATION OF CONCEPT PLAN BY REGISTERED ENGINEER.

I HEREBY CERTIFY THAT I AM A REGISTERED ENGINEER, LICENSED TO PRACTICE ENGINEERING UNDER THE LAWS OF THE STATE OF TENNESSEE. I FURTHER CERTIFY THAT THE PLAN AND ACCOMPANYING DRAWINGS, DOCUMENTS AND STATEMENTS CONFORM, TO THE BEST OF MY KNOWLEDGE, TO ALL APPLICABLE PROVISIONS OF THE KNOXVILLE-KNOX COUNTY SUBDIVISION REGULATIONS EXCEPT AS HAS BEEN ITEMIZED AND DESCRIBED IN A REPORT FILED WITH THE METROPOLITAN PLANNING COMMISSION.

PROFESSIONAL ENGINEER

TENNESSEE LICENSE NO. 101265 DATE: 8/30/23

NOTE:

CONTRACTOR TO NOTIFY ENGINEER BEFORE START OF CONSTRUCTION

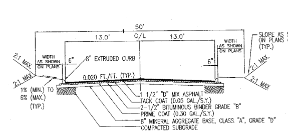
NOTE:

CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH SAFETY

CONTRACTOR SHALL SHORE AND BRACE ALL OPEN CUT TRENCHES AS REQUIRED BY STATE AND FEDERAL LAWS AND LOCAL ORDINANCES; TO CONFORM WITH RECOMMENDATIONS SET FORTH IN AGC MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION; TO PROTECT LIFE, PROPERTY, OR WORK; TO AVOID EXCESSIVELY WIDE CUTS IN UNSTABLE MATERIAL.

OSHA RULES SHALL BE ABIDED BY.

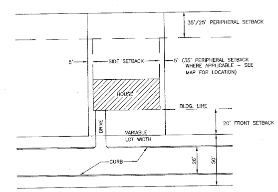
NOTE:
THREE DAYS PRIOR TO ANY EARTHWORK OR CONSTRUCTION CONTRACTOR MUST CONTACT:
TENNESSEE ONE-CALL
1-800-351-1111
RECORD AND SAVE YOUR CONFIRMATION NUMBER.



TYPICAL ROAD SECTION
THRU 50' ROAD
"PUBLIC ROAD"

Revised: 8/30/2023

1-SF-23-C/1-E-23-DP



TYPICAL LOT LAYOUT
FOR SINGLE FAMILY DETACHED

OWNER/DEVELOPER
MESANA INVESTMENTS, LLC
1515 ASHLAND SPRINGS WAY
KNOXVILLE, TN 37922
(865) 588-6472

BATSON, HIMES, NORVELL & POE
REGISTERED ENGINEERS & LAND SURVEYORS
4334 PAPERMILL DRIVE
KNOXVILLE, TENNESSEE 37909
PHONE: (865) 588-6472
FAX: (865) 588-6473
email@bhn-p.com

DESIGNED DBH									
DRAWN SEW									
CHECKED DBH	1	8-30-23	KKCP COMMENTS						
	NO.	DATE	REVISION	APPR.	NO.	DATE	REVISION	APPR.	

SCALE
HORIZONTAL: 1"= 50'
VERTICAL: 2' INTERVAL

DATE
06/16/23

0' 50' 100' 150' 200'
1"=50'

SITE PLAN FOR
MESANA INVESTMENTS-BEELER ROAD
TAX MAP 29 PARCEL 188.03
DISTRICT 6, KNOX COUNTY, TENNESSEE

25418-SP2

SHEET 2 OF 3 SHEET(S)

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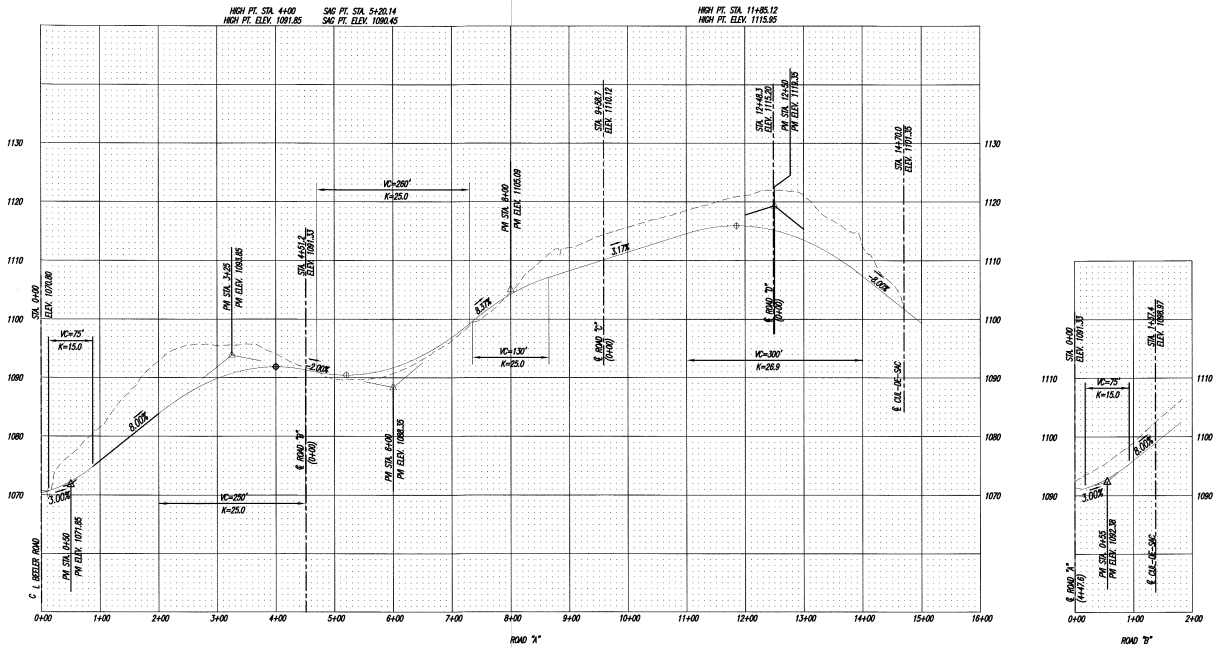
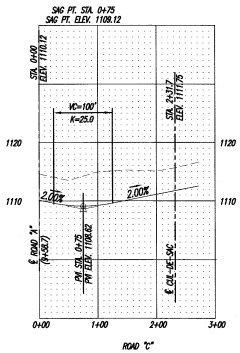
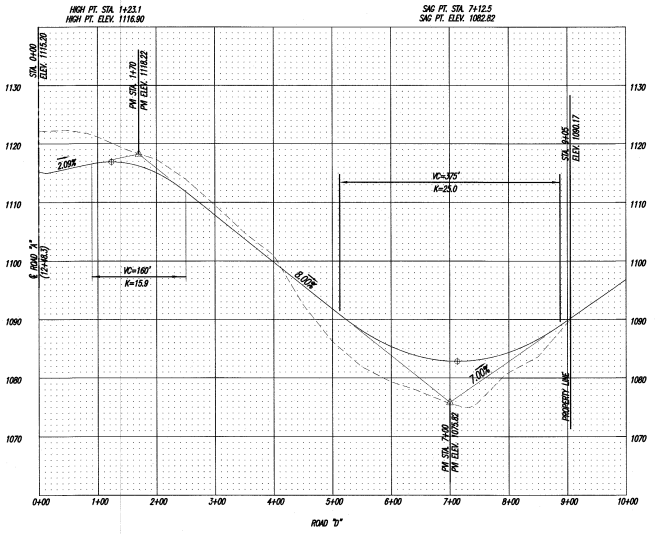
NOTE:
THREE DAYS PRIOR TO ANY EARTHWORK OR CONSTRUCTION CONTRACTOR MUST CONTACT:
TENNESSEE ONE-CALL
1-800-351-1111
RECORD AND SAVE YOUR CONFIRMATION NUMBER.

NOTE:
CONTRACTOR TO NOTIFY ENGINEER BEFORE START OF CONSTRUCTION

NOTE:
CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH SAFETY
CONTRACTOR SHALL SHORE AND BRACE ALL OPEN CUT TRENCHES AS REQUIRED BY STATE AND FEDERAL LAWS AND LOCAL ORDINANCES; TO CONFORM WITH RECOMMENDATIONS SET FORTH IN AGC MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION; TO PROTECT LIFE, PROPERTY, OR WORK; TO AVOID EXCESSIVELY WIDE CUTS IN UNSTABLE MATERIAL.
OSHA RULES SHALL BE ABIDED BY.







Horizontal Scale = 1:100
Vertical Scale = 1:10

1-SF-23-C / 1-E-23-DP
Revised: 8/30/2023

OWNER/DEVELOPER
MESANA INVESTMENTS, LLC
1515 ASHLAND SPRINGS WAY
KNOXVILLE, TN 37922
(865) 588-6472

DAVID B. HARBIN
REGISTERED
NO. 101253
STATE OF TENNESSEE
8/30/23

BATSON, HIMES, NORVELL & POE
REGISTERED ENGINEERS & LAND SURVEYORS
4334 PAPERMILL DRIVE
KNOXVILLE, TENNESSEE 37909
PHONE: (865) 588-6472
FAX: (865) 588-6473
email@bhn-p.com

DESIGNED DBH
DRAWN SEW
CHECKED DBH

NO.	DATE	REVISION	APPR.
1	8-30-23	KKCP COMMENTS	

SCALE
AS NOTED

DATE
06/16/23

ROAD PROFILE FOR
MESANA INVESTMENTS-BEELER ROAD
TAX MAP 29 PARCEL 188.03
DISTRICT 6, KNOX COUNTY, TENNESSEE

25418-RP
SHEET 3 OF 3 SHEET(S)
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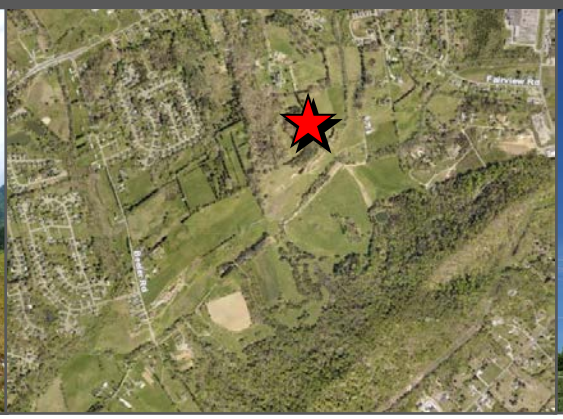
EXHIBIT A

AJAX ENGINEERING

CIVIL ENGINEERING / TRAFFIC ENGINEERING

Transportation Impact Study
Fairview Road Subdivision &
Beeler Road Subdivision
Knox County, Tennessee



Revised December 22, 2022

Prepared for:
Eagle Bend Development
Attn: Scott Davis
P.O. Box 11315
Knoxville, TN 37939

1-SF-23-C / 1-E-23-DP
and revision to:
11-SA-22-C / 11-A-22-DP
(subdivisions combined)

Version Date: 12/22/2022

ROBERT WILLIAM JAX III
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 105730
STATE OF TENNESSEE

12/22/2022

11812 Black Road / Knoxville, TN 37932 • (865) 556-0042 • ajaxengineering@gmail.com

CONCLUSIONS & RECOMMENDATIONS

The following is an overview of recommendations to minimize the transportation impacts of the proposed Fairview Road Subdivision with the other adjacent subdivisions on the transportation system while attempting to achieve an acceptable traffic flow and safety level.

Beeler Road at Beeler Farms Lane: The projected 2027 level of service calculations for this intersection resulted in excellent LOS and low vehicle delays. The construction of left and right-turn lanes on Beeler Road for entering traffic into Beeler Farms Subdivision at Beeler Farms Lane is not warranted. The single exit lane on Beeler Farms Lane at Beeler Road will be sufficient for the residents of Beeler Farms Subdivision.

