SUBDIVISION REPORT - CONCEPT/DEVELOPMENT PLAN

Planning
KNOXVILLE | KNOX COUNTY

▶ **FILE #:**	**5-SB-23-C**	**AGENDA ITEM #:**	**26**
	5-A-23-DP	**AGENDA DATE:**	**5/11/2023**
▶ **SUBDIVISION:**	**BRAKEBILL ROAD SUBDIVISION, PHASE 2**		
▶ **APPLICANT/DEVELOPER:**	**CHRIS SHARP URBAN ENGINEERING, INC. COLE MURPHY**		
OWNER(S):	Gabe Thomas		
TAX IDENTIFICATION:	72 267	**View map on KGIS**	
JURISDICTION:	County Commission District 8		
STREET ADDRESS:	521 BRAKEBILL RD		
▶ **LOCATION:**	**South side of Hammer Road, west of Brakebill Road**		
SECTOR PLAN:	East County		
GROWTH POLICY PLAN:	Urban Growth Area (Outside City Limits)		
WATERSHED:	Sinking East Creek & Swan Pond		
▶ **APPROXIMATE ACREAGE:**	**64.38 acres**		
▶ **ZONING:**	**PR (Planned Residential)**		
▶ **EXISTING LAND USE:**	**Agriculture/Forestry/Vacant Land**		
▶ **PROPOSED USE:**	**Attached residential subdivision**		
SURROUNDING LAND USE AND ZONING:	North: Residences / A (Agricultural), PR (Planned Residential) & RA (Low Density Residential) South: Vacant land, residence / A (Agricultural) East: Residences, place of worship, vacant land / A (Agricultural) West: Residences, vacant land / A (Agricultural) & PR (Planned Residential)		
▶ **NUMBER OF LOTS:**	**96**		
SURVEYOR/ENGINEER:	Chris Sharp, P.E. Urban Engineering, Inc.		
ACCESSIBILITY:	Access is via Hammer Rd., a minor collector street with a 16-ft pavement width within a 50-ft right-of-way.		
▶ **SUBDIVISION VARIANCES REQUIRED:**	**VARIANCES** **1. Reduce the minimum vertical curve from K=25 to K=20 at the Road 'C' between STA 1+86.79 and 4+07.38** **2. Reduce the minimum tangent distance between broken back curves from 150 ft to 118.24 ft on Road 'C' between STA 12+50.70 and 13+68.94** **ALTERNATIVE DESIGN STANDARDS REQUIRING KNOXVILLE-KNOX COUNTY PLANNING COMMISSION APPROVAL** **1. Reduce the minimum horizontal curve radius from 250 ft to 125 ft on Road 'C' between STA 13+68.94 and 14+89.75** **ALTERNATIVE DESIGN STANDARDS REQUIRING KNOX COUNTY ENGINEERING AND PUBLIC WORKS APPROVAL**		

**** See attached variance and alternative design request form.**

STAFF RECOMMENDATION:

- **Approve the requested variances and alternative design standard based on the justification provided by the applicant and recommendations of the Knox County Department of Engineering and Public Works.**

Approve the Concept Plan subject to 7 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) Implementation of the street and intersection improvement recommendations outlined in the Transportation Impact Study (TIS) prepared by Ajax Engineering (August 24, 2020) for the portions of Brakebill Road and Hammer Road adjacent to the subject property. The design details shall be worked out with the Knox County Department of Engineering and Public Works during the design plan stage.
4) The required road improvements to Brakebill Road and Hammer Road must be completed prior to certification of the final plat for Phase 2.
5) Installation of the sidewalks per the Knox County Sidewalk Ordinance, with the design details worked out with Knox County Engineering and Public Works during the design plan phase.
6) Meeting all applicable requirements of the Knox County Department of Engineering and Public Works.
7) 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 up to 96 attached residential dwellings on individual lots for Phase 2 of the Brakebill Road Subdivision, subject to 3 conditions.**

1) Meeting all applicable requirements of the Knox County Zoning Ordinance.
2) Providing continuous landscape screening along the Hammer Road frontage that is consistent with the intent of the Type B landscape screen (see Exhibit A). The landscape screen may consist of mature existing evergreen and deciduous trees, or newly planted trees. A landscape plan must be approved by Planning staff during the design plan phase. A tree protection plan must be provided for trees that will be maintained.
3) The maximum height of the attached dwellings shall be 35 feet.

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:

This proposal is Phase 2 of the Brakebill Road Subdivision, which includes 96 attached residential lots. The subdivision was approved in 2020 with 227 detached and 95 attached lots (9-SB-20-C / 9-D-20-UR). This proposal increases the attached dwellings from 95 to 96, and moves them from the southern portion of the development to the northern portion. The maximum number of dwelling units for the Brakebill Road Subdivision remains 322, per the 2020 approval. Phase 1 of the subdivision has 98 detached residential lots. The name of the subdivision as it is platted is Strawberry Hills.

Background
This site was rezoned to PR (Planned Residential) at a density of up to 9 du/ac by Knox County Commission on March 26, 2018 (2-C-18-RZ). In 2018, phase 1 of a mixed-use development was approved with 246 detached and 78 attached residential lots (5-SB-18-C / 5-E-18-UR). The proposal included a future multi-family complex on 14.04 acres and 4.10 acres of commercial area, which would have required a separate Use on Review approval by the Planning Commission. The PR zone allows 1 acre of commercial uses for each 100 dwelling units. In 2020, the subdivision as it is currently being developed was approved with 227 detached and 95 attached lots (9-SB-20-C / 9-D-20-UR), and does not include multi-family or commercial uses as previously proposed.

Transportation Impact Study (TIS)
The TIS prepared by Ajax Engineering outlines that extensive improvements are needed at the Strawberry Plains Pike intersection (see Exhibit A). These improvements are not required to be implemented by the developer. The issues at this intersection are known and are not easily fixed without significant changes to other portions of Strawberry Plains Pike and the interstate ramps.

The road improvements required for this proposal are widening Brakebill Road to a minimum of 20 feet along the frontage of the property, and Hammer Road to a minimum of 18 feet from Brakebill Road to the Road 'B' access. A left turn lane is required at the Brakebill Road and Road 'A' intersection. The design of the left turn lane will be finalized during design plan review. The internal streets are to be posted at 25 MPH.

Open Space / Amenities
The primary amenity proposed for this subdivision is a clubhouse and pool in Phase 1. There is also an amenity structure in Phase 2. The large common area on the west and southwest portion of the property does not have a programmed use at this time, but there is a note on the 2020 concept plan that states it could be used for unpaved trails.

Landscape Screening
Staff is recommending that landscape screening be provided along the Hammer Road frontage. This was not a requirement of the 2020 concept plan because this location had detached residential lots. The landscape screening can consist of existing and new trees. A landscape plan must be approved by Planning staff during the design plan phase.

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 9 du/ac:
a) The PR zone allows detached dwellings 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 9 du/ac. The proposed density is 3.2 du/ac for the entire development.
c) The Planning Commission determines the maximum height for any use other than houses and duplexes. Staff recommends a maximum height of 35 ft for the attached dwellings, consistent with the maximum height allowed on surrounding properties.

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 -- Staff is recommending a maximum height of 35 ft for the attached dwellings, which is consistent with the allowed height on adjacent properties.
c) Policy 9.8, Encourage a mixture of housing sizes and prices within planned residential developments – Phase 2 includes only attached residential houses, but the overall development includes detached and attached houses, providing the opportunity for a mix of housing sizes and prices.

3) EAST COUNTY SECTOR PLAN
a) The property is classified MDR/O (Medium Density Residential/Office), which allows residential development up to 12 du/ac, and office uses. The development will have a density of 3.2 du/ac for the entire development.

4) KNOXVILLE - FARRAGUT - KNOX COUNTY GROWTH POLICY PLAN
a) The property is within the Urban Growth Boundary. The purposes of the Urban Growth Boundary designation are to encourage a reasonably compact pattern of development, promote the expansion of the Knoxville-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.

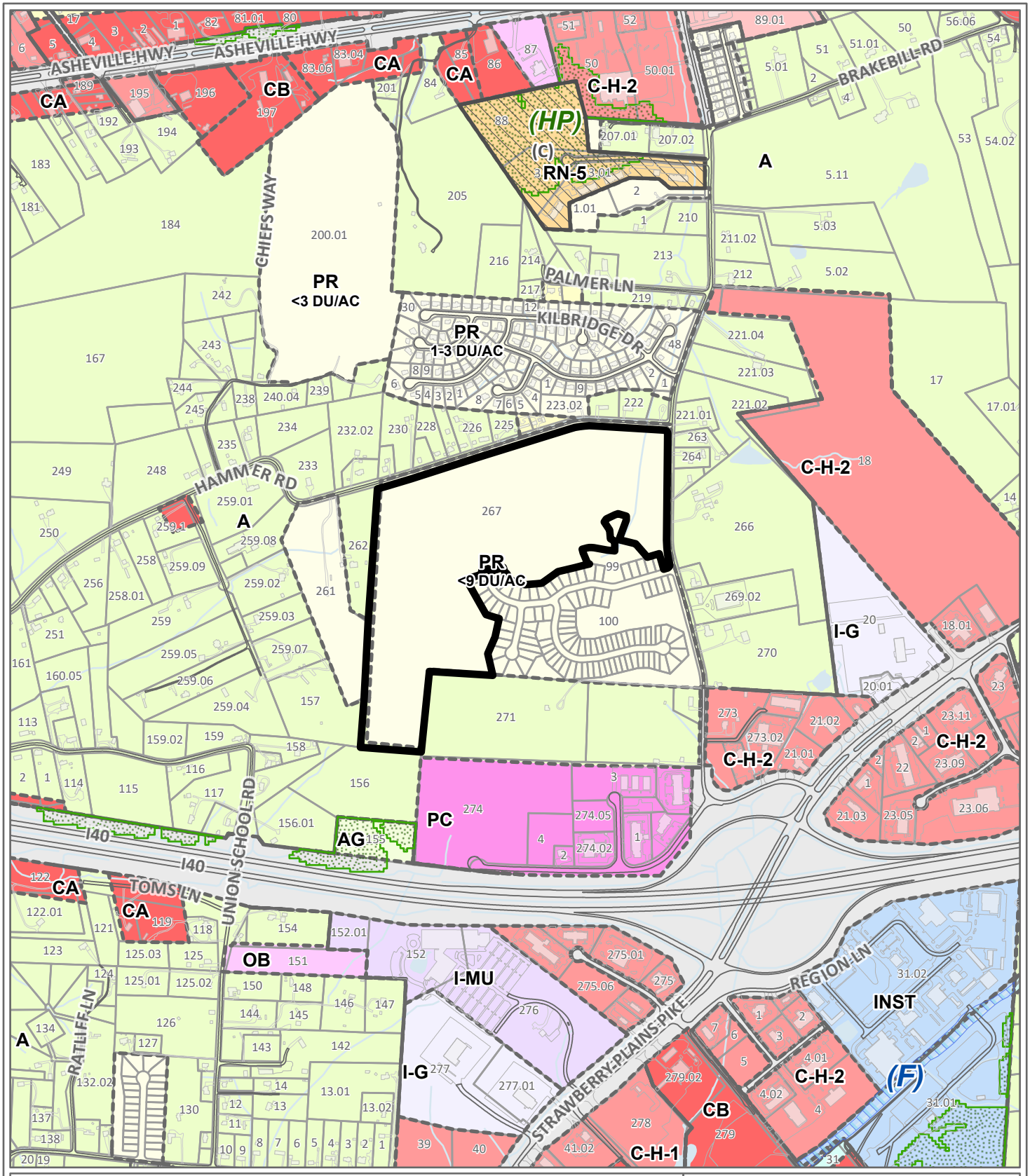
ESTIMATED STUDENT YIELD: 5 (public school children, grades K-12)

Schools affected by this proposal: Sunnyview Pr/Chilhowee Int, Carter Middle, and Carter 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 5-SB-23-C / 5-A-23-DP

Attached residential subdivision in PR (Planned Residential)

Original Print Date: 4/14/2023

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

Petitioner: Urban Engineering, Inc., Chris Sharp, Cole Murphy

Map No: 72

Jurisdiction: County

0 1,000 Feet

N

Requested Variances & Alternative Design Standards

5-SB-23-C / 5-A-23-DP– BRAKEBILL RIDGE SUBDIVISION

VARIANCES

1. Reduce the minimum vertical curve from K=25 to K=20 at the Road 'C' between STA 1+86.79 and 4+07.38
2. Reduce the minimum tangent distance between broken back curves from 150 ft to 118.24 ft on Road 'C' between STA 12+50.70 and 13+68.94

ALTERNATIVE DESIGN STANDARDS REQUIRING KNOXVILLE-KNOX COUNTY PLANNING COMMISSION APPROVAL

1. Reduce the minimum horizontal curve radius from 250 ft to 125 ft on Road 'C' between STA 13+68.94 and 14+89.75

ALTERNATIVE DESIGN STANDARDS REQUIRING KNOX COUNTY ENGINEERING AND PUBLIC WORKS APPROVAL

1. Increase the maximum intersection grade from 1 to 2 percent on Road 'A' at the Road 'C' intersection
2. Increase the maximum intersection grade from 1 to 2 percent on Road 'B' at the Road 'C' intersection
3. Increase the maximum intersection grade from 1 to 2 percent on Road 'B' at the Hammer Road intersection

KNOX COUNTY ENGINEERING AND PUBLIC WORKS RECOMMENDATION:

Approve as requested since no unsafe conditions are created.

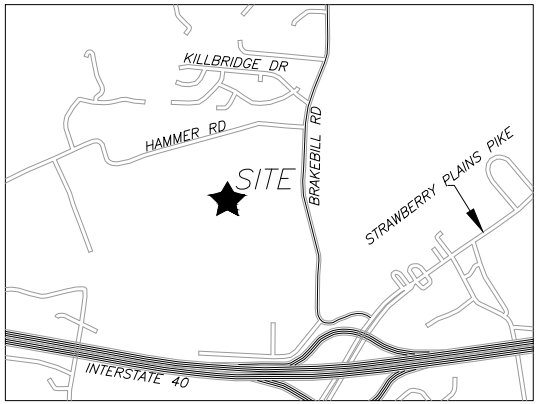
Steve Elliott 5/4/23

CONCEPT PLAN

U.E.I. PROJECT NO. 2003005

BRAKEBILL ROAD SUBDIVISION–PHASE 2

SITE ADDRESS: 521 & 601 BRAKEBILL ROAD, KNOXVILLE, TENNESSEE 37924
CLT MAP 72, PARCELS 267 & 267.01



LOCATION MAP

DEVELOPER:
MAVERICK DEVELOPMENT GROUP, LLC
3200 NORTH HAWTHORNE STREET
CHATTANOOGA, TN 37406
(423) 668–6030

SITE ENGINEER:
URBAN ENGINEERING, INC.
CHRIS SHARP
10330 HARDIN VALLEY RD., SUITE #201
KNOXVILLE, TN 37932
(865) 966–1924

SPECIFICATIONS

EXCEPT WHERE DIRECTED OTHERWISE BY THE PLANS, WORKMANSHIP AND MATERIAL (BUT NOT MEASUREMENT AND PAYMENT) FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS AND STANDARDS.

ELECTRICAL	– AS DIRECTED BY KNOXVILLE UTILITIES BOARD
GAS	– AS DIRECTED BY KNOXVILLE UTILITIES BOARD
WATER & SEWER	– AS DIRECTED BY KNOXVILLE UTILITIES BOARD
TELEPHONE	– AS DIRECTED BY AT&T
CABLE	– AS DIRECTED BY COMCAST
SITE DEVELOPMENT	– KNOX COUNTY STANDARDS AND SPECIFICATIONS

SHEET INDEX

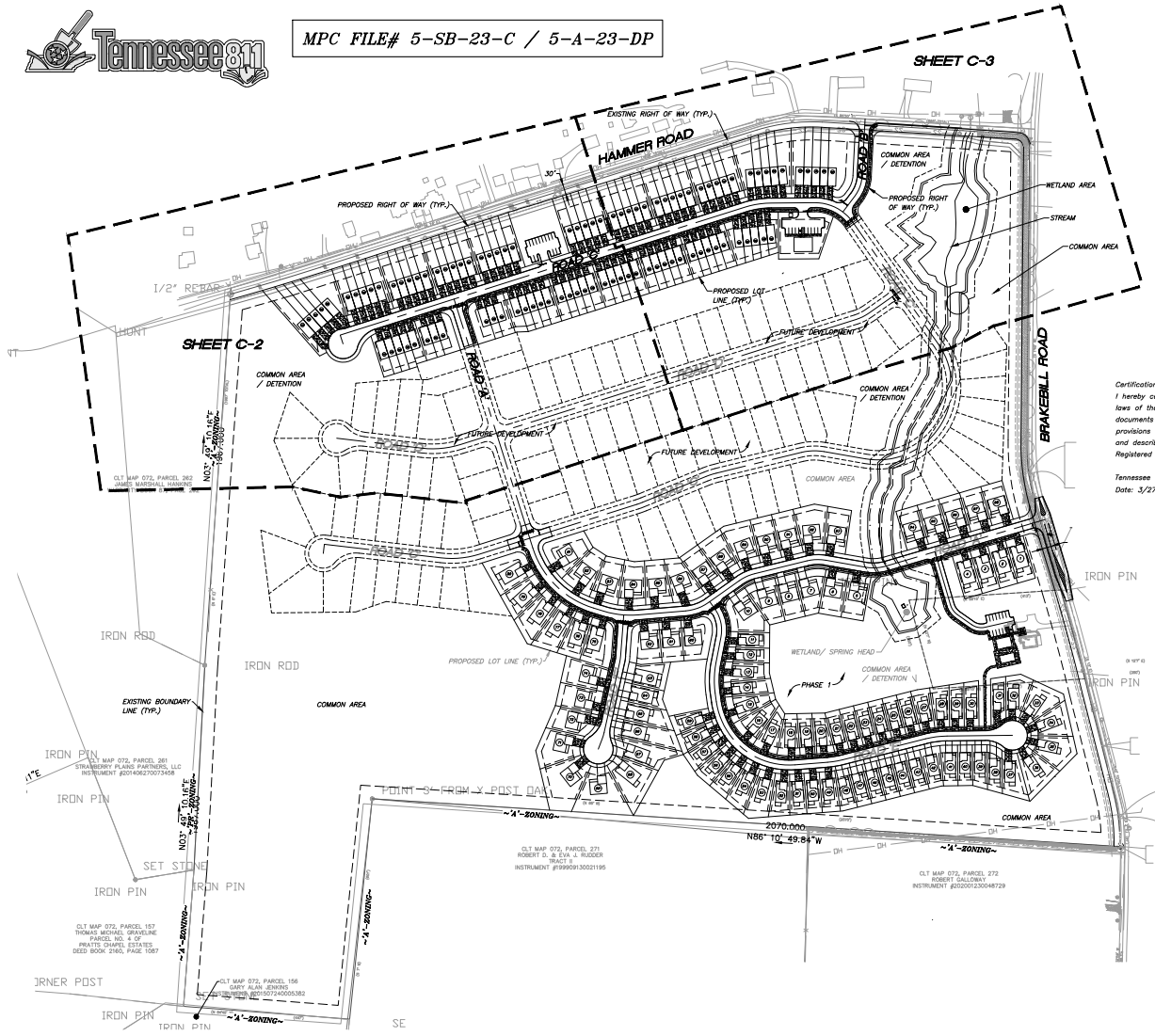
Revised: 4/24/2023

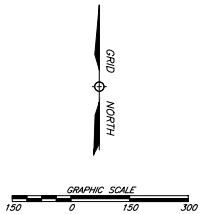
MPC FILE# 5–SB–23–C / 5–A–23–DP

ISSUE NO.	DATE	DESCRIPTION
2	4/24/23	SUBMITTAL 2

Tennessee811

MPC FILE# 5-SB-23-C / 5-A-23-DP





Certification of Concept Plan by Registered Engineer

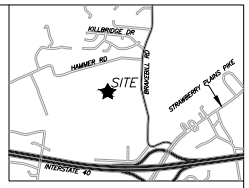
I hereby certify that I am a registered engineer, licensed to practice engineering under the laws of the State of Tennessee. I further certify that the plan and accompanying drawings, documents and statements conform, to the best of my knowledge, to all applicable provisions of the Knoxville–Knox County Subdivision Regulations except as has been itemized and described in a report filed with the Planning Commission.

Registered Engineer _____

Christopher A. Sharp, P.E.