Beeler Road at Beeler Road Subdivision Entrance: The projected 2027 level of service calculations for this intersection resulted in excellent LOS and low vehicle delays. The construction of left and right-turn lanes on Beeler Road for entering traffic into the Beeler Road Subdivision is not warranted. The single exit lane on the Beeler Road Subdivision entrance at Beeler Road will be sufficient for the residents of the Beeler Road Subdivision and the Fairview Road Subdivision.

2a) It is recommended that a Stop Sign (R1-1) be installed, and a 24" white stop bar be applied to the Beeler Road Subdivision entrance approach at Beeler Road. This Stop Sign (R1-1) and stop bar will control the exiting motorists from both Beeler Road and Fairview Road Subdivisions at Beeler Road. The stop bar should be applied a minimum of 4 feet away from the edge of Beeler Road and placed at the desired stopping point that maximizes the sight distance.

2b) Sight distances at the Beeler Road Subdivision entrance approach must not be impacted by future landscaping, signage, or vegetation. A visual inspection determined that the intersection and stopping sight distances are available. Based on a posted speed limit of 25-mph on Beeler Road, the required intersection sight distance is 250 feet looking in each direction at each entrance. The stopping sight distance is calculated to be 155 feet to the north and the south at the Beeler Road Subdivision entrance location. The site designer must ensure that these sight distances are accounted for and provided in the design plans.

2c) Knox County requires specific minimum spacing between intersecting streets. Beeler Road is designated as a Major Collector at the new and proposed entrance locations on Beeler Road, and the minimum intersection spacing is 300 feet.

The proposed spacing between the proposed entrance road for Beeler Road Subdivision and Beeler Farms Lane in Beeler Farms Subdivision will be approximately 500 feet from centerline to centerline, greater than the Knox County minimum.

3 **East Emory Road at Beeler Road**: The existing 2022 and projected 2027 level of service calculations for the intersection of East Emory Road at Beeler Road resulted in extremely high vehicle delays for the northbound approach of Beeler Road in the AM and PM peak hours.

3a) The previous Transportation Impact Study (TIS) for the adjacent proposed Beeler Road Subdivision recommended an eastbound right-turn lane with a storage length of 25 feet and a taper length of 75 feet on East Emory Road at Beeler Road. This eastbound right-turn lane is expected to be constructed as an interim remediation before the TDOT project widens East Emory Road from 2 to 5 lanes. When East Emory Road is reconstructed, this eastbound right-turn lane can be absorbed into one of the new thru lanes, and a separate right-turn lane will not be required when the TDOT project is completed in 2030. Providing an eastbound right-turn lane prior to the reconstruction will slightly reduce the vehicle queue and delay for northbound motorists on Beeler Road attempting to turn left and right onto East Emory Road.

3b) As determined in this study and the TIS for the Beeler Road Subdivision, a westbound left-turn lane on East Emory Road at Beeler Road was warranted based on the existing and projected traffic volumes. However, it was determined in the previous TIS that the construction of a westbound left-turn lane would not be critically needed at this time. Any construction to install a "temporary" westbound left-turn lane on East Emory Road will be shortly replaced by the TDOT widening project. In the interim, a "No Passing on Shoulder" (R4-18) sign was recommended in the previous study to be installed on East Emory Road. This recommendation was offered to address the illegal movements committed by some motorists occasionally using the shoulder to pass stopped westbound left-turning vehicles on East Emory Road at Beeler Road.

All the calculated high vehicle delays at this intersection are projected to only occur for the northbound motorists on Beeler Road attempting to turn left and right on East Emory Road. Providing a temporary westbound left-turn lane at this time would only primarily benefit westbound thru vehicles on East Emory Road since they would not be impeded by stopped vehicles attempting to turn left onto Beeler Road. Westbound left turns from East Emory Road onto Beeler Road were calculated to operate with low vehicle delays in the existing and projected 2027 conditions. Some safety benefits would be provided if a left-turn lane on East Emory Road were provided at this time, but it would not provide significant vehicle delay reductions for this movement since it is

directly correlated to the number of opposing vehicles and is calculated with good LOS and low vehicle delays.

3c) The northbound approach of Beeler Road in 2027 was projected to operate with extremely high delays for the left and right-turning motorists. In addition to the recommended eastbound right-turn lane on East Emory Road from the previous TIS, it is recommended that a northbound right-turn lane with 100 feet of storage on Beeler Road be constructed. The existing and projected right turns at the northbound approach of Beeler Road at East Emory Road are much higher than left turns. Adding an exclusive right-turn lane on this approach would reduce delays for most northbound motorists. Several right-turning motorists on Beeler Road were observed during the traffic count using the shoulder to bypass vehicles waiting to turn left onto East Emory Road and avoid the delay. If not constructed, it is anticipated that more right-turning motorists will be tempted to use the shoulder to avoid excessive delays and queues. The recommended eastbound and northbound right-turn lanes at this intersection should be coordinated in design and construction to reduce costs and construction time. These lanes should be constructed once the Beeler Road and Fairview Road Subdivisions commence construction to provide additional road capacity and moderate vehicle delays and queues until the TDOT widening project is completed. The northbound right-turn lane on Beeler Road should be marked with a white turn arrow and lane markings, as shown in TDOT Standard Drawing T-M-4.

Separate left and right lanes at unsignalized intersections operating under stop conditions can be an issue due to motorists' potential to compete for sight distance. However, with the existing horizontal alignment on East Emory Road, it is anticipated that a northbound right-turn lane on Beeler Road could be constructed to allow left and right-turning motorists to see oncoming vehicles on East Emory Road in both directions freely without being obstructed by other vehicles.

Adding a northbound right-turn lane on Beeler Road would reduce the overall intersection delay and the excessive queue lengths on the northbound approach by spreading the vehicles into two lanes. The LOS calculation results of adding a northbound right-turn lane on Beeler Road with the previously recommended eastbound right-turn lane on East Emory Road in the projected 2027 conditions are shown in Table 10. The worksheets for these results are provided in Appendix F.

TABLE 10
2027 INTERSECTION CAPACITY ANALYSIS RESULTS -
PROJECTED TRAFFIC CONDITIONS (WITH THE PROJECT)
INCLUDING RECOMMENDED EASTBOUND AND NORTHBOUND RIGHT-TURN LANES

INTERSECTION	TRAFFIC CONTROL	APPROACH/ MOVEMENT	AM PEAK			PM PEAK		
			LOS	DELAY (seconds)	V/C	LOS	DELAY (seconds)	V/C
East Emory Road (EB & WB) at Beeler Road (NB)	STOP Unsignalized	Northbound Left	F	108.8	0.769	F	611.8	1.912
		Northbound Right	C	16.0	0.389	C	19.5	0.354
		Westbound Left/Thru	A	8.9	0.074	B	11.2	0.217

Note: All analyses were calculated in Synchro 11 software and reported using HCM 2010 intersection methodology
[a] Level of Service
[b] Average Delay (sec/vehicle)
[c] Volume-to-Capacity Ratio

Since the projected northbound left-turn lane is computed to remain at LOS F even with the addition of an eastbound and northbound right-turn lane, the projected vehicle queues were calculated. An additional software program was used to calculate the projected 2027 AM and PM peak hour vehicle queues at the studied intersection with the addition of the recommended eastbound and northbound right-turn lanes. The previously mentioned Synchro Traffic Software includes SimTraffic. The Synchro portion of the software performs the macroscopic calculations for intersections, and SimTraffic performs micro-simulation and animation of vehicular traffic. SimTraffic (Version 11) software was utilized to estimate the projected vehicle queues.

The 95th percentile vehicle queue is the recognized measurement in the traffic engineering profession as the design standard used when considering vehicle queue lengths. A 95th percentile vehicle queue length means 95% certainty that the vehicle queue will not extend beyond that point. The calculated vehicle queue results were based on averaging the outcome obtained during ten traffic simulations. The calculated 95th percentile vehicle queue lengths at the intersection for the 2027 projected conditions with an eastbound and northbound right-turn lane are shown in Table 11. The vehicle queue worksheet results from the SimTraffic software are in Appendix J. As shown in Table 11, the longest vehicle queues will occur in the PM peak hour. In particular, the longest northbound left-turn queue is calculated to be 145 feet. Thus, even though the northbound left-turn lane will experience high vehicle delays, as shown in Table 10, the calculated 95th percentile queue is projected to be just under six passenger cars, assuming a length and spacing of 25 feet per vehicle.

TABLE 11
TURN LANE STORAGE & VEHICLE QUEUE SUMMARY -
2027 PROJECTED TRAFFIC CONDITIONS (WITH THE PROJECT)
INCLUDING RECOMMENDED EASTBOUND AND NORTHBOUND RIGHT-TURN LANES

INTERSECTION	APPROACH/ MOVEMENT	PROPOSED STORAGE (ft)	ADEQUATE LENGTH?	95th PERCENTILE QUEUE LENGTH (ft)	
				AM PEAK HOUR	PM PEAK HOUR
East Emory Road (EB & WB) at Beeler Road (NB)	Eastbound Right	75	Yes	5	20
	Westbound Left/Thru	n/a	n/a	105	216
	Northbound Left	n/a	n/a	72	145
	Northbound Right	100	Yes	79	99

Note: 95th percentile queues were calculated in SimTraffic 11 software

3d) This report has determined that the documented need for separate left and right-turn lanes on East Emory Road at Beeler Road will be satisfied by the capacity provided by the future TDOT widening project in 2030. TDOT proposes widening East Emory Road from 2 to 5 lanes. This project will include two thru lanes in each direction and a center turn lane. East Emory Road will be widened to provide a center turn lane for westbound left-turns at Beeler Road, and the two thru lanes (in each direction) will eliminate the need for a separate eastbound right-turn lane at Beeler Road.

The thru volumes on East Emory Road shown in Figure 8 were increased by an annual growth factor of 1% from 2027 to 2030 to provide an analysis of the intersection in 2030 with the TDOT road widening project. These volumes are shown in Figure 9.

The eastbound right-turn volume thresholds were examined in the projected 2030 conditions to provide evidence that the need for a separate eastbound right-turn lane will be eliminated with a 5-lane roadway section. This examination included the AM and PM peak hour projected 2030 volumes on East Emory Road with five lanes, as shown in Figure 9. The worksheets from this examination are shown in Appendix I and show that a separate eastbound right-turn lane at the intersection would not be required with a 5-lane roadway section on East Emory Road with the projected 2030 traffic volumes.

The capacity and vehicle queues calculations were re-analyzed with five lanes on East Emory Road and the recommended northbound right-turn lane on Beeler Road, combined with the projected 2030 traffic volumes. The results of these calculations are

shown in Tables 12 and 13. The worksheets for these results are provided in Appendix F and J.

TABLE 12
2030 INTERSECTION CAPACITY ANALYSIS RESULTS -
PROJECTED TRAFFIC CONDITIONS (WITH THE PROJECT)
WITH TDOT WIDENING PROJECT AND NORTHBOUND RIGHT-TURN LANE ON BEELER ROAD

INTERSECTION	TRAFFIC CONTROL	APPROACH/ MOVEMENT	AM PEAK			PM PEAK		
			LOS	DELAY (seconds)	V/C	LOS	DELAY (seconds)	V/C
East Emory Road (EB & WB) at Beeler Road (NB)	STOP Unsignalized	Northbound Left	C	22.7	0.283	E	48.1	0.537
		Northbound Right	B	12.6	0.304	B	14.7	0.268
		Westbound Left	A	8.9	0.075	B	11.4	0.222

Note: All analyses were calculated in Synchro 11 software and reported using HCM 2010 intersection methodology
[a] Level of Service
[b] Average Delay (sec/vehicle)
[c] Volume-to-Capacity Ratio

As shown in Table 12, the TDOT road widening project in 2030, coupled with the recommended northbound right-turn lane on Beeler Road, will provide the necessary road capacity to mitigate the excessive vehicle delays on the northbound approach at the intersection of East Emory Road at Beeler Road.