Tennessee License No. 108984

Date: 3/27/2023



LOCATION MAP

SITE PLAN NOTES:

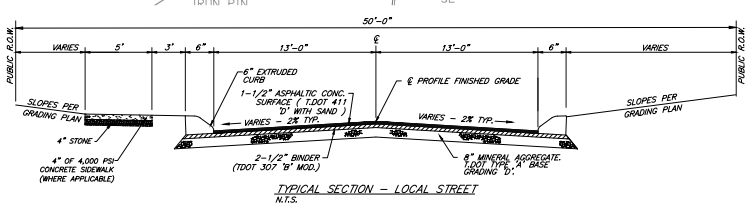
1. THIS PROPERTY IS ZONED 'PR'. REQUIRED BUILDING SETBACKS ARE AS FOLLOWS:
   - FRONT: TWENTY (20) FEET
   - PERIPHERY: THIRTY-FIVE (35) FEET
   - SIDE: FIVE (5) FEET, UNLESS BETWEEN ATTACHED DWELLINGS, IN WHICH CASE THE SETBACK IS ZERO (0) FEET.
   - REAR: FIFTEEN (15) FEET
2. THE LOCATIONS OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON FIELD LOCATION OF VISIBLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATER VALVES, ETC., AND COMPILING INFORMATION FROM PLANS SUPPLIED BY VARIOUS UTILITY COMPANIES AND GOVERNMENT AGENCIES. THE CONTRACTORS SHALL NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES AND ALSO CALL TENN ONE-CALL PRIOR TO ANY EXCAVATION WORK, TO VERIFY INFORMATION SHOWN AND DETERMINE THE LAYOUT OF THE IRRIGATION SYSTEM AND IF ADDITIONAL IMPROVEMENTS MAY EXIST.
3. HORIZONTAL COORDINATES ARE TENNESSEE STATE PLANE. VERTICAL DATUM IS NAVD88.
4. ALL WORK SHALL BE IN ACCORDANCE WITH KNOX COUNTY'S SPECIFICATIONS FOR SITE DEVELOPMENT.
5. THE CURRENT TOTAL AREA OF THE DEVELOPMENT IS 100.6± ACRES.
6. THE DEVELOPMENT PROPOSES 300-UNITS (2.98 UNITS PER ACRE).
7. PROPOSED OPEN SPACE (INCLUDING BUFFER AREA & AREAS WITHIN STORM WATER DETENTION AREAS) IS APPROXIMATELY 36.8± ACRES (37%)
8. THE PROPOSED LOTS SHALL HAVE VEHICULAR ACCESS TO INTERNAL ROADS ONLY.
9. A HOMEOWNERS ASSOCIATION SHALL BE ESTABLISHED TO ADDRESS MAINTENANCE OF THE COMMON AREAS. THE HOMEOWNERS ASSOCIATION WILL ALSO BE RESPONSIBLE FOR SIDEWALK MAINTENANCE.
10. 10' UTILITY AND DRAINAGE EASEMENTS SHALL BE RESERVED ALONG ALL EXTERIOR BOUNDARY LINES AND PUBLIC RIGHT OF WAY. 5' UTILITY AND DRAINAGE EASEMENTS SHALL BE RESERVED ALONG ALL INTERIOR LOT LINES EXCEPT WHEN UNDER BUILDINGS.
11. VEGETATION SHALL BE REMOVED AS NECESSARY TO PROVIDE A MINIMUM OF 300' OF SIGHT DISTANCE AT THE INTERSECTION OF ROAD 'B' AND HAMMER ROAD.
12. EFFORTS SHALL BE TAKEN TO LEAVE THE EXISTING VEGETATION ALONG HAMMER ROAD IN PLACE. VEGETATIVE SCREENING SHALL BE PROVIDED WHERE LEAVING SAID VEGETATION IN PLACE IMPRACTICAL / IMPOSSIBLE.

REQUESTED VARIANCES / ALTERNATIVE DESIGN STANRDS:

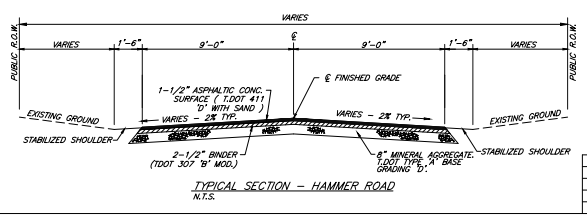
1. REDUCE BROKE BACK CURVE TANGENT ON ROAD C FROM 150' TO 118.24' BETWEEN STATIONS 13+68.94 AND 12+50.70.
2. REDUCE THE MINIMUM RADIUS FROM 250' TO 125' ON ROAD C BETWEEN STATIONS 13+68.94 AND 14+89.75.
3. REDUCE THE MINIMUM K VALUE FROM 25 TO 20 (ROAD C).
4. INCREASE THE INTERSECTION GRADE FROM 1% TO 2% ON ROAD A AT ITS INTERSECTION WITH ROAD C.
5. INCREASE THE INTERSECTION GRADE FROM 1% TO 2% ON ROAD B AT ITS INTERSECTION WITH ROAD C.
6. INCREASE THE INTERSECTION GRADE FROM 1% TO 2% ON ROAD B AT ITS INTERSECTION WITH HAMMER ROAD.

MPC FILE# 5-SB-23-C / 5-A-23-DP

Revised: 4/24/2023 SHEET C-1



TYPICAL SECTION - LOCAL STREET
N.T.S.



TYPICAL SECTION - HAMMER ROAD
N.T.S.

REFERENCE:
PARCEL 267
DEED BOOK: 2311, PAGE: 995
PARCEL 267.01
DEED INST. 200005120031972

REVISION	DATE	DESCRIPTION	BY

TYPICAL SECTIONS & KEY SHEET

BRAKEBILL ROAD SUBDIVISION PHASE 2

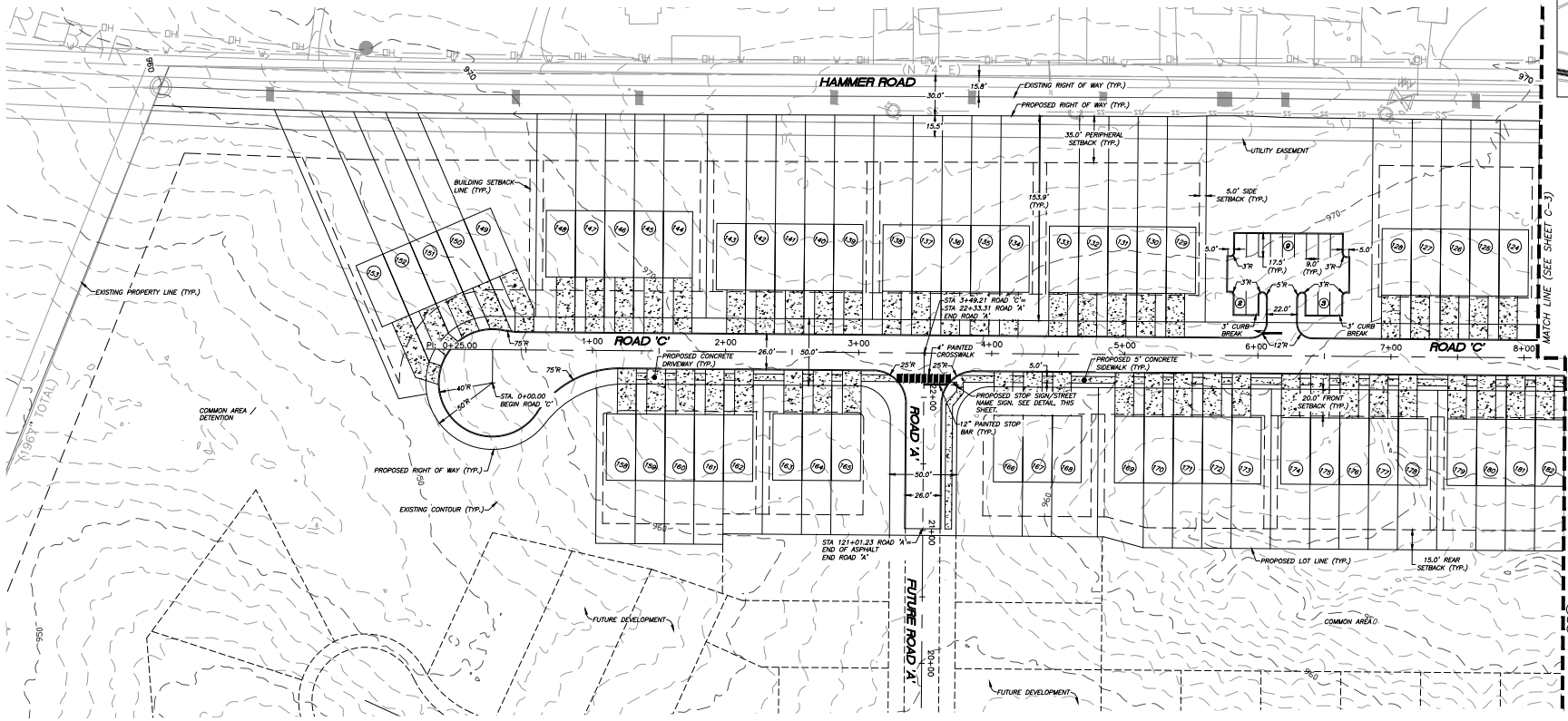
SITE ADDRESS: 521 & 601 BRAKEBILL ROAD (37924)

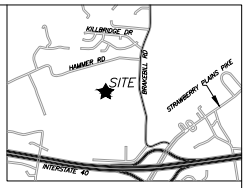
DEVELOPER: MAVERICK DEVELOPMENT GROUP, LLC
3200 NORTH HAWTHORNE STREET
CHATTANOOGA, TN 37406
(423) 668-6030

DIST. NO. 58 — KNOX CO., TN.
CLT MAP 72 — PARCELS 267 & 267.01
SCALE: 1"=150' — MARCH 27, 2023

URBAN ENGINEERING, INC.
10330 HARDIN VALLEY RD., SUITE #201
KNOXVILLE, TN 37932
(865) 966-1924

DWN: CLM | CHK: CAS | DWG. NO. 2003005





LOCATION MAP

SITE PLAN NOTES:

1. THIS PROPERTY IS ZONED "PR". REQUIRED BUILDING SETBACKS ARE AS FOLLOWS:

   FRONT: TWENTY (20) FEET

   PERIPHERY: THIRTY-FIVE (35) FEET

   SIDE: FIVE (5) FEET, UNLESS BETWEEN ATTACHED DWELLINGS, IN WHICH CASE THE SETBACK IS ZERO (0) FEET.