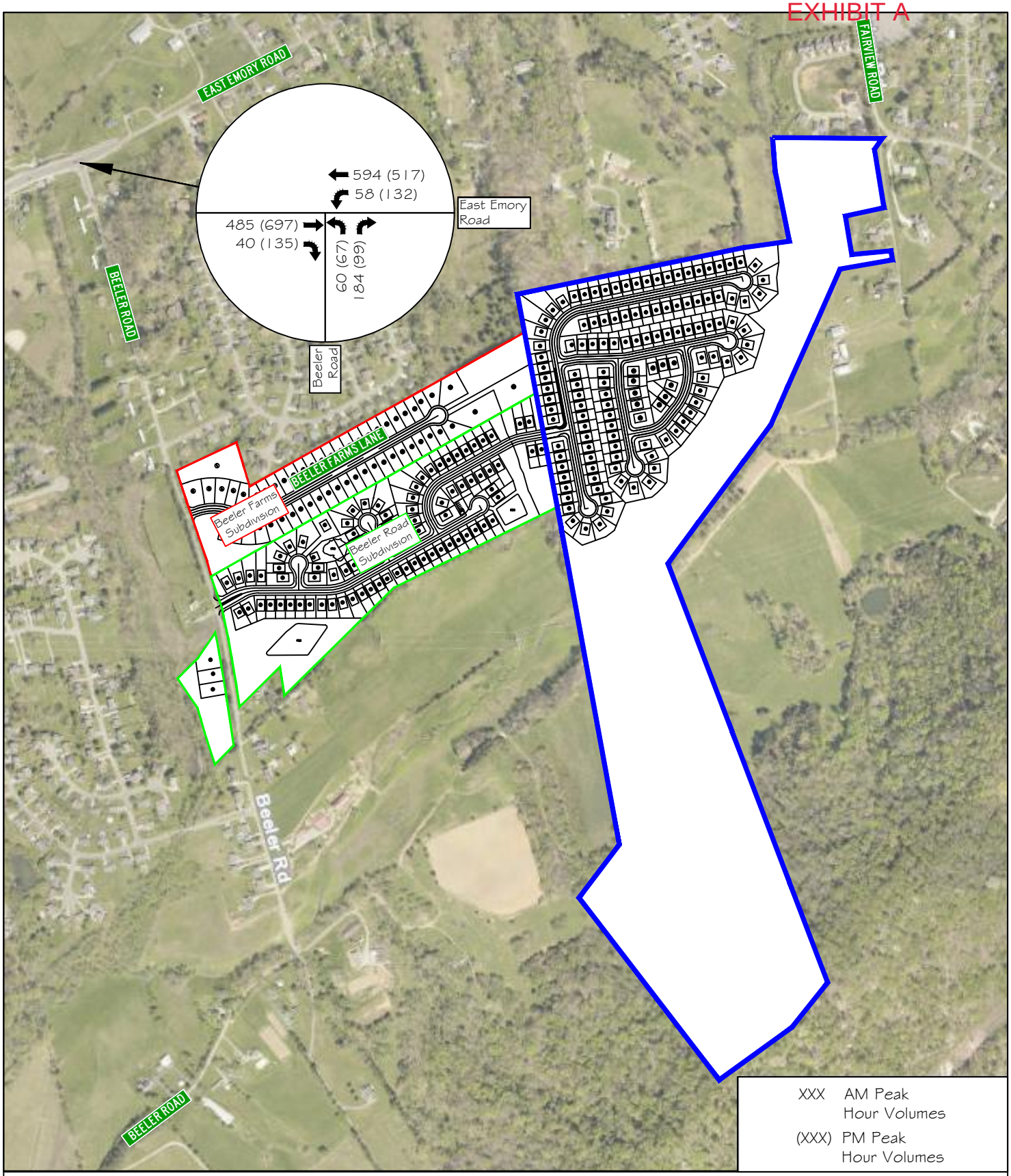
As shown in Table 13, the recommended northbound right-turn lane with 100 feet of storage will be adequate in the projected 2030 conditions since the longest 95th percentile vehicle queue is calculated to be 76 feet in the projected PM peak hour.

TABLE 13
TURN LANE STORAGE & VEHICLE QUEUE SUMMARY -
2030 PROJECTED TRAFFIC CONDITIONS (WITH THE PROJECT)
WITH TDOT WIDENING PROJECT AND NORTHBOUND RIGHT-TURN LANE ON BEELER ROAD

INTERSECTION	APPROACH/ MOVEMENT	PROPOSED STORAGE (ft)	ADEQUATE LENGTH?	95th PERCENTILE QUEUE LENGTH (ft)	
				AM PEAK HOUR	PM PEAK HOUR
East Emory Road (EB & WB) at Beeler Road (NB)	Eastbound Thru/Right	n/a	n/a	5	17
	Westbound Left	n/a	n/a	45	71
	Northbound Left	n/a	n/a	66	100
	Northbound Right	100	Yes	66	76

Note: 95th percentile queues were calculated in SimTraffic 11 software

EXHIBIT A



AJAX ENGINEERING
11812 Black Road
Knoxville, TN 37932
Phone: (865) 556-0042
Email: ajaxengineering@gmail.com

NOT TO SCALE

NORTH

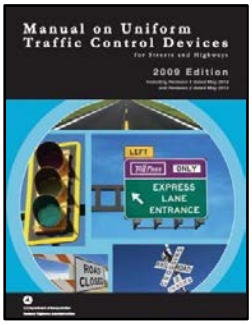
FIGURE 9

Fairview Road Subdivision

2030 Peak Hour Traffic Volumes - PROJECTED CONDITIONS (WITH THE PROJECT)

3e) As a further investigation into potential remediation for this intersection in future conditions, an evaluation was conducted with respect to traffic signal warrants.

Methodology:



The Manual on Uniform Traffic Control Devices – 2009 Edition (MUTCD) presents nine different warrants that the traffic engineering profession has developed to determine whether a traffic signal is warranted. These warrants cover a broad range of minimum elements required to indicate whether a traffic signal is justified for any particular location. These elements include traffic volumes, pedestrian volumes, crash history, and other factors. The MUTCD explicitly states that a traffic control signal should not be installed unless one or more of the Manual's signal warrants are met. However, the satisfaction of a warrant does not entirely in itself justify the need for a traffic signal. Sometimes further engineering studies and judgments must be applied before justifying the need for a traffic signal installation. These additional studies are significant in ensuring that a traffic signal's installation will not degrade safety and efficiency.

The MUTCD defines nine different warrants, two of which are potentially applicable for this intersection at this time and are explained below:

Warrant #1, Eight-Hour Vehicular Volume:

Warrant #1 is comprised of 2 conditions – A and B. The Minimum Vehicular Volume, Condition A, is intended for applications where the volume of intersecting traffic is the principal reason for consideration of signal installation. The Interruption of Continuous Traffic, Condition B, is intended for use at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Warrant #2, Four-Hour Vehicular Volume:

The Four-Hour Vehicular Volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Even though nine warrants are offered to justify a traffic signal, according to the TDOT Traffic Signal Manual, the agency gives precedence to Warrant #1 (Eight Hour Vehicular Volume) and Warrant #7 (Crash Experience). Even though Warrant #2 is not a primary warrant used by TDOT, it is included in this study. Furthermore, TDOT does not allow installing a traffic signal on a state route based on speculative developments or unrealized traffic volumes.

The intersection of East Emory Road at Beeler Road was evaluated in the projected 2030 conditions with the volumes shown in Figure 9 to determine whether a traffic signal could be justified based on the MUTCD Warrants listed above. Beeler Road was used as the minor side street for the warrant analysis, and East Emory Road was the major street. Warrant #7 was not analyzed at this intersection for this study. Warrant #7 was not included because one of the primary criteria for an intersection to meet the warrant is that an "Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency…"; therefore, this warrant was not included in this study.

A spreadsheet was developed and used to calculate the 2030 traffic volumes generated by the developments being added to the intersection during the highest 8 hours of traffic based on the study's assumed trip distribution and assignment. The volumes in the spreadsheet include the existing tabulated thru volumes on East Emory Road increased by 1% for eight years to the year 2030, and the generated traffic from the houses in Beeler Farms Subdivision, Beeler Road Subdivision, and the Fairview Road Subdivision. This spreadsheet is shown in Appendix K.

Traffic signal warrants for this intersection were analyzed with the additional lanes that will be provided on East Emory Road by the TDOT widening project. Based on the projected 2030 traffic volumes with the 5-lane section on East Emory Road, the results of this evaluation determined that Warrant #1 would not be fully met but would meet Warrant #2. Appendix K includes the traffic signal warrant spreadsheet for the projected traffic volumes in 2030, with East Emory Road having 5-lanes provided by the TDOT widening project.

In conclusion, since TDOT does not allow for a traffic signal to be constructed on speculative or projected volumes, it is recommended that traffic counts be re-conducted in the future once the subdivisions on Beeler Road are constructed and fully occupied,

and the road widening of East Emory Road is under design. Updated traffic counts will allow a re-examination of the Traffic Signal Warrants and establish a timeframe if this intersection could or should be signalized during the TDOT road widening project of East Emory Road. Traffic crash data should also be included in the examination.

Higher growth than anticipated in this study could occur and increase traffic volumes large enough to meet Warrant #1 fully.

In summary, and to provide a comparison of all the discussed options, Table 14 presents the calculated LOS and 95th percentile vehicle queues at the intersection of East Emory Road at Beeler Road for three scenarios. The scenarios in the table include the 2027 projected conditions with the project, the 2027 projected conditions with the project and an eastbound and northbound right-turn lane, and the 2030 projected conditions with the project with a northbound right-turn lane and the TDOT road widening with five lanes. As seen in the table, the vehicle delays and queues are reduced in each scenario when additional road capacity is provided.

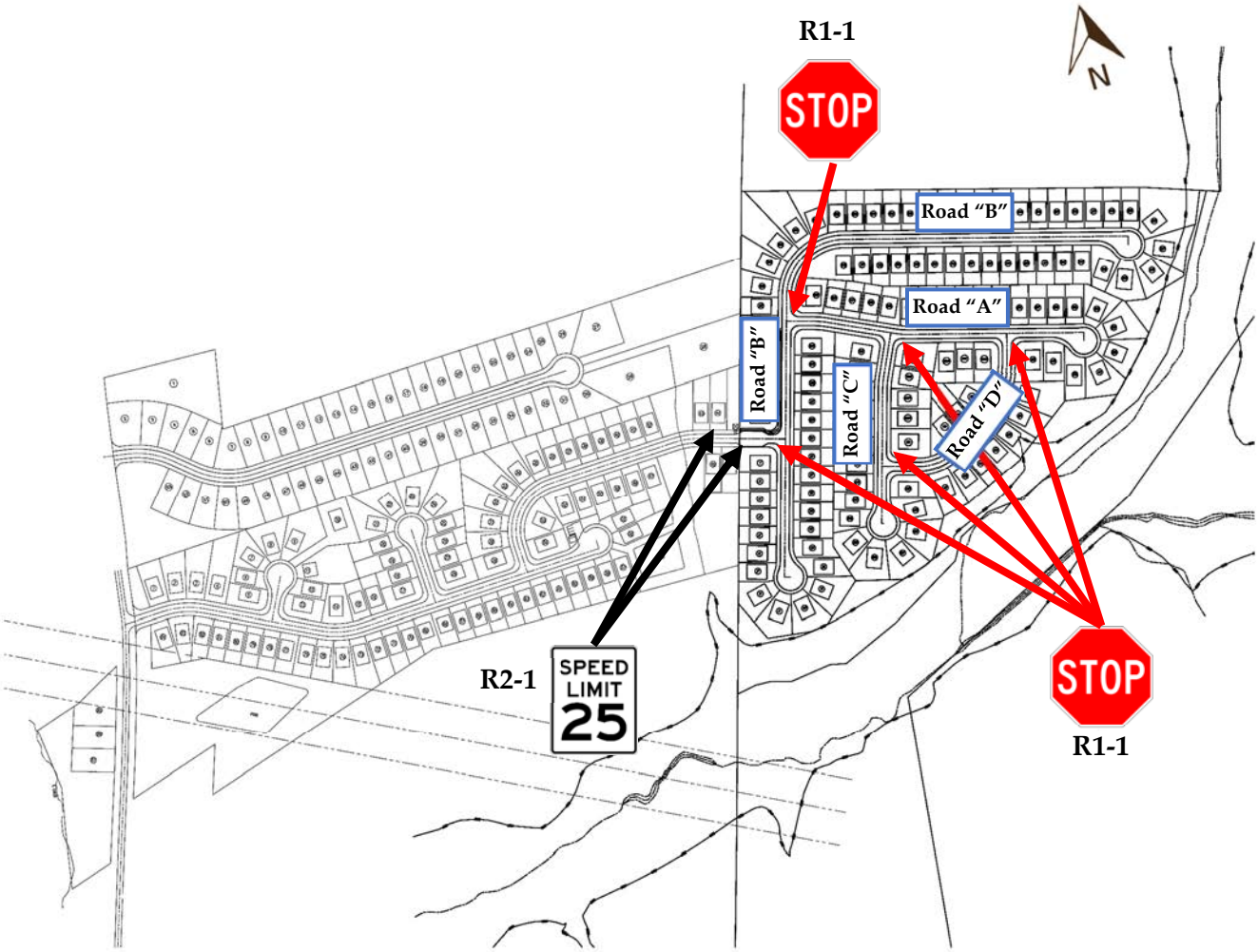
TABLE 14
INTERSECTION CAPACITY AND VEHICLE QUEUE ANALYSIS RESULTS - EAST EMORY ROAD AT BEELER ROAD

INTERSECTION	TRAFFIC CONTROL	APPROACH/ MOVEMENT	AM PEAK			PM PEAK		
			LOS	DELAY (seconds)	QUEUE LENGTH (ft)	LOS	DELAY (seconds)	QUEUE LENGTH (ft)
2027 Projected Conditions (With the Project)	Unsignalized	Northbound Left/Right	F	172.0	156	F	820.2	298
		Westbound Left/Thru	A	8.9	114	B	11.2	242
2027 Projected Conditions (With the Project) with EB and NB Right-Turn Lanes	Unsignalized	Northbound Left	F	108.8	72	F	611.8	145
		Northbound Right	C	16.0	79	C	19.5	99
		Westbound Left/Thru	A	8.9	105	B	11.2	216
2030 Projected Conditions (With the Project) with 5-Lane TDOT Widening and NB Right-Turn Lane	Unsignalized	Northbound Left	C	22.7	66	E	48.1	100
		Northbound Right	B	12.6	66	B	14.7	76
		Westbound Left	A	8.9	45	B	11.4	71

4 **Fairview Road Subdivision Internal Roads:** The layout plan shows one entrance via Beeler Road Subdivision, as shown in Figure 3 and below.

4a) Two 25-mph Speed Limit (R2-1) signs are recommended to be installed on the connector road between Beeler Road and Fairview Road Subdivisions. One sign should be installed for eastbound travel into Fairview Road Subdivision and one for westbound travel into the Beeler Road Subdivision. This recommendation will provide a reinforcement notification of the speed limit within the subdivisions.

4b) Stop Signs (R1-1) with 24" white stop bars and other traffic signage are recommended to be installed at the internal locations in Fairview Road Subdivision, as shown below:



Internal Traffic Sign Locations

4c) Sight distance at the new internal subdivision road intersections must not be impacted by signage, parked cars, or future landscaping. With a proposed speed limit of 25-mph in the development, the internal intersection sight distance is 250 feet. The required stopping sight distance is 155 feet for a level road grade. The site designer should ensure that internal sight distance lengths are met and account for different proposed road grades.

4d) The internal roads of "A" and "B" in the Fairview Road Subdivision have relatively long and straight road segments. Straight road segments encourage motorists to travel at higher speeds, especially with steep grades. It is recommended that the site designer consider traffic calming measures on these internal roads. Roads "C" and "D" are relatively short and would not necessarily require traffic calming measures.

Speed humps are a prevalent traffic calming measure to install in residential areas to reduce vehicle speeds due to their relatively low cost. However, speed humps are not recommended on roads with grades greater than 8%.

If implemented, it is recommended that the site designer consider speed humps and chokers. Chokers are recommended when the internal road grades are greater than 8%. A choker is used to discourage motorists from speeding and is appropriate in residential settings. A choker is created by narrowing the road using curb extensions or can be created by installing a planting strip on an island at the road edge. Any road design with chokers must consider driveway placement, stormwater, and sight distance. Details of any traffic calming should be coordinated with Knox County Engineering in the detailed design phase.

4e) All drainage grates and covers for the residential development must be pedestrian and bicycle safe.

4f) Any sidewalk proposed in the subdivision should be 5 feet minimum in width to meet Knox County regulations. The provision of internal sidewalks in the Beeler Road Subdivision has been removed. The provision of sidewalks in Fairview Road Subdivisions is not known.

4g) Knox County completed a greenway study in 2020. They recommended Beaver Creek as a preferred route for a new greenway connecting the area around Interstate 75 in

Powell to the Knox County/Union County line. With Beaver Creek adjacent to the development site and on the development property to the south of the proposed houses, the developer should discuss with Knox County if this potential greenway path is feasible to implement while the property is being developed.

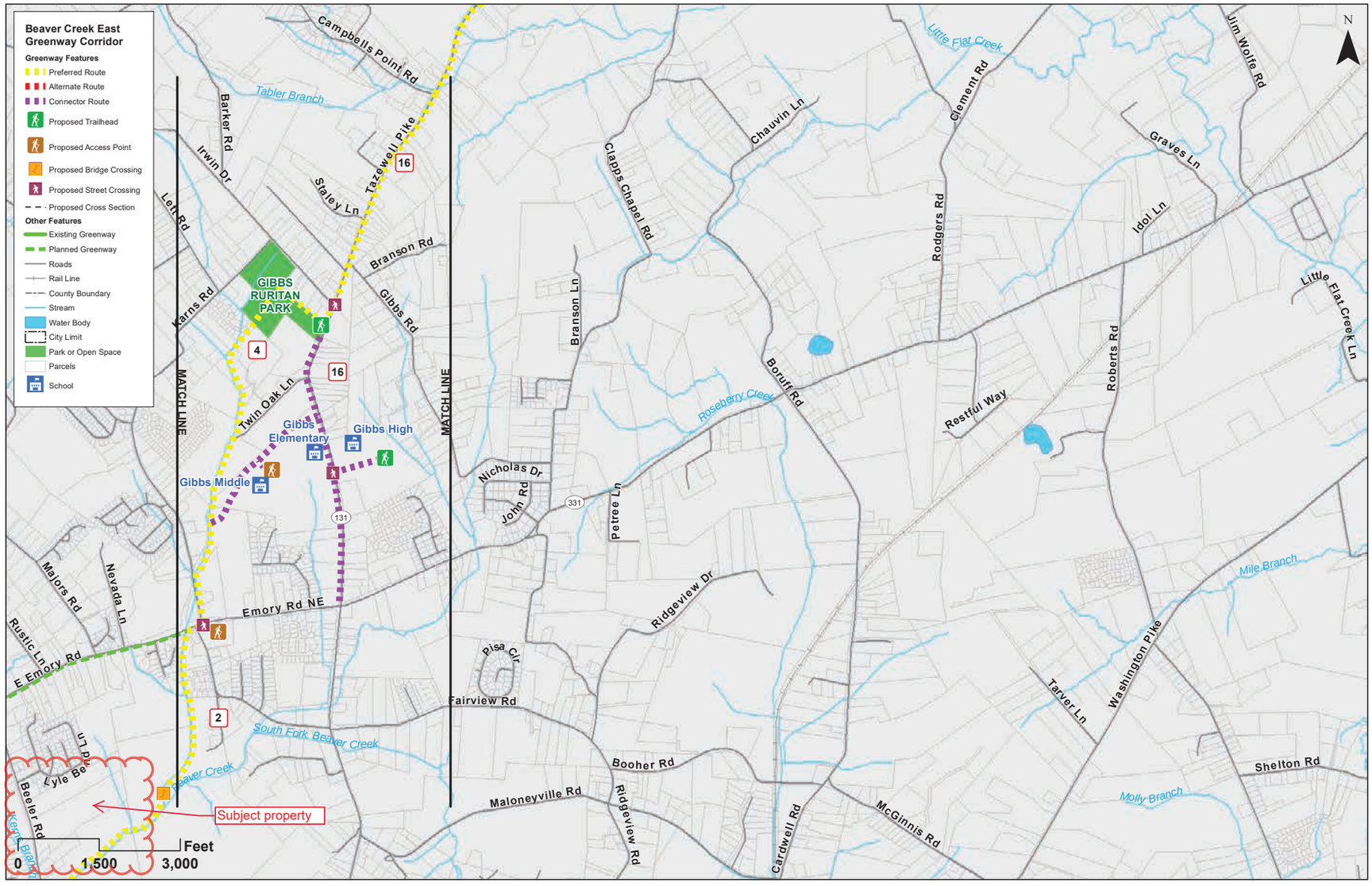
4h) For residential subdivisions with a single access point and more than 150 houses, Knox County has a long-standing unwritten design policy requiring a second entrance or a boulevard road typical section at the entrance. According to the County, the intent of a boulevard road typical section is to provide a substantial alternate travel path by constructing one up to an internal intersection. This requirement and the appropriate mitigation are evaluated on a case-by-case basis and may require further discussions at future stages of the design plan process. There is a potential for an additional access point to the north in Fairview Road Subdivision that would provide two travel paths. The final decision on the most appropriate way to address this policy will be decided by Knox County Engineering and Public Works.

4i) All road grade and intersection elements should be designed to AASHTO, TDOT, and Knox County specifications and guidelines to ensure proper operation.

EXHIBIT B

Knox County Greenway Corridor Study (adopted January 2020)

Figure 4-3. Beaver Creek East: East of Beeler Road to Campbells Point Road



REPORT OF LIMITED GEOTECHNICAL EXPLORATION

Beeler Road Closed Contour

Beeler Road
Knoxville, Tennessee 37918

GEOServices Project No. 21-23927

Submitted to:

Mesana Investments, Inc.
P.O. Box 11315
Knoxville, Tennessee 37939

1-SF-23-C / 1-E-23-DP
8/30/2023

Submitted by:

GEOServices, LLC
2561 Willow Point Way
Knoxville, TN 37931

Phone (865) 539-8242
Fax (865) 539-8252

GEOS
A UES COMPANY

August 4, 2023

Mesana Investments, Inc.
P.O. Box 11315
Knoxville, Tennessee 37939

ATTENTION: Mr. Drew Staten
Drew.Staten2019@gmail.com

Subject: **REPORT OF LIMITED GEOTECHNICAL EXPLORATION**
Beeler Road Closed Contour
Beeler Road
Knoxville, Tennessee
GEOServices Project No. 21-23927

Dear Mr. Staten,

We are submitting the results of the limited geotechnical exploration performed for the subject project. The geotechnical exploration was performed in accordance with our proposal No. 11-23577 dated July 5, 2023, and as authorized by you. The purpose of our limited geotechnical exploration was to explore the subsurface conditions in the vicinity of the existing closed contour and to provide discussion on possible karst activity and future development.

PROJECT INFORMATION AND SITE DESCRIPTION

Project information was provided via email correspondence between Mr. Drew Staten of Mesana Investments, LLC and Ms. Cierra Davis of GEOServices, LLC on June 28, 2023.