   REAR: FIFTEEN (15) FEET

2. THE LOCATIONS OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON FIELD LOCATION OF VISIBLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATER VALVES, ETC., AND COMPILING INFORMATION FROM PLANS SUPPLIED BY VARIOUS UTILITY COMPANIES AND GOVERNMENT AGENCIES. THE CONTRACTORS SHALL NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES AND ALSO CALL TENN ONE–CALL PRIOR TO ANY EXCAVATION WORK, TO VERIFY INFORMATION SHOWN AND DETERMINE THE LAYOUT OF THE IRRIGATION SYSTEM AND IF ADDITIONAL IMPROVEMENTS MAY EXIST.
3. HORIZONTAL COORDINATES ARE TENNESSEE STATE PLANE. VERTICAL DATUM IS NAVD88.
4. ALL WORK SHALL BE IN ACCORDANCE WITH KNOX COUNTY'S SPECIFICATIONS FOR SITE DEVELOPMENT.
5. THE CURRENT TOTAL AREA OF THE DEVELOPMENT IS 100.6± ACRES.
6. THE DEVELOPMENT PROPOSES 300–UNITS (2.98 UNITS PER ACRE).
7. PROPOSED OPEN SPACE (INCLUDING BUFFER AREA & AREAS WITHIN STORM WATER DETENTION AREAS) IS APPROXIMATELY 36.8± ACRES (37%)
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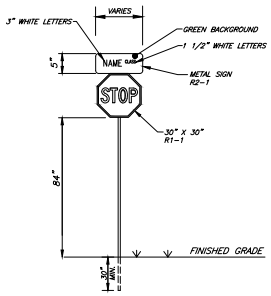
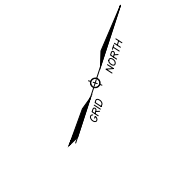
11. VEGETATION SHALL BE REMOVED AS NECESSARY TO PROVIDE A MINIMUM OF 300' OF SIGHT DISTANCE AT THE INTERSECTION OF ROAD 'B' AND HAMMER ROAD.

SIGN NOTE:

SIGNAGE AND STRIPING TO BE IN ACCORDANCE WITH THE MUTCD (LATEST EDITION).



COMBINATION STOP SIGN / STREET NAME SIGN DETAIL



REFERENCE:
PARCEL 267
DEED BOOK: 2311, PAGE: 995
PARCEL 267.01
DEED INST. 200005120031972

Revised: 4/24/2023

MPC FILE# 5-SB-23-C / 5-A-23-DP

REVISION	DATE	DESCRIPTION	BY
1	4/24/23	REVISED PER PLANNING AND EPW COMMENTS	CAS

SHEET C-2

SITE PLAN

BRAKEBILL ROAD SUBDIVISION PHASE 2

SITE ADDRESS: 521 & 601 BRAKEBILL ROAD (37924)

DEVELOPER: MAVERICK DEVELOPMENT GROUP, LLC
3200 NORTH HAWTHORNE STREET
CHATTANOOGA, TN 37406
(423) 668–6030

DIST. NO. 58 — KNOX CO., TN.
CLT MAP 72 — PARCELS 267 & 267.01
SCALE: 1"=40' — MARCH 27, 2023

URBAN ENGINEERING, INC.
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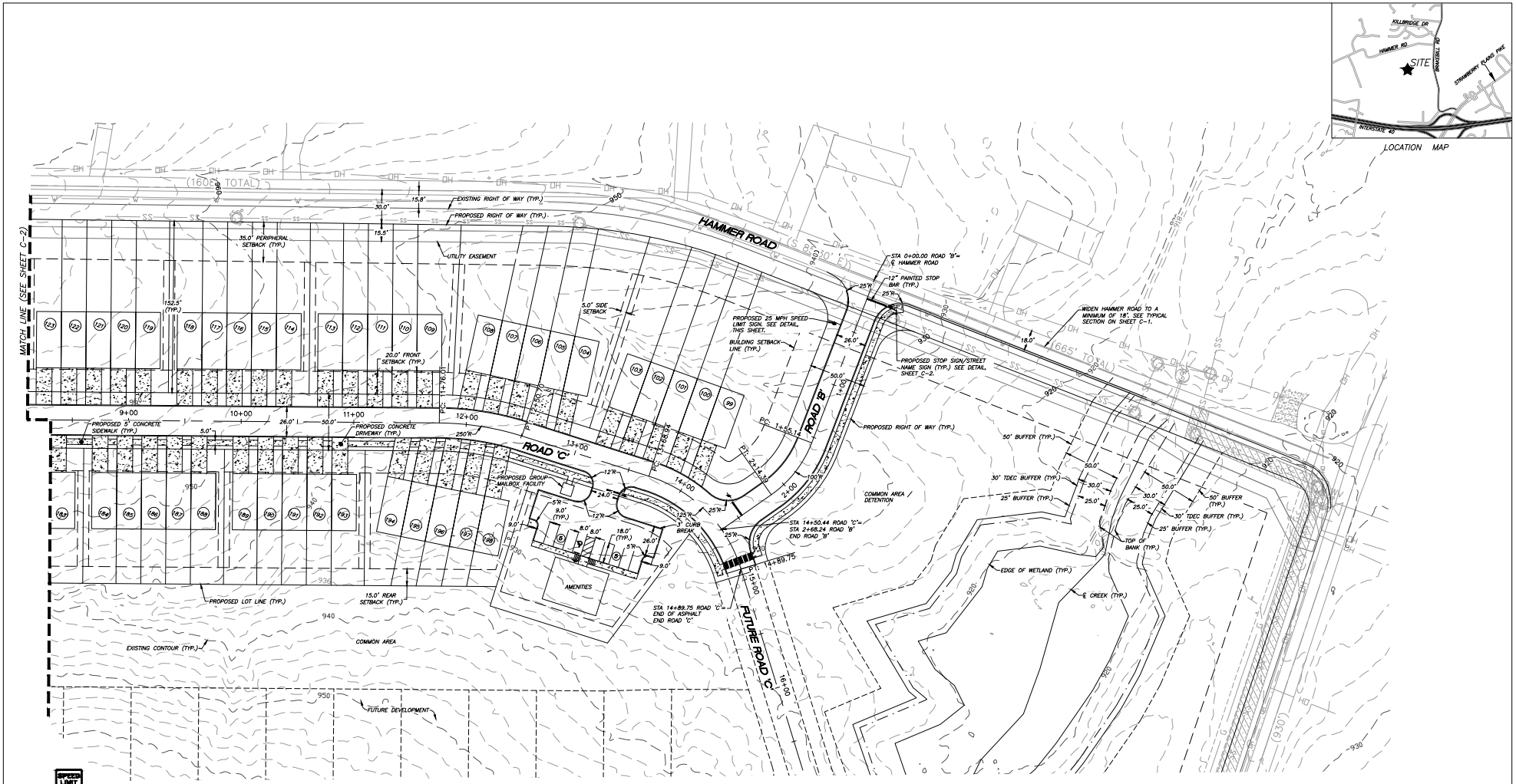
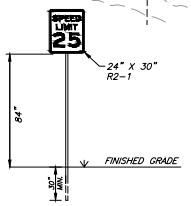
(865) 966–1924

DWN: CLM | CHK: CAS | DWG. NO. 2003005

Tennessee811



LOCATION MAP



SPEED LIMIT SIGN DETAIL

Tennessee811

SITE PLAN NOTES:

1. THIS PROPERTY IS ZONED 'PR'. REQUIRED BUILDING SETBACKS ARE AS FOLLOWS:

   FRONT: TWENTY (20) FEET

   PERIPHERY: THIRTY-FIVE (35) FEET

   SIDE: FIVE (5) FEET, UNLESS BETWEEN ATTACHED DWELLINGS, IN WHICH CASE THE SETBACK IS ZERO (0) FEET.

   REAR: FIFTEEN (15) FEET

2. THE LOCATIONS OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON FIELD LOCATION OF VISIBLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATER VALVES, ETC., AND COMPILING INFORMATION FROM PLANS SUPPLIED BY VARIOUS UTILITY COMPANIES AND GOVERNMENT AGENCIES. THE CONTRACTORS SHALL NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES AND ALSO CALL TENN ONE-CALL PRIOR TO ANY EXCAVATION WORK, TO VERIFY INFORMATION SHOWN AND DETERMINE THE LAYOUT OF THE IRRIGATION SYSTEM AND IF ADDITIONAL IMPROVEMENTS MAY EXIST.
3. HORIZONTAL COORDINATES ARE TENNESSEE STATE PLANE. VERTICAL DATUM IS NAVD88.
4. ALL WORK SHALL BE IN ACCORDANCE WITH KNOX COUNTY'S SPECIFICATIONS FOR SITE DEVELOPMENT.
5. THE CURRENT TOTAL AREA OF THE DEVELOPMENT IS 100.6± ACRES.

SITE PLAN NOTES (CONT.):

6. THE DEVELOPMENT PROPOSES 300-UNITS (2.98 UNITS PER ACRE).
7. PROPOSED OPEN SPACE (INCLUDING BUFFER AREA & AREAS WITHIN STORM WATER DETENTION AREAS) IS APPROXIMATELY 36.8± ACRES (37%)
8. THE PROPOSED LOTS SHALL HAVE VEHICULAR ACCESS TO INTERNAL ROADS ONLY.
9. A HOMEOWNERS ASSOCIATION SHALL BE ESTABLISHED TO ADDRESS MAINTENANCE OF THE COMMON AREAS. THE HOMEOWNERS ASSOCIATION WILL ALSO BE RESPONSIBLE FOR SIDEWALK MAINTENANCE.
10. 10' UTILITY AND DRAINAGE EASEMENTS SHALL BE RESERVED ALONG ALL EXTERIOR BOUNDARY LINES AND PUBLIC RIGHT OF WAY. 5' UTILITY AND DRAINAGE EASEMENTS SHALL BE RESERVED ALONG ALL INTERIOR LOT LINES EXCEPT WHEN UNDER BUILDINGS.
11. VEGETATION SHALL BE REMOVED AS NECESSARY TO PROVIDE A MINIMUM OF 300' OF SIGHT DISTANCE AT THE INTERSECTION OF ROAD 'B' AND HAMMER ROAD.