We were provided with a conceptual plan titled “Mesana Investments – Beeler Road” as prepared by Batson, Himes, Norvell, & Poe Registered Engineers & Land Surveyors dated June 23, 2023. We additionally were provided with a boundary survey as prepared by Batson, Himes, Norvell, & Poe Registered Engineers & Land Surveyors dated July 1, 2022.

Based on the provided information, we understand the overall development will include construction of a new residential development off Beeler Road in Knox County, Tennessee. The project can be identified as approximately 27.64 acres of Map: 29, Parcels 188.03 according to the Knox County Property Assessor. The provided drawing along with the available topographic map from the Knoxville, Knox County, KUB Geographic Information System (KGIS) indicate a closed contour depression which occupies the central portion of the site. We understand the proposed development will include the construction of residential structures within 50 feet of the highest closed contour interval of the closed depression.

The surface elevations within the closed contour range from approximately 1102 to 1100 feet MSL (Mean Sea Level). We have assumed fill placement will be required within this area; however, the maximum earthwork cuts/fills depths are not known. At this time, the area is overgrown with vegetation and some trees and according to historical aerial imagery (Google Earth and KGIS), appears to have been periodically a wet pond since at least 1959.

FIELD EXPLORATION

The site subsurface conditions were explored by drilling three (3) soil test borings within the closed contour. The borings were located in the field by GEOServices personnel using a handheld GPS unit and the provided drawing while our subcontractor cleared paths to the borings locations. Drilling was performed on July 18, 2023, by our subcontractor. The borings were advanced using 2¼-inch inside diameter hollow stem augers (HSA) and a Geoprobe 7822 drill rig.

The depths in this report reference the ground surface at the site that existed at the time of the exploration. The ground surface elevations indicated on the boring logs were estimated by interpolating between contours on the provided topographic information and should be considered approximate. The approximate locations of the soil test borings are shown in Figure 2 of the attachments to this report. Detailed logs for the soil test borings can be found in the attachments to this report.

Within each soil test boring, Standard Penetration Testing (SPT) and split-spoon sampling were performed on approximately 2½-foot intervals in the upper 10 feet and at 5-foot intervals thereafter. The drilling was performed in accordance with ASTM D 6151 (hollow stem auger drilling). SPT and split-spoon sampling were performed in accordance with ASTM D 1586.

In split–spoon sampling, a standard 2-inch O.D. split-spoon sampler is driven into the soil at the bottom of the boring with a 140-pound hammer falling a distance of 30 inches. The number of blows required to advance the sampler the last 12 inches of the standard 18 inches of total penetration is recorded as the SPT N-value. These N-values are indicated on the boring logs at the testing depth and provide an indication of the consistency of the fine-grained soil or relative density of coarse-grained soil.

After completion of the field drilling and sampling phase of this project, the soil samples were returned to our laboratory where they were visually-manually classified in general accordance with the Unified Soil Classification System (USCS – ASTM D 2487) by a GEOServices geotechnical professional. Select samples were then tested for moisture content (ASTM D2216). The laboratory testing is expanded upon in the following sections and attached to the back of this report.

GEOLOGIC CONDITIONS

The project site, and most of East Tennessee, lies in the Appalachian Valley and Ridge Physiographic Province. This province is characterized by elongated, northeasterly-trending ridges formed on highly resistant sandstones and shales. Between ridges, broad valleys and rolling hills are formed primarily on less resistant limestones, dolomites and shales.

The site is underlain by bedrock of the Martinsburg shale. The Martinsburg shale consists of 200 to 1,000 feet of bluish-gray, calcareous clay shale with thin beds of nodular gray, fossiliferous limestone. This formation weathers to produce a yellowish-brown, thin and slightly acid clay soil.

Since the bedrock underlying this site contains carbonate rock (i.e., limestone), the site is susceptible to the typical carbonate hazards of irregular weathering, cave and cavern conditions, and overburden sinkholes. Carbonate rock, while appearing very hard and resistant, is soluble in slightly acidic water. This characteristic, plus differential weathering of the bedrock mass is responsible for these hazards. Of these hazards, the occurrence of sinkholes is potentially the most damaging to overlying soil-supported structures. Sinkholes occur primarily due to differential weathering of the bedrock mass and flushing of overburden soil into the cavities within the bedrock. This loss of solids creates a cavity, or dome, within the overburden. Growth of the cavity over time, or excavation over the dome, can create a condition in which rapid subsidence, or collapse, of the roof of the dome occurs. Such a feature is termed a sinkhole.

The process of bedrock solutioning including the formation of bedrock pinnacles, slots, fissures, caves, and sinkholes has been occurring for a long period of time. The result of this solutioning is evidenced by the undulating topography of present-day East Tennessee. Such topography is often referred to as "Karst" topography which is a term used to describe landforms, geologic features, and subsurface conditions resulting from the solutioning of carbonate bedrock. Some of the features associated with karst topography include internally drained depressions (closed depressions), springs, sinking creeks, caves, and underground springs.

Closed depressions are features which formed during the geologic past and have subsequently filled naturally with soil by the processes of running water or gravity. The process of solution weathering and raveling of soil is ongoing and the present day closed depressions may have undergone several iterations of sinkhole formation and refilling. Closed depressions may be recognized as having a saucer or bowl-shaped bottom with no open hole at the bottom. For comparison, a sinkhole is an active feature with an open hole at the bottom of the depressed area, often exposing the underlying bedrock.

The closed depressions are internally drained, meaning surface water within the highest closed contour interval of the depression flows to the bottom of the depression where it infiltrates into the subsurface. Closed depressions are indicated on United States Geologic Survey (USGS) topographic maps by a hatched contour interval. During our review of the United States Geological Survey (USGS – John Sevier and Fountain City Quadrangles, TN) and KGIS, several closed depressions were noted within a 1-mile radius of the proposed site.

SUBSURFACE CONDITIONS

The following subsurface description is of a generalized nature to highlight the subsurface stratification features and material characteristics at the testing locations. The boring logs included as an attachment to this report should be reviewed for specific information at each location. Information on actual subsurface conditions exists only at the specific boring locations and is relevant only to the time that this exploration was performed. Variations may occur and should be expected at the site.

Surficial Materials

Upon completion of our clearing activities, the borings did not encounter a clear surficial layer. However, we anticipate the actual depth of surficial materials may vary significantly across the site and between our widely spaced borings.

Residuum

Apparent residual materials were encountered at each location. The residual soils generally consisted of orangish brown, reddish brown, brown, light gray, dark gray, and tan high plasticity (fat) and low plasticity (lean) clayey soils with varying amounts of silt.

The SPT N-values of the encountered residual materials generally ranged from 6 to 18 bpf (blows per foot), indicating firm to very stiff consistencies in the fine-grained materials. The exceptions were the initial sample obtained from boring B-3 and final samples in borings B-1 and B-3 which encountered some lower consistency materials. Moisture contents within the soils ranged from approximately 30 to 61% with higher moistures encountered along the soil/rock interface or where groundwater was measured.

Auger Refusal

Auger or excavation refusal was encountered in each location at depths ranging from approximately 17 ½ to 23 ¼ feet below existing grade (~1078.8 to 1082.5 feet MSL). Auger refusal is a designation applied to any material that cannot be readily penetrated by the drill auger and is normally indicative of a very hard or very dense material, such as large boulders or the upper surface of bedrock.

Ground Water

Groundwater was encountered in borings B-2 and B-3 at depths of approximately 18 and 18 ½ feet below existing grade (~1082.0 to 1083.5 feet MSL). Boring B-2 did not encounter groundwater during or upon completion of the drilling activities. We note that stabilized water levels can sometimes be difficult to obtain as the encountered soils are known to be relatively impermeable. In addition, each boring was backfilled upon completion in consideration of safety so delayed water levels were not recorded. Groundwater can exist within the depths explored during other times of the year depending upon climatic and rainfall conditions. Additionally, discontinuous zones of perched water may exist within the overburden materials or at the residual soil to weathered rock or bedrock interface. The groundwater information presented in this report is the information that was collected at the time of our field activities.

SITE ASSESSMENT AND CONCLUSION

A certain degree of risk with respect to sinkhole formation and subsidence should be considered at any site located within carbonate geologic settings. In such a setting, the soil overburden is typically stiffer near the ground surface and becomes softer and wetter with increased depth. Therefore, during our field exploration, we looked for characteristics of active conditions, such as elevated moisture contents, soft soils (typically SPT N-values less than 4), which decrease in consistency with depth, and apparent open voids within the soil.

In general, the borings did not encounter a significant amount of soft soils. While some soft soils and high moisture contents were noted within the final samples, along the soil/rock interface, it is our experience this is likely due to water movement along this stratum (as noted in B-2 and B-3). In addition, we note the noted area has been an apparent wet, farm pond since at least 1959.

Based on the results of the geotechnical exploration and review of historical maps, it our professional opinion the closed contour is not sinkhole related and should not be platted as such and was likely due to excavation for the pond prior to 1959. In addition, we do not anticipate this area to have a greater risk of sinkhole development than other nearby developed areas.

The risk of sinkhole development across the entire site can be further reduced by following the recommendations provided in the following section. The present standard of practice of geotechnical engineering cannot definitely predict where or when solution features will occur. The recommendations are based on the field work completed in July of 2023.

Some remediation of the encountered lower consistency and high plasticity soils may be necessary during construction activities. We still recommend the client consider an additional exploration be conducted prior to construction to further evaluate the entire site and allow for site specific design recommendations to be provided.

SINKHOLE RISK REDUCTION AND CORRECTIVE ACTIONS

Based on our experience, corrective actions can also be performed to reduce the potential for sinkhole development at this site. These corrective actions would decrease but not eliminate the potential for sinkhole development. Much can be accomplished to decrease the potential of future sinkhole activity by proper grade selection and positive site drainage.

In general, the portions of a site that are excavated to achieve the desired grades will have a higher risk of sinkhole development than the areas that are filled, because of the exposure of relic fractures in the soil to rainfall and runoff. On the other hand, those portions of a site that receive a modest amount of fill (or that have been filled in the past) will have a decreased risk of sinkhole development caused by rainfall or runoff because the placement of a cohesive soil fill over these areas effectively caps the area with a relatively impervious "blanket" of remolded soil. Therefore, the recommendations that are designed to make the surface of the soil in excavated areas less permeable.

Although it is our opinion that the risk of ground subsidence associated with sinkhole formation cannot be eliminated, however, we have found that several measures are useful in site design and development to reduce this potential risk. These measures include:

- Maintaining positive site drainage to route surface waters well away from structural areas both during construction and for the life of the structure.
- The scarification and re-compaction of the upper 6 to 10 inches of soil in earthwork cut areas.
- Verifying that subsurface piping beneath structures is carefully constructed and pressure tested prior to its placement in service.
- The use of pavement or geosynthetic clay lined ditches, particularly in cut areas, to collect and transport surface water to areas away from structures.

Considerations when building within a sinkhole prone area are to provide positive surface drainage away from proposed building or parking areas both during and after construction. Backfill in utility trenches or other excavations should consist of compacted, well-graded material such as dense graded aggregate or compacted on site soils. The use of an open graded stone (such as No. 57) stone is not recommended unless the stone backfill is provided an exit path and not allowed to pond. If sinkhole conditions are observed, the type of corrective action is most appropriately determined by a geotechnical engineer on a case-by-case basis.

LIMITATIONS

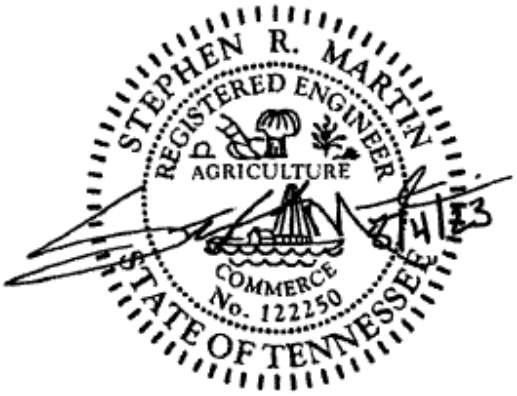
This report has been prepared in accordance with generally accepted geotechnical engineering practice for specific application to this project. This report is for our geotechnical work only, and no environmental assessment efforts have been performed. The conclusions and recommendations contained in this report are based upon applicable standards of our practice in this geographic area at the time this report was prepared. No other warranty, express or implied, is made.

CLOSURE

We appreciate the opportunity to provide these services. If you have any questions, please feel free to contact us at your convenience.

Sincerely,

GEOServices, LLC



Stephen R. Martin, P.E.
Geotechnical Department Manager
TN PE 122,250

Saul Moslehy
Geotechnical Staff Professional

ATTACHMENTS: Site Vicinity Map
Soil Test Boring Location Plan
General Notes & Soil Test Boring Logs
Laboratory Test Results

ATTACHMENTS

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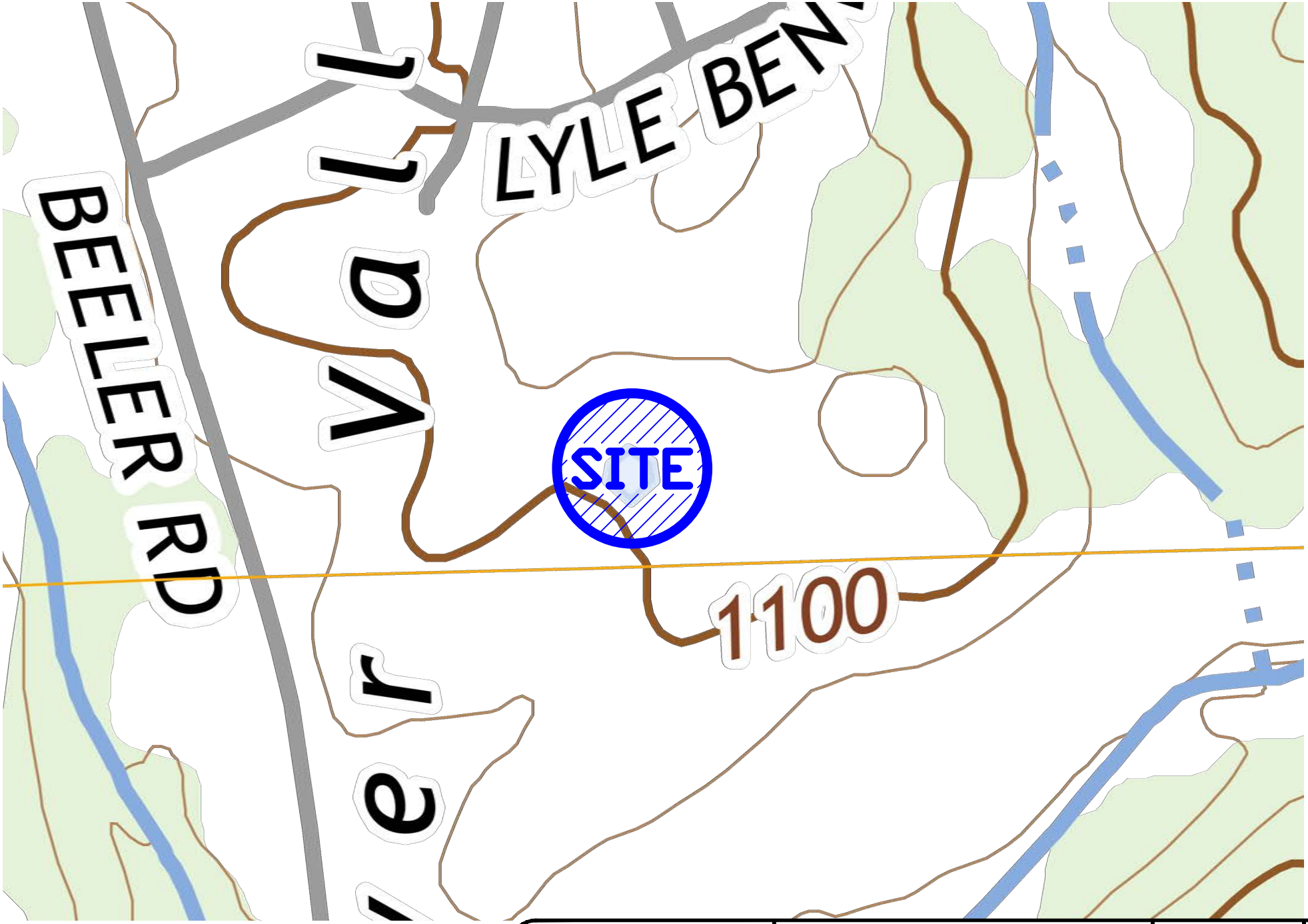

NOTES:

1.) BASE MAP: USGS QUADRANGLE (JOHN SEVIER, TENNESSEE)

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2561 Willow Point Way, Knoxville, TN 37931
Office: 865-539-8242 Fax: 865-539-8252

SITE VICINITY MAP

BEELER ROAD CLOSED CONTOUR

BEELER ROAD

KNOXVILLE, TENNESSEE 37918

DRAWN BY:	KSR
APPROVED BY:	SRM
SCALE:	N.T.S.
JOB NO.:	21-23927
DATE:	7/27/23

FIGURE 1

NOTES:
1.) BORING LOCATIONS ARE SHOWN IN GENERAL ARRANGEMENT ONLY.
2.) DO NOT USE BORING LOCATIONS FOR DETERMINATIONS OF DISTANCES OR QUANTITIES.
3.) BASE MAP PROVIDED BY: Batson, Himes, Norvell, & Poe

LOCATION OF SOIL TEST BORINGS

SOIL TEST BORING LOCATION PLAN

BEELER ROAD CLOSED CONTOUR

BEELER ROAD

KNOXVILLE, TENNESSEE 37918

DRAWN BY:	KSR
APPROVED BY:	SRM
SCALE:	N.T.S.
JOB NO.:	21-23927
DATE:	7/27/23

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2561 Wilson Point Way, Knoxville, TN 37931
Office: 865-539-8242 Fax: 865-539-8252

Figure 2

GENERAL NOTES

FINE AND COARSE GRAINED SOIL PROPERTIES

PARTICLE SIZE

BOULDERS:	GREATER THAN 300 mm
COBBLES:	75 mm to 300 mm
GRAVEL:	4.74 mm to 75 mm
COARSE SAND:	2 mm to 4.74 mm
MEDIUM SAND:	0.425 mm to 2 mm
FINE SAND:	0.075 mm to 0.425 mm
SILTS & CLAYS:	LESS THAN 0.075 mm

COARSE GRAINED SOILS (SANDS & GRAVELS)

N-VALUE	RELATIVE DENSITY
0 - 4	VERY LOOSE
5 - 10	LOOSE
11 - 30	MEDIUM DENSE
31 - 50	DENSE
OVER 50	VERY DENSE

FINE GRAINED SOILS (SILTS & CLAYS)

N-VALUE	CONSISTENCY	Qu, PSF
0 - 2	VERY SOFT	0-500
3 - 4	SOFT	500 -1000
5 - 8	FIRM	1000 - 2000
9 - 15	STIFF	2000 - 4000
16 - 30	VERY STIFF	4000 - 8000
OVER 31	HARD	8000 +

STANDARD PENETRATION TEST (ASTM D1586)

THE STANDARD PENETRATION TEST AS DEFINED BY ASTM D1586 IS A METHOD TO OBTAIN A DISTURBED SOIL SAMPLE FOR EXAMINATION AND TESTING AND TO OBTAIN RELATIVE DENSITY AND CONSISTENCY INFORMATON. THE 1.4 INCH I.D./2.0 INCH O.D. SAMPLER IS DRIVEN 3-SIX INCH INCREMENTS WITH A 140-LB. HAMMER FALLING 30 INCHES. THE BLOW COUNTS REQUIRED TO DRIVE THE SAMPLER THE FINAL 2 INCREMENTS ARE ADDED TOGETHER AND DESIGNATED THE N-VALUE. AT TIMES, THE SAMPLER CAN NOT BE DRIVEN THE FULL 18 INCHES. THE FOLLOWING REPRESENTS OUR INTERPRETATION OF THE STANDARD PENETRATION TEST WITH VARIATIONS.

BLOWS/FOOT (N-VALUE)	DESCRIPTION
25	25 BLOWS DROVE SAMPLER 12" AFTER INITIAL 6" SEATING
75/10"	75 BLOWS DROVE SAMPLER 10" AFTER INITIAL 6" SEATING
50/PR	PENETRATION REFUSAL OF SAMPLER AFTER INITIAL 6" SEATING

SAMPLING SYMBOLS

ST:	UNDISTURBED SAMPLE
SS:	SPLIT SPOON SAMPLE
CORE:	ROCK CORE SAMPLE
AU:	AUGER OR BAG SAMPLE

SOIL PROPERTY SYMBOLS

N:	STANDARD PENETRATION, BPF
M:	MOISTURE CONTENT %
LL:	LIQUID LIMIT %
PI:	PLASTICITY INDEX%
Qp:	POCKET PENETROMETER VALUE, TSF
Qu:	UNCONFINED COMPRESSIVE STRENGTH, TSF
DUW:	DRY UNIT WEIGHT, PCF

ROCK PROPERTIES

ROCK QUALITY DESIGNATION (RQD)

PERCENT	QUALITY
90 TO 100	EXCELLENT
75 TO 90	GOOD
50 TO 75	FAIR
25 TO 50	POOR
O TO 25	VERY POOR

ROCK HARDNES

VERY SOFT:	ROCK DISINTEGRATES OR EASILY COMPRESSES TO TOUCH: CAN BE HARD TO VERY HARD SOIL.
SOFT:	ROCK IS COHERANT BUT BREAKS EASILY TO THUMB PRESSURE AT SHARP EDGES AND IT CRUMBLES WITH FIRM HAND PRESSURE.
MODERATELY HARD:	SMALL PIECES CAN BE BROKEN OFF ALONG SHARP EDGES BY CONSIDERABLE HARD THUMB PRESSURE: CAN BE BROKEN BY LIGHT HAMMER BLOWS.
HARD:	ROCK CAN NOT BE BROKEN BY THUMB PRESSURE, BUT CAN BE BROKEN BY MODERATE HAMMER BLOWS.
VERY HARD:	ROCK CAN BE BROKEN BY HEAVY HAMMER BLOWS.