Revised: 4/24/2023

MPC FILE# 5-SB-23-C / 5-A-23-DP

GRID NORTH

GRAPHIC SCALE
40 0 40 80

REFERENCE:
PARCEL 267
DEED BOOK: 2311, PAGE: 995
PARCEL 267.01
DEED INST. 200005120031972

REVISION	DATE	DESCRIPTION	BY
1	4/24/23	REVISED PER PLANNING AND EPW COMMENTS	CAS

SHEET C-3

SITE PLAN

BRAKEBILL ROAD SUBDIVISION PHASE 2

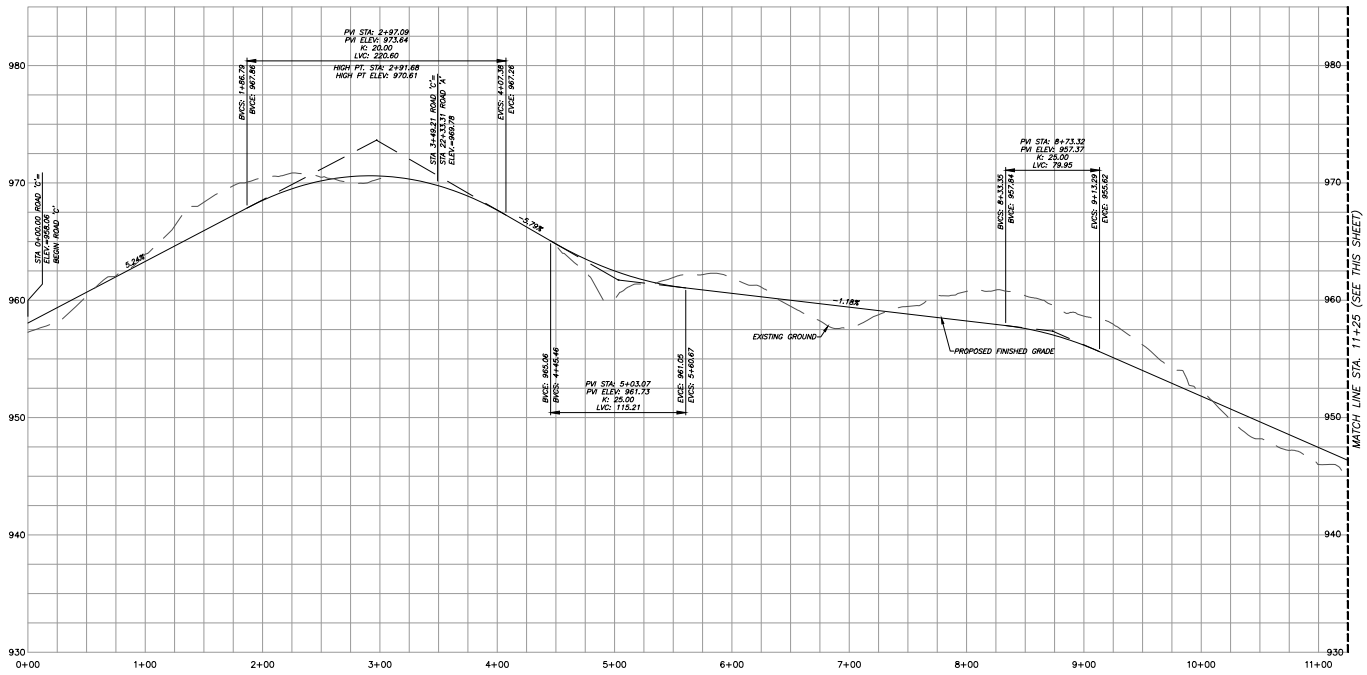
SITE ADDRESS: 521 & 601 BRAKEBILL ROAD (37924)

DEVELOPER: MAVERICK DEVELOPMENT GROUP, LLC
3200 NORTH HAWTHORNE STREET
CHATTANOOGA, TN 37406
(423) 668-6030

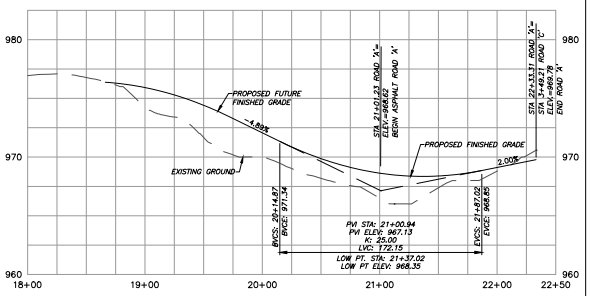
DIST. NO. 58 — KNOX CO., TN.
CLT MAP 72 — PARCELS 267 & 267.01
SCALE: 1"=40' — MARCH 27, 2023

URBAN ENGINEERING, INC.
10330 HARDIN VALLEY RD., SUITE #201
KNOXVILLE, TN 37932
(865) 966-1924

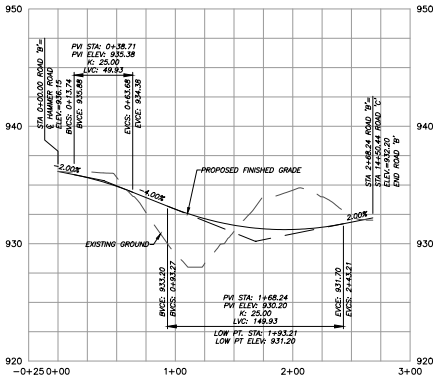
DWN: CLM | CHK: CAS | DWG. NO. 2003005



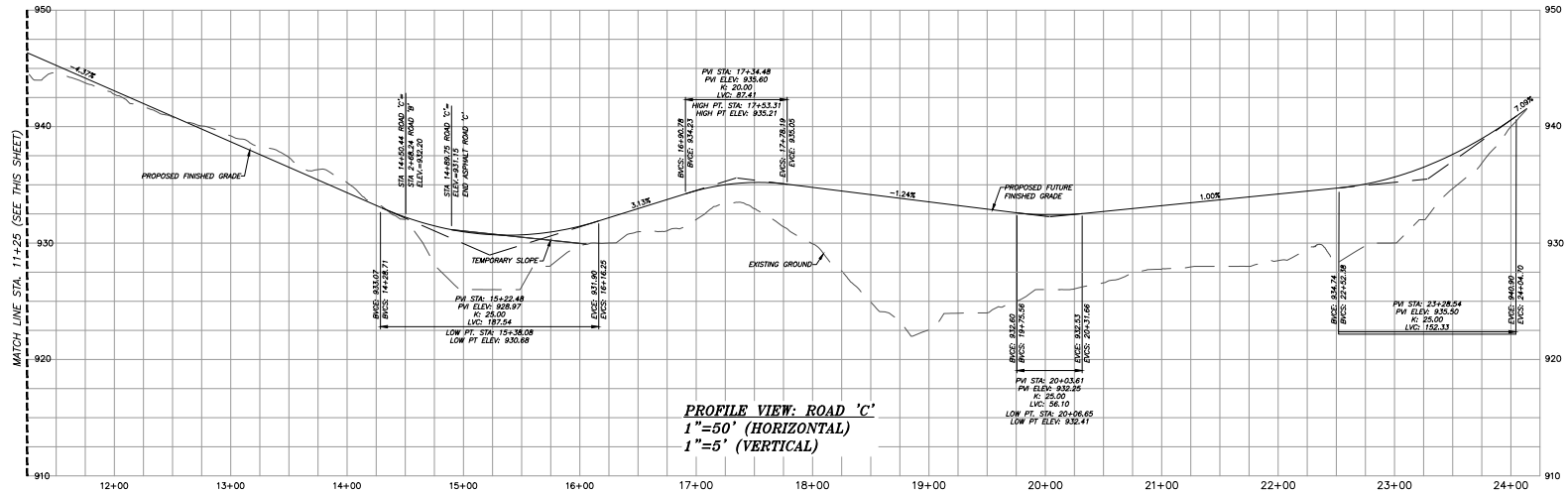
PROFILE VIEW: ROAD 'C'
1"=50' (HORIZONTAL)
1"=5' (VERTICAL)



PROFILE VIEW: ROAD 'A'
1"=50' (HORIZONTAL)
1"=5' (VERTICAL)



PROFILE VIEW: ROAD 'B'
1"=50' (HORIZONTAL)
1"=5' (VERTICAL)



PROFILE VIEW: ROAD 'C'
1"=50' (HORIZONTAL)
1"=5' (VERTICAL)

Revised: 4/24/2023

MPC FILE# 5-SB-23-C / 5-A-23-DP

SHEET C-4

ROAD PROFILES

BRAKEBILL ROAD SUBDIVISION PHASE 2

SITE ADDRESS: 521 & 601 BRAKEBILL ROAD (37924)

DEVELOPER: MAVERICK DEVELOPMENT GROUP, LLC
3200 NORTH HAWTHORNE STREET
CHATTANOOGA, TN 37406
(423) 668-6030

DIST. NO. S8 — KNOX CO., TN.
CLT MAP 72 — PARCELS 267 & 267.01
SCALE: AS NOTED — MARCH 27, 2023

URBAN ENGINEERING, INC.
10330 HARDIN VALLEY RD., SUITE #201
KNOXVILLE, TN 37932
(865) 966-1924

DWN: CLM | CHK: CAS | DWG. NO. 2003005

REVISION	DATE	DESCRIPTION	BY
1	4/24/23	REVISED PER PLANNING AND EPW COMMENTS	CAS

URBAN ENGINEERING, INC.

CIVIL ENGINEERS • LAND PLANNERS

April 24, 2023

Mr. Mike Reynolds
Knox County Metropolitan Planning Commission
Suite 403, City/County Building
400 Main Street
Knoxville, TN 37902

Re: Brakebill Road S/D

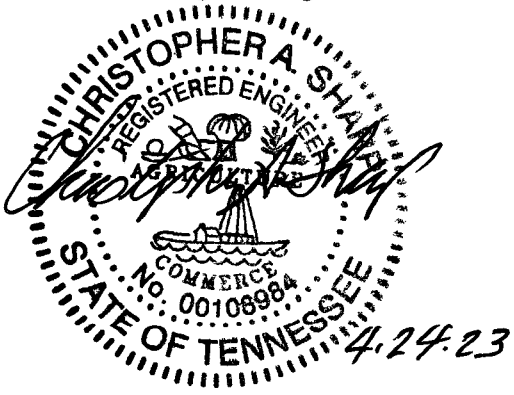
Dear Mr. Reynolds:

Sight distance was evaluated to the east and west of the proposed ingress / egress location at Hammer Road. The sight distance was measured at 15 feet from the edge of the roadway in both directions along Hammer Road. The posted speed is 30 MPH. Per AASHTO, the required intersection sight distance for a vehicle turning left onto the thru road is 335 feet. The required intersection sight distance for a motorist turning right is 290 feet. The minimum stopping sight distance is 200 feet.