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KEY TO SYMBOLS

LITHOLOGIC SYMBOLS
(Unified Soil Classification System)

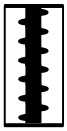
- ASPHALT: Asphalt
- CH: USCS High Plasticity Clay
- CL: USCS Low Plasticity Clay
- CL-ML: USCS Low Plasticity Silty Clay
- CONCRETE: Concrete
- DOLOMITE: Dolomite
- GRAVEL: Gravel / Basestone
- LIMESTONE: Limestone
- ML: USCS Silt
- SANDSTONE: Sandstone
- SC: USCS Clayey Sand
- SC-SM: USCS Silty Clayey Sand
- SHALE: Shale
- SLATE: Slate
- SM: USCS Silty Sand
- SW: USCS Well-graded Sand
- SP: USCS Poorly-graded Sand
- TOPSOIL: Topsoil
- WEATHERED ROCK: Weathered Bedrock
- WOOD: Wood / Mulch

SAMPLE SYMBOLS


Grab Sample


No Recovery


Rock Core


AUGER: Auger Probe


Shelby Tube


Split Spoon

COLOR CODES FOR LITHOLOGIC SYMBOLS

- RED: Fill
- GREEN: Cultivated
- BLUE: Residuum
- MAGENTA: Alluvium
- PINK: Colluvium
- LIGHT GRAY: Weathered Rock
- ORANGE: Loess
- DARK GRAY: Rock Core
- YELLOW: Void
- TEAL: Glacial Outwash / Glacial Till
- PURPLE: Marine

ABBREVIATIONS

LL - LIQUID LIMIT (%)
PI - PLASTIC INDEX (%)
W - MOISTURE CONTENT (%)
DD - DRY DENSITY (PCF)
NP - NON PLASTIC
-200 - PERCENT PASSING NO. 200 SIEVE
PP - POCKET PENETROMETER (TSF)

▽ Water Level at Time Drilling, or as Shown
▼ Water Level at End of Drilling, or as Shown
▼ Water Level After 24 Hours, or as Shown

TV - TORVANE
PID - PHOTOIONIZATION DETECTOR
UC - UNCONFINED COMPRESSION
ppm - PARTS PER MILLION

BORING NUMBER B-1

GEOS A UES COMPANY

PROJECT NAME Beeler Road Closed Contour
GEOServices PROJECT# 21-23927
DATE 7/18/23
PROJECT LOCATION Beeler Road, Knoxville, TN 37918
DRILLING CONTRACTOR M&W Drilling
LOGGED BY KSR **ON-SITE REP.** ---
DRILLING METHOD Geoprobe 7822, 2.25-in H.S.A.
LATITUDE / LONGITUDE ---
GROUND ELEVATION 1100 ft **PROPOSED FFE** ---
NORTHING / EASTING ---
REFUSAL Depth 17.5 ft / Elev 1082.5 ft
TOP OF ROCK ---
GROUND WATER LEVELS:
BEGAN CORING ---
AT END OF DRILLING --- Dry
FOOTAGE CORED (LF) ---
AFTER 1 HOUR --- Backfilled
BOTTOM OF HOLE Depth 17.5 ft / Elev 1082.5 ft
AFTER 24 HOURS --- Backfilled

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0	1100.0		(CH) **Fat CLAY** - orangish brown, reddish brown, brown, and tan - moist - very stiff to stiff (RESIDUUM)						
				SS 1		3-4-6 (10)			
				SS 2		5-6-8 (14)			
5	1095.0								
				SS 3		5-8-10 (18)			
				SS 4		2-3-6 (9)			
10	1090.0								
			(CL) **Lean CLAY** - orangish brown, light gray, dark gray, and brown - moist - soft (RESIDUUM)						
				SS 5		1-2-1 (3)			
15	1085.0								

Refusal at 17.5 feet.
Bottom of borehole at 17.5 feet.

NOTES:

BORING NUMBER B-2

GEOS A UES COMPANY

PROJECT NAME Beeler Road Closed Contour
GEOServices PROJECT# 21-23927
DATE 7/18/23
PROJECT LOCATION Beeler Road, Knoxville, TN 37918
DRILLING CONTRACTOR M&W Drilling
LOGGED BY KSR **ON-SITE REP.** ---
DRILLING METHOD Geoprobe 7822, 2.25-in H.S.A.
LATITUDE / LONGITUDE ---
GROUND ELEVATION 1100 ft **PROPOSED FFE** ---
NORTHING / EASTING ---
REFUSAL Depth 19.0 ft / Elev 1081.0 ft
TOP OF ROCK ---
GROUND WATER LEVELS:
BEGAN CORING ---
▽ **AT END OF DRILLING** 18.00 ft / Elev 1082.00 ft
FOOTAGE CORED (LF) ---
AFTER 1 HOUR --- Backfilled
BOTTOM OF HOLE Depth 19.0 ft / Elev 1081.0 ft
AFTER 24 HOURS --- Backfilled

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0	1100.0		(CL) **Lean CLAY** - with silt - orangish brown, reddish brown, and tan - moist - stiff (RESIDUUM)	SS 1		3-4-6 (10)			
5	1095.0		(CH) **Fat CLAY** - with silt - orangish brown, reddish brown, light gray, brown, and tan - moist to very moist - firm to hard (RESIDUUM)	SS 2		4-7-10 (17)			
				SS 3		5-8-10 (18)			
10	1090.0			SS 4		3-4-5 (9)			
15	1085.0		▽	SS 5		2-2-4 (6)			
				NR 6		50/2"			

Refusal at 19.0 feet.
Bottom of borehole at 19.0 feet.

NOTES:

BORING NUMBER B-3

GEOS A UES COMPANY

PROJECT NAME Beeler Road Closed Contour
GEOServices PROJECT# 21-23927
DATE 7/18/23
PROJECT LOCATION Beeler Road, Knoxville, TN 37918
DRILLING CONTRACTOR M&W Drilling
LOGGED BY KSR **ON-SITE REP.** ---
DRILLING METHOD Geoprobe 7822, 2.25-in H.S.A.
LATITUDE / LONGITUDE ---
GROUND ELEVATION 1102 ft **PROPOSED FFE** ---
NORTHING / EASTING ---
REFUSAL Depth 23.2 ft / Elev 1078.8 ft
TOP OF ROCK ---
GROUND WATER LEVELS:
BEGAN CORING ---
▽ **AT END OF DRILLING** 18.50 ft / Elev 1083.50 ft
FOOTAGE CORED (LF) ---
AFTER 1 HOUR --- Backfilled
BOTTOM OF HOLE Depth 23.2 ft / Elev 1078.8 ft
AFTER 24 HOURS --- Backfilled

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0	1102.0		(CH) **Fat CLAY** - orangish brown, reddish brown, light gray, brown, and tan - moist to very moist - stiff to very soft (RESIDUUM)						
				SS 1		1-1-1 (2)			
				SS 2		3-3-5 (8)			
5	1097.0								
				SS 3		6-7-6 (13)			
				NR 4		2-2-4 (6)			
10	1092.0								
				SS 5		2-2-4 (6)			
15	1087.0		▽						
				SS 6		1-1-1 (2)			
20	1082.0								

NOTES:

(Continued Next Page)

BORING NUMBER B-3

PROJECT NAME Beeler Road Closed Contour
GEOServices PROJECT# 21-23927
DATE 7/18/23
PROJECT LOCATION Beeler Road, Knoxville, TN 37918
DRILLING CONTRACTOR M&W Drilling
LOGGED BY KSR **ON-SITE REP.** ---
DRILLING METHOD Geoprobe 7822, 2.25-in H.S.A.
LATITUDE / LONGITUDE ---
GROUND ELEVATION 1102 ft **PROPOSED FFE** ---
NORTHING / EASTING ---
REFUSAL Depth 23.2 ft / Elev 1078.8 ft
TOP OF ROCK ---
GROUND WATER LEVELS:
BEGAN CORING ---
▽ **AT END OF DRILLING** 18.50 ft / Elev 1083.50 ft
FOOTAGE CORED (LF) ---
AFTER 1 HOUR --- Backfilled
BOTTOM OF HOLE Depth 23.2 ft / Elev 1078.8 ft
AFTER 24 HOURS --- Backfilled

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONTENT (%)	ATTERBERG LIMITS	
								LIQUID LIMIT	PLASTICITY INDEX
20	1082.0		(CH) **Fat CLAY** - orangish brown, reddish brown, light gray, brown, and tan - moist to very moist - stiff to very soft (RESIDUUM) *(continued)*						

Refusal at 23.2 feet.
Bottom of borehole at 23.2 feet.

NOTES:

Beeler Road Closed Contour

GEOServices Project No. 21-23927

August 3, 2023

SOIL DATA SUMMARY

Boring Number	Sample Number	Depth (feet)	Natural Moisture Content	Atterberg Limits			Soil Type	Percent Organic Content
				LL	PL	PI		
B-1	1	1-2.5'	29.5%					
	2	3.5-5'	31.2%					
	3	6-7.5'	31.4%					
	4	8.5-10'	31.7%					
	5	13.5-15'	50.3%					
B-3	1	1-2.5'	36.7%					
	2	3.5-5'	34.9%					
	3	6-7.5'	31.2%					
	5	13.5-15'	43.8%					
	6	18.5-20'	61.0%					

(1) Download and fill out this form at your convenience.
(2) Sign the application digitally (or print, sign, and scan).

(3) Print the completed form and bring it to the Knoxville-Knox County Planning offices OR email it to applications@knoxplanning.org

Reset Form

Planning
KNOXVILLE | KNOX COUNTY

Request to
Postpone • Table • Withdraw

Mesana Investments — Applicant Name (as it appears on the current Planning Commission agenda)

7/13/23 — Date of Request

7/13/23
Scheduled Meeting Date

File Number(s): 1-SF-23-C / 1-E-23-DP

POSTPONE

☐ **POSTPONE:** All applications are eligible for postponement if the request is received in writing and paid for by noon on Thursday the week prior to the Planning Commission meeting. All requests must be acted upon by the Planning Commission, except new applications which are eligible for one 30-day automatic postponement. If payment is not received by the deadline, the item will be tabled.

SELECT ONE: ☐ 30 days ☐ 60 days ☐ 90 days

Postpone the above application(s) until the _____ Planning Commission Meeting.

WITHDRAW

☐ **WITHDRAW:** Applications may be withdrawn automatically if the request is received in writing no later than 3:30pm on Thursday the week prior to the Planning Commission meeting. Requests made after this deadline must be acted on by the Planning Commission. Applicants are eligible for a refund only if a written request for withdrawal is received no later than close of business 2 business days after the application submittal deadline and the request is approved by the Executive Director or Planning Services Manager.

TABLE

**The refund check will be mailed to the original payee.*

■ **TABLE:** Any item requested for tabling must be acted upon by the Planning Commission before it can be officially tabled. There is no fee to table or untable an item.

AUTHORIZATION

By signing below, I certify I am the property owner, and/or the owners authorized representative.

Applicant Signature

Scott Davis
Please Print

(865) 693-3356
Phone Number

swd444@gmail.com
Email

STAFF ONLY

Staff Signature

Michael Reynolds
Please Print

Date Paid

☑ No Fee

Eligible for Fee Refund? ☐ Yes ☐ No Amount: _____

Approved by:

Date:

Payee Name | Payee Phone | Payee Address

(1) Download and fill out this form at your convenience.
(2) Sign the application digitally (or print, sign, and scan).

(3) Print the completed form and bring it to the Knoxville-Knox County Planning offices OR email it to applications@knoxplanning.org

Reset Form

Planning
KNOXVILLE | KNOX COUNTY

Request to
Postpone • Table • Withdraw

Mesana Investments, LLC — Applicant Name (as it appears on the current Planning Commission agenda)

3/7/23 — Date of Request

3/9/23 — Scheduled Meeting Date

File Number(s): 1-SF-23-C / 1-E-23-DP

POSTPONE

☐ **POSTPONE:** All applications are eligible for postponement if the request is received in writing and paid for by noon on Thursday the week prior to the Planning Commission meeting. All requests must be acted upon by the Planning Commission, except new applications which are eligible for one 30-day automatic postponement. If payment is not received by the deadline, the item will be tabled.

SELECT ONE: ☐ 30 days ☐ 60 days ☐ 90 days

Postpone the above application(s) until the _____ Planning Commission Meeting.

WITHDRAW

☐ **WITHDRAW:** Applications may be withdrawn automatically if the request is received in writing no later than 3:30pm on Thursday the week prior to the Planning Commission meeting. Requests made after this deadline must be acted on by the Planning Commission. Applicants are eligible for a refund only if a written request for withdrawal is received no later than close of business 2 business days after the application submittal deadline and the request is approved by the Executive Director or Planning Services Manager.

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AUTHORIZATION

By signing below, I certify I am the property owner, and/or the owners authorized representative.

Applicant Signature

Scott Davis — Please Print

(865) 693-3356 — Phone Number

swd444@gmail.com — Email

STAFF ONLY

Staff Signature

Michael Reynolds — Please Print

N/A — Date Paid

☐ No Fee

Eligible for Fee Refund? ☐ Yes ☐ No Amount: _____

Approved by: _____ Date: _____

Payee Name _____ Payee Phone _____ Payee Address _____

(1) Download and fill out this form at your convenience.
(2) Sign the application digitally (or print, sign, and scan).

(3) Print the completed form and bring it to the Knoxville-Knox County Planning offices OR email it to applications@knoxplanning.org

Reset Form

Planning
KNOXVILLE | KNOX COUNTY

Request to
Postpone • Table • Withdraw

Mesana Investments, LLC — Applicant Name (as it appears on the current Planning Commission agenda)

2/3/23 — Date of Request

2/9/23 — Scheduled Meeting Date

File Number(s): 1-SF-23-C / 1-E-23-DP

POSTPONE

☒ **POSTPONE:** All applications are eligible for postponement if the request is received in writing and paid for by noon on Thursday the week prior to the Planning Commission meeting. All requests must be acted upon by the Planning Commission, except new applications which are eligible for one 30-day automatic postponement. If payment is not received by the deadline, the item will be tabled.

SELECT ONE: ☒ 30 days ☐ 60 days ☐ 90 days

Postpone the above application(s) until the 3/9/23 Planning Commission Meeting.

WITHDRAW

☐ **WITHDRAW:** Applications may be withdrawn automatically if the request is received in writing no later than 3:30pm on Thursday the week prior to the Planning Commission meeting. Requests made after this deadline must be acted on by the Planning Commission. Applicants are eligible for a refund only if a written request for withdrawal is received no later than close of business 2 business days after the application submittal deadline and the request is approved by the Executive Director or Planning Services Manager.

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AUTHORIZATION

By signing below, I certify I am the property owner, and/or the owners authorized representative.

Applicant Signature — Scott Davis (Please Print)

(865) 693-3356 — Phone Number

swd444@gmail.com — Email

STAFF ONLY

Staff Signature — Michael Reynolds (Please Print) — PENDING (Date Paid) — ☐ No Fee

Eligible for Fee Refund? ☐ Yes ☐ No Amount:

Approved by: Date:

Payee Name Payee Phone Payee Address

Development Request

DEVELOPMENT
- ☑ Development Plan
- ☐ Planned Development
- ☐ Use on Review / Special Use
- ☐ Hillside Protection COA

SUBDIVISION
- ☑ Concept Plan
- ☐ Final Plat

ZONING
- ☐ Plan Amendment
  - ☐ Sector Plan
  - ☐ One Year Plan
- ☐ Rezoning

Mesana Investments - Beeler Road
Applicant Name — Affiliation

11/29/2022	**1/12/2023**	**1-SF-23-C / 1-E-23-DP**
Date Filed	Meeting Date (if applicable)	File Number(s)

CORRESPONDENCE

All correspondence related to this application should be directed to the approved contact listed below.

David Harbin Batson, Himes, Norvell and Poe
Name / Company

4334 Papermill Dr. Dr. Knoxville TN 37909
Address

865-588-6472 / harbin@bhn-p.com
Phone / Email

CURRENT PROPERTY INFO

Mesana Investments, LLC	**P.O. Box 11315 Knoxville TN 37939**	**865-693-3356 / swd444@gmail.**
Owner Name (if different)	Owner Address	Owner Phone / Email

0 BEELER RD
Property Address

29 188.03		**27.539 acres**
Parcel ID	Part of Parcel (Y/N)?	Tract Size

Northeast Knox Utility District	**Northeast Knox Utility District**	
Sewer Provider	Water Provider	Septic (Y/N)

STAFF USE ONLY

East and west side of Beeler Rd, south of Beeler Farms Ln
General Location

☐ City	**Commission District 8**	**PR (Planned Residential)**	**Agriculture/Forestry/Vacant Land**
☑ County	District	Zoning District	Existing Land Use

Northeast County	**LDR (Low Density Residential), HP (Hillside Protection), S**	**Planned Growth Area**
Planning Sector	Sector Plan Land Use Classification	Growth Policy Plan Designation

DEVELOPMENT REQUEST

☑ Development Plan ☐ Planned Development ☐ Use on Review / Special Use

☐ Hillside Protection COA ☐ Residential ☐ Non-residential

Related City Permit Number(s)

Home Occupation (specify)

Other (specify) **Detached residential subdivision**

SUBDIVSION REQUEST

Mesana Investments - Beeler Road

Proposed Subdivision Name

Related Rezoning File Number

Unit / Phase Number

☑ Split Parcels

87

Total Number of Lots Created

Additional Information

☐ Attachments / Additional Requirements

ZONING REQUEST

☐ Zoning Change

Proposed Zoning

Pending Plat File Number

☐ Plan Amendment

Proposed Plan Designation(s)

Proposed Density (units/acre) Previous Zoning Requests

Additional Information

STAFF USE ONLY

PLAT TYPE

☐ Staff Review ☐ Planning Commission

ATTACHMENTS

☐ Property Owners / Option Holders ☐ Variance Request

ADDITIONAL REQUIREMENTS

☐ COA Checklist (Hillside Protection)

☐ Design Plan Certification (Final Plat)

☑ Site Plan (Development Request)

☐ Traffic Impact Study

☐ Use on Review / Special Use (Concept Plan)

Fee 1	Total
$500.00	
Fee 2	
Fee 3	

AUTHORIZATION

Mesana Investments - Beeler Road	**11/29/2022**
Applicant Signature	Please Print	Date

Phone / Email

Mesana Investments, LLC	**11/29/2022**
Property Owner Signature	Please Print	Date

I declare under penalty of perjury the foregoing (i.e., he/she/they is/are the owner of the property and that the application and all associated materials are being submitted with his/her/their consent) is true and correct.

Development Request

Planning
KNOXVILLE | KNOX COUNTY

DEVELOPMENT
- ☒ Development Plan
- ☐ Planned Development
- ☐ Use on Review / Special Use
- ☐ Hillside Protection COA

SUBDIVISION
- ☒ Concept Plan
- ☐ Final Plat

ZONING
- ☐ Plan Amendment
  - ☐ SP ☐ OYP
- ☐ Rezoning

MESANA INVESTMENTS -BEELER ROAD
Applicant Name | Affiliation

11.28.22 | 1/12/2023
Date Filed | Meeting Date (if applicable)

File Number(s):

CORRESPONDENCE *All correspondence related to this application should be directed to the approved contact listed below.*

☐ Applicant ☐ Property Owner ☐ Option Holder ☒ Project Surveyor ☒ Engineer ☐ Architect/Landscape Architect

DAVID HARBIN | BATSON HIMES NORVELL POE
Name | Company

4334 PAPERMILL DR | KNOXVILLE | TN | 37909
Address | City | State | ZIP

865-588-6472 | harbin@bhn-p.com
Phone | Email

CURRENT PROPERTY INFO

MESANA INVESTMENTS | KNOXVILLE, TN
SCOTT DAVIS | P.O.BOX 11315 | 37922 | 865-806-8008
Property Owner Name (if different) | Property Owner Address | Property Owner Phone

0 Beeler Road | TAX MAP 29, PARCEL 188.03
Property Address | Parcel ID

HPUD | HKUD | ND
Sewer Provider | Water Provider | Septic (Y/N)

STAFF USE ONLY

East and west side of Beeler Road, south of Beeler Farms Ln | 27.539 acres
General Location | Tract Size

☐ City ☒ County | 8th | PR (Planned Residential) | Agriculture/forestry/vacant
District | Zoning District | Existing Land Use

Northeast County | LDR, HP & SP | Planned Growth
Planning Sector | Sector Plan Land Use Classification | Growth Policy Plan Designation

August 29, 2022

DEVELOPMENT REQUEST

☒ Development Plan ☐ Use on Review / Special Use ☐ Hillside Protection COA

☒ Residential ☐ Non-Residential

Home Occupation (specify) _____

Other (specify) Detached residential subdivision

Related City Permit Number(s)

SUBDIVISION REQUEST

Mesana Investments - Beeler Road

Proposed Subdivision Name

Related Rezoning File Number: 5-L-22-RZ

_____ Unit / Phase Number ☐ Combine Parcels ☒ Divide Parcel 87 LOTS Total Number of Lots Created

☐ Other (specify) Detached residential subdivision

☐ Attachments / Additional Requirements

ZONING REQUEST

☐ Zoning Change _____ Proposed Zoning

Pending Plat File Number

☐ Plan Amendment Change _____ Proposed Plan Designation(s)

Proposed Density (units/acre) Previous Rezoning Requests

☐ Other (specify) _____

STAFF USE ONLY

PLAT TYPE

☐ Staff Review ☐ Planning Commission

ATTACHMENTS

☐ Property Owners / Option Holders ☐ Variance Request

ADDITIONAL REQUIREMENTS

☐ Design Plan Certification *(Final Plat)*

☐ Use on Review / Special Use *(Concept Plan)*

☐ Traffic Impact Study

☐ COA Checklist *(Hillside Protection)*

Fee 1		Total
0101	Concept Plan	$500
Fee 2		
Fee 3		

MR

AUTHORIZATION

David Harbin — DAVID HARBIN — 11-28-22

Applicant Signature / Please Print / Date

865-588-6472 — harbin@bhn-p.com

Phone Number / Email

_____ — Scott Davis — 11/28/22

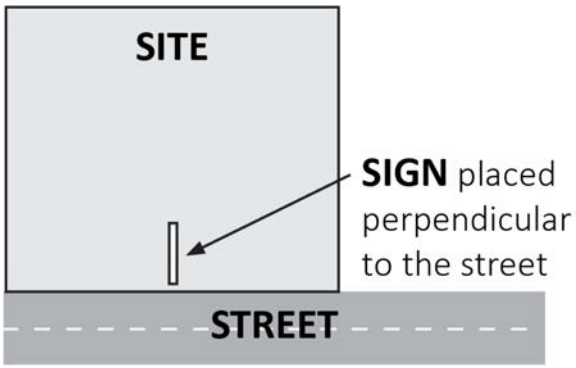
Property Owner Signature / Please Print / Date

I declare under penalty of perjury the foregoing [i.e., he/she/they is/are the owner of the property and that the application and all associated materials are being submitted with his/her/their consent] is true and correct.

Sign Posting & Removal Requirement

Revised April 2021

The Administrative Rules and Procedures of the Knoxville-Knox County Planning Commission require a sign to be posted on the property for each application subject to consideration by the Planning Commission, including the following applications: rezoning, plan amendment, concept plan, use on review/special use, planned development, right-of-way closure, and name change.



The required public notice sign(s) will be provided by Planning to the applicant when an application is submitted. If an application is submitted electronically, Planning staff will post the required sign. If a replacement sign(s) is needed, the applicant is responsible for picking up the new sign(s) from Planning and will be charged $10 for each replacement.

LOCATION AND VISIBILITY

The sign must be posted on the nearest adjacent/frontage street and in a location clearly visible to vehicles traveling in either direction. If the property has more than one street frontage, the sign should be placed along the street that carries more traffic. Planning staff may recommend a preferred location for the sign to be posted at the time of application.

TIMING

The sign(s) must be posted **not less than 12 days prior to the scheduled Planning Commission public hearing** and must remain in place until the day after the meeting. In the case of a postponement, the sign can either remain in place or be removed and reposted not less than 12 days prior to the next Planning Commission meeting. The applicant is responsible for removing the sign after the application has been acted upon by the Planning Commission.

The individual below is responsible for posting and removing the sign(s) provided consistent with the above guidelines and between the dates of:

12/31/2022 and 1/13/2023

(applicant or staff to post sign) **(applicant to remove sign)**

Applicant Name: Mesana Investments - Beeler Rd

Date: 11/29/22

File Number: 1-SF-23-C 1-E-23-DP

[X] Sign posted by Staff

[ ] Sign posted by Applicant