Once undergrowth/vegetation has been removed, there will be more than 400 feet of available sight distance to the west and more than 400 feet of available sight distance to the east, which exceeds the minimum values that are prescribed by AASHTO. Attached to this letter, you will find sight distance exhibits that show lines of sight in both directions.

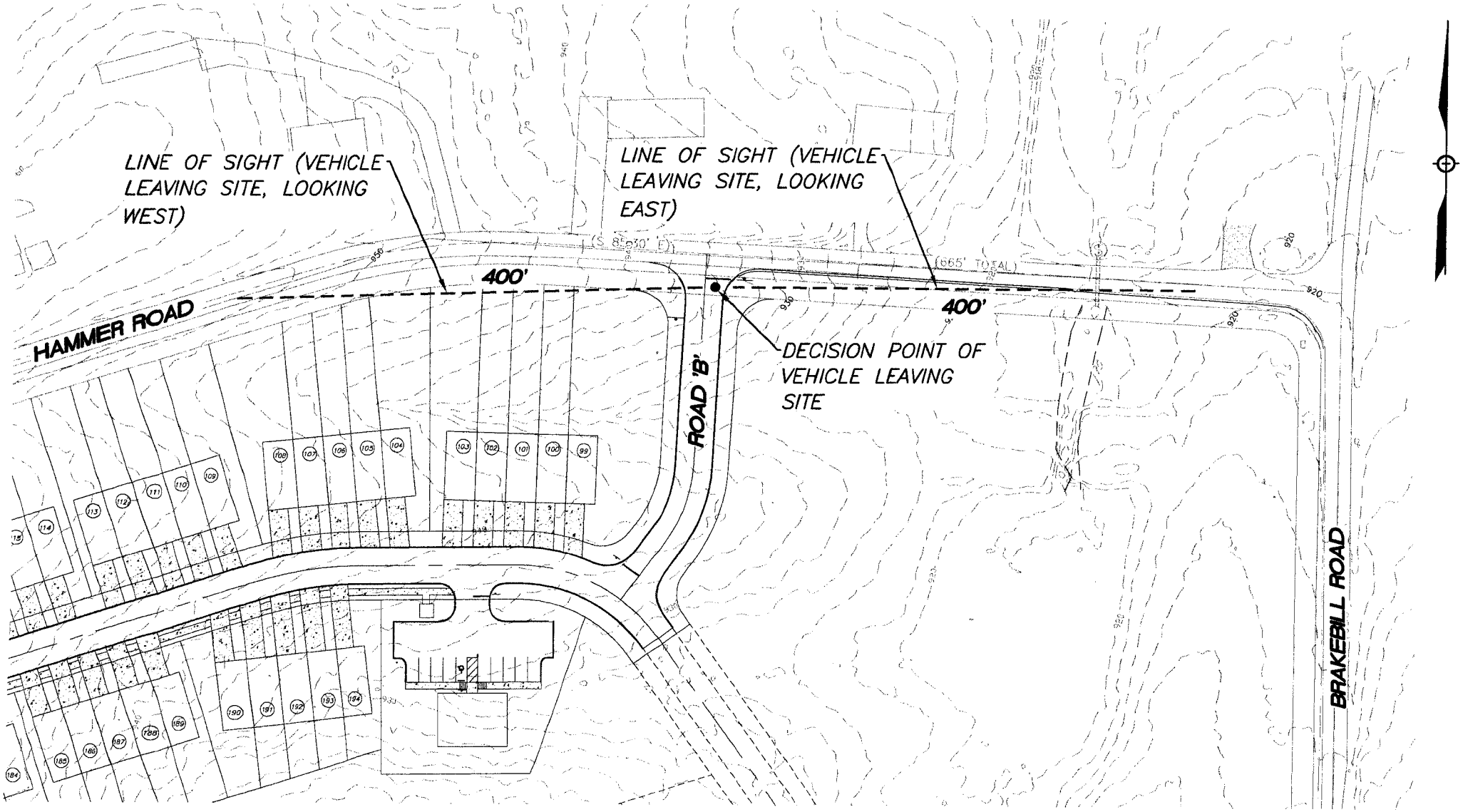
Please do not hesitate to contact me if you have questions about this letter or attachments.
Sincerely,

Urban Engineering, Inc.



Chris Sharp, P.E.

10330 HARDIN VALLEY RD, SUITE 201 • KNOXVILLE, TENNESSEE 37932 • PHONE: 865-966-1924 • FAX: 865-315-7011



GRAPHIC SCALE

100 0 100 200

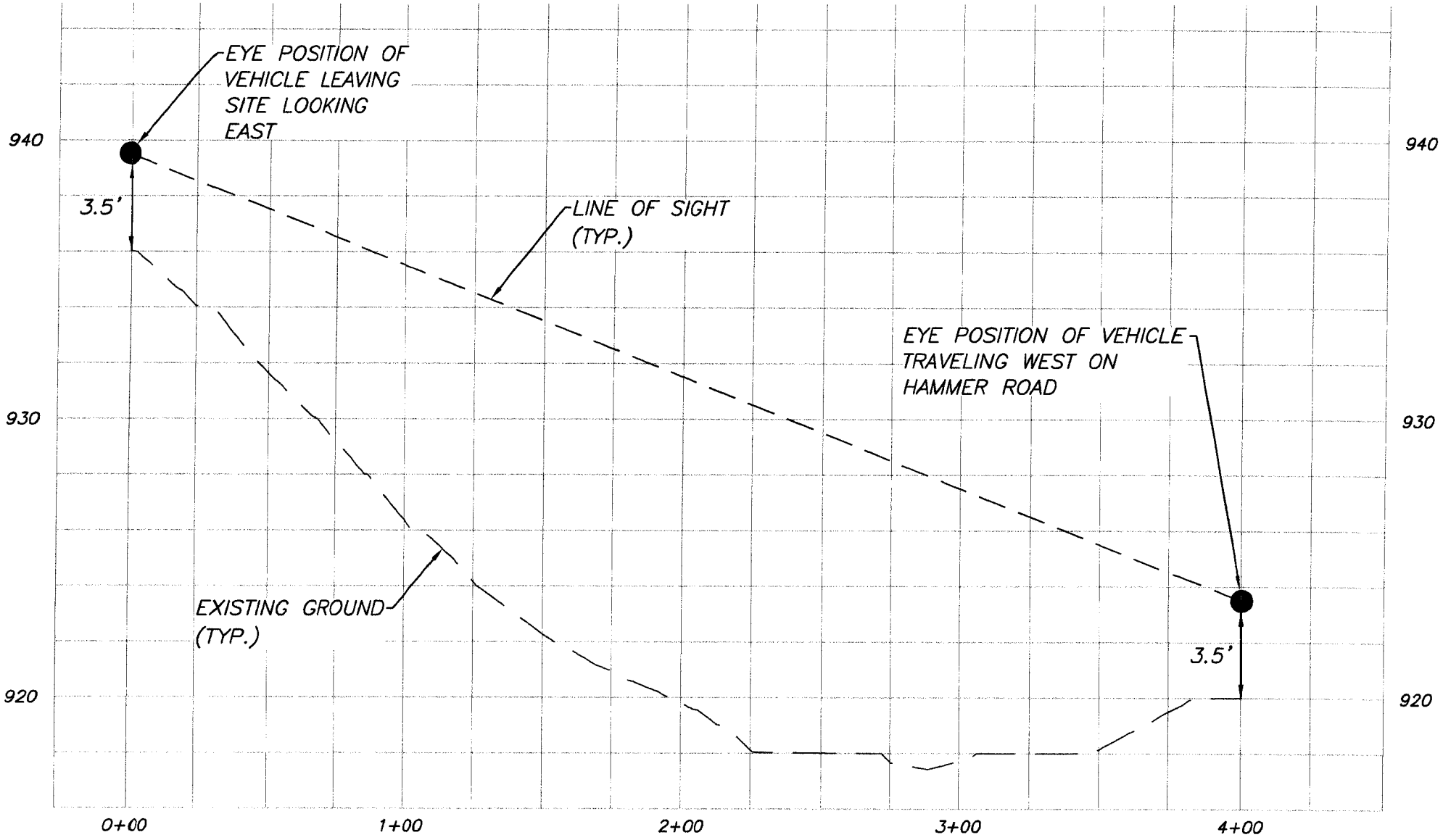
SIGHT DISTANCE EXHIBIT

BRAKEBILL ROAD SUBDIVISION PHASE 2

DIST. NO. S8 — KNOX CO., TN.

CLT MAP 72 — PARCELS 267 & 267.01

SCALE: 1"=100' — APRIL 24, 2023



LINE OF SIGHT PROFILE – VEHICLES LOOKING EAST:

1"=50' (HORIZONTAL)

1"=5' (VERTICAL)

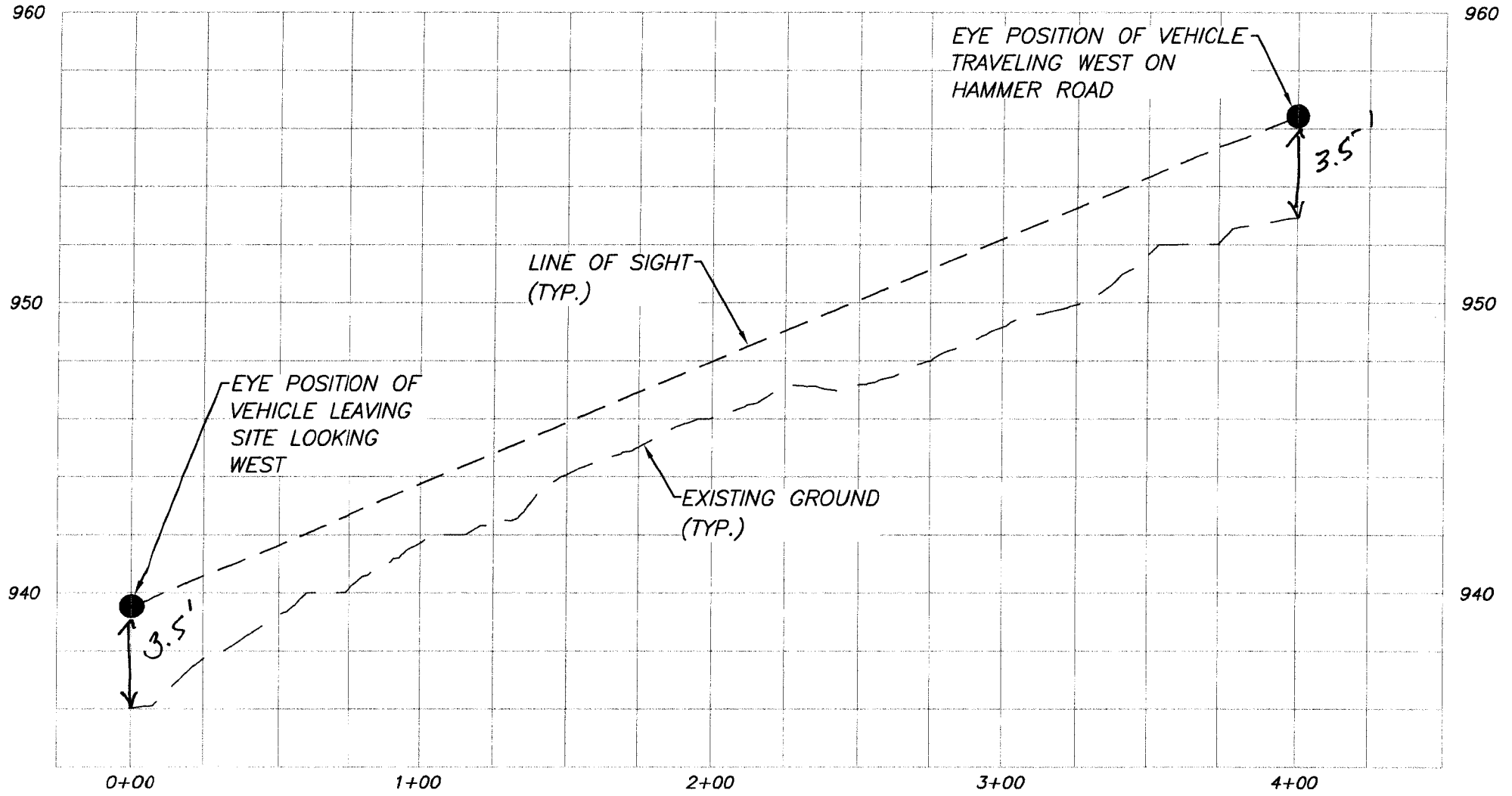
SIGHT DISTANCE EXHIBIT

BRAKEBILL ROAD SUBDIVISION PHASE 2

DIST. NO. S8 — KNOX CO., TN.

CLT MAP 72 — PARCELS 267 & 267.01

SCALE: AS NOTED — APRIL 24, 2023



LINE OF SIGHT PROFILE – VEHICLES LOOKING WEST:

1"=50' (HORIZONTAL)

1"=5' (VERTICAL)

SIGHT DISTANCE EXHIBIT

BRAKEBILL ROAD SUBDIVISION PHASE 2

DIST. NO. S8	KNOX CO., TN.
CLT MAP 72	PARCELS 267 & 267.01
SCALE: 1"=50'	APRIL 24, 2023

EXHIBIT A

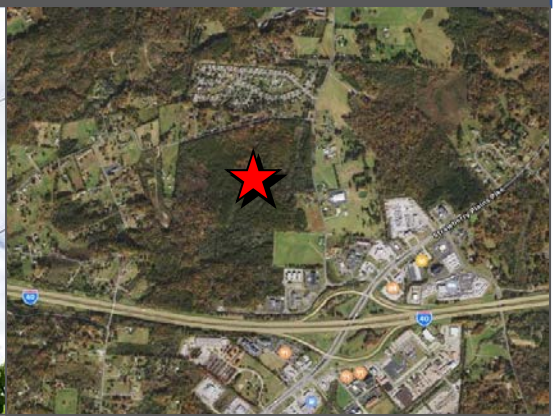
AJAX ENGINEERING

CIVIL ENGINEERING / TRAFFIC ENGINEERING

Transportation Impact Study

Brakebill Road Subdivision

Knox County, Tennessee



Revised August 2020

Prepared for:
Maverick Development Group, LLC
3200 North Hawthorne Street
Chattanooga, TN 37406

5-SB-23-C
5-A-23-DP

9-SB-20-C
9-D-20-UR
Revised: 8/31/2020

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

8/24/2020

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

CONCLUSIONS & RECOMMENDATIONS

The following is an overview of recommendations to minimize the traffic impacts of the proposed development on the adjacent road system while attempting to achieve an acceptable level of traffic flow and safety. An overview of the recommendations for the external roads and intersections is shown at the end of this report section in Figure 10.

1 **Asheville Highway (US 25W/Hwy 11E) at Brakebill Road:** This intersection was calculated to operate adequately with respect to the level of service during the existing conditions and during the projected conditions when the Brakebill Road Subdivision is completed and fully occupied in the year 2025. Some minor signal timing changes might be required in the future at the intersection to optimize the level of service and reduce queue lengths.

2 **Hammer Road at Brakebill Road:** The intersection at Hammer Road and Brakebill Road was calculated to operate very well with respect to level of service under unsignalized conditions in the year 2025.

2a) A separate left-turn lane or right-turn lane on Brakebill Road onto Hammer Road is not required based on the projected 2025 traffic volumes.

2b) The intersection of Hammer Road at Brakebill Road currently operates as a two-way stop-controlled T-intersection. At this intersection, Hammer Road operates under a stop condition but does not currently have a white stop bar installed. It is recommended that a 24" white stop bar be installed to increase the visibility of the stop condition at this approach.

2c) Vegetation in the southwest corner needs to be better controlled and maintained in the future to improve sight distance at this intersection.

3 **Hammer Road at Road "B"**: The intersection of Hammer Road at Road "B" was calculated to operate very well with respect to level of service under unsignalized conditions in the year 2025. The capacity analysis shows that only a single exiting lane for left and right exiting vehicles is required at the Road "B" entrance.

3a) A separate left-turn lane or right-turn lane on Hammer Road onto Road "B" is not required based on the projected 2025 traffic volumes.

3b) It is recommended that a Stop Sign (R1-1) and a 24" white stop bar be applied to the pavement of the Road "B" approach at Hammer Road. The stop bar should be applied at a minimum of 4 feet away from the edge of Hammer Road and should be placed at the desired stopping point that provides the maximum sight distance.

3c) Intersection sight distance at Road "B" must not be impacted by future landscaping or signage. A licensed land surveyor must verify the available sight distance at this proposed location. Based on a grade of 8% on Hammer Road and a posted speed limit of 30 mph, the required ISD is 300 feet looking towards the north and south, and the SSD is calculated to be 225 feet for eastbound vehicles (-8%) and 185 feet for westbound vehicles (+8%).

3d) Due to the narrowness of Hammer Road, it is recommended that a larger curb radius be designed and constructed that would facilitate right-turns off and on to Hammer Road at the Road "B" intersection. A larger curb radius would allow school buses and larger maintenance and delivery vehicles the opportunity to turn freely without overlapping into opposing traffic lanes.

4 **Brakebill Road at Clubhouse Driveway**: The intersection of Brakebill Road at the Clubhouse Driveway was not analyzed with respect to level of service. Only minor amounts of traffic will utilize this driveway. It is expected that this intersection will operate very well, but sight distance must be provided for safe operations. A licensed land surveyor must verify the available sight distance at this proposed location. Based on a grade of 5% on Brakebill Road and an 85th percentile speed of 40 mph, the required ISD is 400 feet looking towards the north and south, and the SSD is calculated to be 330 feet for northbound vehicles (-5%) and 285 feet for southbound vehicles (+5%).

5 **Brakebill Road at Road "A"**: The intersection of Brakebill Road at Road "A" was calculated to operate very well with respect to level of service under unsignalized conditions in the year 2025. The capacity analysis shows that only a single exiting lane for left and right exiting vehicles is required at the Road "A" entrance.

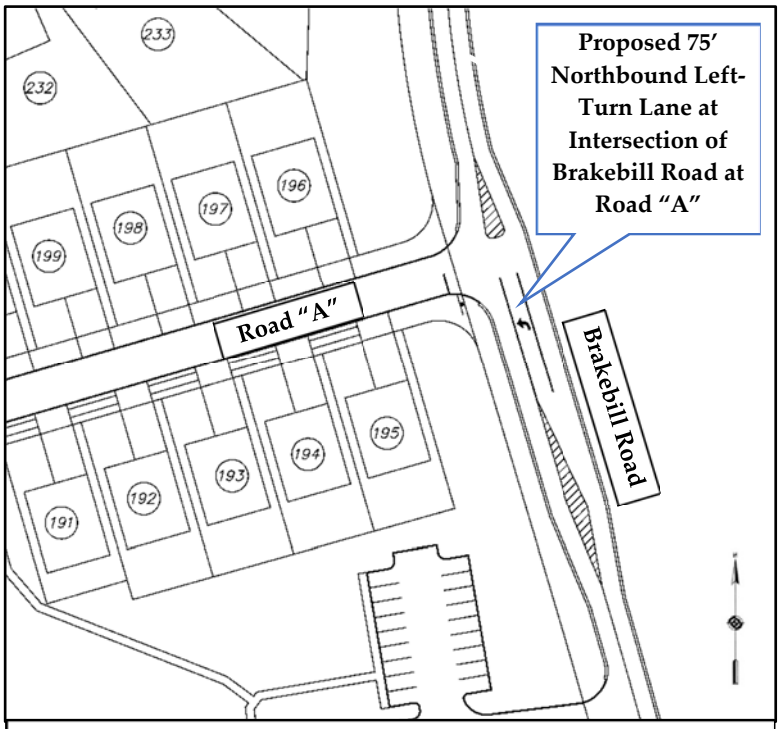
5a) A separate southbound right-turn lane on Brakebill Road onto Road "A" is not required based on the projected 2025 traffic volumes. Even though the threshold for the northbound left-turn lane is not fully met, it is nonetheless recommended that this lane be provided.

To estimate the required northbound left-turn storage length on Brakebill Road at Road "A", SimTraffic (Version 8) software was utilized, which performs micro-simulation and animation of vehicular traffic and calculates various vehicle parameters such as intersection vehicle queue lengths. Based on the software results from the projected volumes, the 95th percentile vehicle queue distance was calculated. The 95th percentile queue is the recognized measurement in the traffic engineering profession as the design standard used when considering queue distances. A 95th percentile queue means that there is a 95% certainty the vehicle queue will not extend beyond that point. The calculated queue results were based on averaging the outcome obtained during ten traffic simulations. The vehicle queue results from the SimTraffic software are in Appendix M. The 95th percentile queue for northbound left-turns on Brakebill Road at Road "A" was calculated to be 21 feet during the projected AM peak hour and 49 feet during the projected PM peak hour. Based on these results, the proposed storage length should have a minimum length of 75 feet, which is the Knox County standard minimum length for left-turn storage lanes.

5b) It is recommended that a Stop Sign (R1-1) and a 24" white stop bar be applied to the pavement of the Road "A" approach. The stop bar should be applied at a minimum of 4 feet away from the edge of Brakebill Road and should be placed at the desired stopping point that provides the maximum sight distance.

5c) Intersection sight distance at Road "A" must not be impacted by future landscaping or signage. A licensed land surveyor must verify the available sight distance at this proposed location. Based on a grade of 5% on Brakebill Road and an observed 85th percentile speed of 40 mph, the required ISD is 400 feet looking towards the north and south, and the SSD is calculated to be 330 feet for northbound vehicles (-5%) and 285 feet for southbound vehicles (+5%).

5d) Due to the narrowness of Brakebill Road, it is recommended that a larger curb radius be designed and constructed that would facilitate right-turns off and on to Brakebill Road at the Road "A" intersection. This would allow school buses and larger maintenance and delivery vehicles the opportunity to turn freely without overlapping into opposing traffic lanes. See the following exhibit that shows the proposed left-turn lane on Brakebill Road at Road "A". Urban Engineering, Inc. designed this layout.



Proposed 75' Northbound Left-Turn Lane at Intersection of Brakebill Road at Road "A"

Strawberry Plains Pike at Interstate 40 On/Off-Ramps (north side): This intersection was calculated to operate adequately with respect to the level of service during the existing conditions and during the projected conditions when the Brakebill Road Subdivision is completed and fully occupied in the year 2025. However, the v/c ratio of the intersection in the year 2025 without the project generated trips included in the analysis was calculated to be 0.970 during the PM peak hour. A v/c ratio of 1 would indicate that the traffic volumes are at the roadway capacity. This high v/c ratio at this intersection is primarily due to the projected amount of northbound left-turn vehicles.

The projected northbound left-turn lane volume in the PM peak hour was calculated to be 360 vehicles in 2025. Single left-turn lanes that are experiencing more than 300 vehicles/hour are many times recommended to be increased to dual left-turn lanes. In the future, if dual left-turn lanes for the northbound approach are constructed, the physical space for adding an additional northbound left-turn should be available by building a second lane in the existing 30-foot-wide grass median. The stormwater drainage system will need to be re-configured to construct an additional lane in the grass median. An additional lane would also need to be built for the westbound Interstate 40 On-Ramp. Options for constructing an additional lane on the westbound Interstate 40 On-Ramp could include merging the lanes downstream of the intersection and before the entrance to Interstate 40 or continuing the On-Ramp dual lanes to the entrance of Interstate 40 and merging the lanes further downstream on Interstate 40. Merging further downstream might be a better alternative due to a large amount of truck traffic.

Nonetheless, adding a second northbound left-turn lane would significantly reduce the v/c ratio at this intersection and increase the level of service. This additional lane could be expected to be needed soon based on the projected growth. A recommendation for extending the double westbound left-turn lanes of the Interstate 40 Off-Ramp by 25 feet is discussed in the following section. Both modifications at this intersection are projected needs due to overall traffic growth in the area, but not directly due to the proposed residential subdivision.

7 **Strawberry Plains Pike at Brakebill Road**: This intersection was calculated to be currently operating poorly with respect to the level of service for eastbound left-turns and operate extremely poor in the year 2025 without the project, or with the project generated traffic. While there are not excessive amounts of motorists attempting this turning movement, the number of conflicting volumes causes extreme delays for the eastbound left-turns trying to turn towards northbound Strawberry Plains Pike. Many times, eastbound left-turn drivers require the median space on Strawberry Plains Pike to provide a temporary haven before completing the left-turn entering the flow of northbound traffic. Drivers using the median as a haven potentially obstruct and conflict with the northbound left-turning vehicles. Competition for sight distance and physical space within the median occurs between northbound left-turns and eastbound left-turns when the eastbound left-turn movement uses the median as a mid-way haven.

View of Median of Strawberry Plains Pike at Brakebill Road (Looking South)

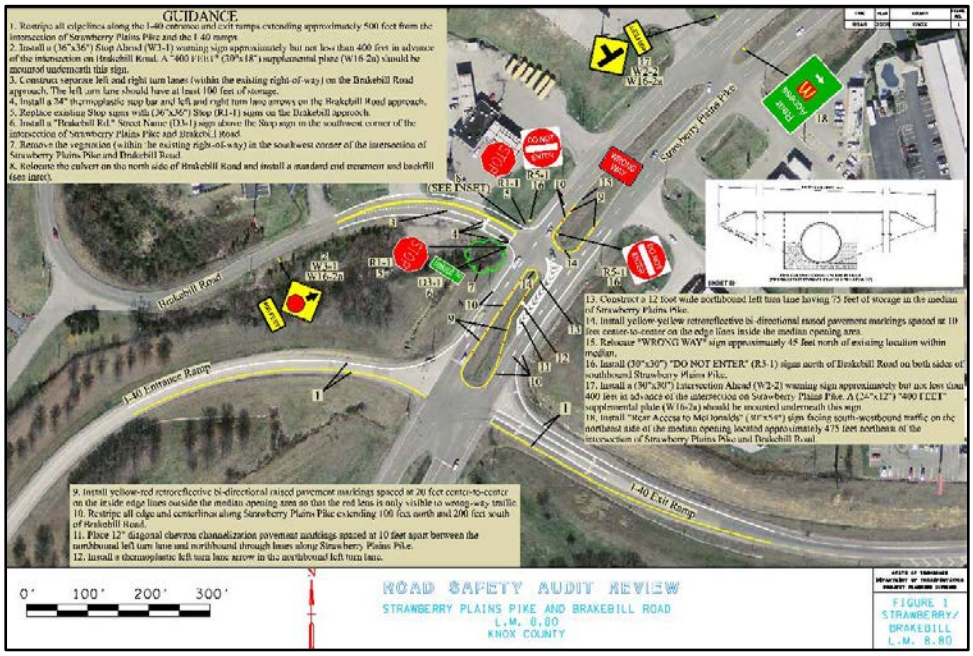
7a) In 2010, the intersection of Strawberry Plains Pike at Brakebill Road was selected by TDOT to undergo a Road Safety Audit Review (RSAR). This intersection was identified by the TDOT safety needs planning process and was evaluated since the crash ratio at the time of the study in 2010 met the threshold for safety improvements. As part of the review, traffic counts were obtained, and the intersection was determined as meeting MUTCD (Manual on Uniform Traffic Control Devices) Warrants for traffic signalization. However, traffic signalization was deemed "undesirable" due to the short distance (approximately 270 feet) between this intersection and the signalized intersection of Strawberry Plains Pike at the Interstate 40 On/Off-Ramps (north side). The TDOT RSAR report for this intersection in 2010 is in Appendix N. An overview of the 2010 TDOT recommended upgrades and changes at the intersection included the following:

i. Re-striping and installation of pavement markings and raised markings
ii. Replacement and installation of new traffic signage
iii. Vegetation removal

iv. Relocation of an existing stormwater culvert

v. Construction of a new northbound left-turn lane at the intersection of Strawberry Plains Pike at Brakebill Road

vi. Construction of a separate eastbound left-turn lane at the intersection of Strawberry Plains Pike at Brakebill Road

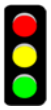


From the field review for this current traffic study, it appears that these recommendations were installed and constructed. However, some items such as pavement markings, vegetation removal, and retroreflective bi-directional raised pavement markings need to be refreshed and re-installed. However, most importantly, the construction of the recommended left-turn lane at the intersection of Strawberry Plains Pike at Brakebill Road was completed as prescribed.

7b) As an investigation into potential remediation for this intersection, and as a follow up to the TDOT review that indicated this intersection met warrants for traffic signalization in 2010; this intersection was re-examined with the 2020 (+2% adjusted 2018 volumes) traffic volumes with respect to traffic signal warrants. The traffic counts at this intersection were conducted from 7-9 am, 11 am–1 pm, and 2-6 pm for a total of 8 hours.

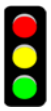
The Manual on Uniform Traffic Control Devices – 2009 Edition (MUTCD) presents nine different warrants that have been developed by the traffic engineering profession to determine whether a traffic signal is warranted. These warrants cover a broad range of minimum elements required to indicate whether a traffic signal is justified for any particular location. These elements consist of 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 signal warrants in the manual 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 also need to be applied before justifying the need for a traffic signal to be installed. These additional studies are a particularly important step in ensuring that the installation of a traffic signal will not bring about degradations in safety and efficiencies.

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 application 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.

The intersection of Strawberry Plains Pike at Brakebill Road was evaluated for justification for a traffic signal based on the MUTCD Warrants listed above and

the 2020 (+2% adjusted 2018 volumes) traffic count volumes. Brakebill Road was used as the minor side street for the warrant analysis, and Strawberry Plains Pike was the major street. According to the Federal Highway Administration (FHWA), the traffic signal warrants are intentionally written in a manner that provides a large amount of flexibility to engineers in terms of how they determine the number of moving lanes and the volume of approaching traffic used in the analysis. The decisions as to which approach lanes on the major and minor streets and the corresponding traffic volumes are determined by the engineering judgment of the engineer conducting the study or by the methods established by local and state agencies. Ultimately, the decision of the reviewing agency to determine whether right-turn volumes from the minor street should be included.

For the intersection of Strawberry Plains Pike at Brakebill Road, when the analysis includes right-turn volumes from Brakebill Road (the minor street approach), this intersection currently meets traffic signal warrants. The intersection meets Warrant #1, Condition B, and Warrant 2 based on the 2020 (+2% adjusted 2018 volumes) existing volumes collected for this study. However, if the right-turn volumes from Brakebill Road are not included, the intersection does not meet signal warrants. Nonetheless, justification could be made for a traffic signal at this location currently since it does meet a traffic signal warrant when including right-turns from the minor street approach. The results of the traffic signal warrant assessment at this intersection for the existing volumes of 2020 (+2% adjusted 2018 volumes) are in Appendix O, and Table 10 presents the results.

TABLE 10
TRAFFIC SIGNAL WARRANT SUMMARY

INTERSECTION	VOLUME WARRANT (REQUIRED NUMBER OF HOURS SATISFIED)			
	WARRANT 1			WARRANT 2
	CONDITION #1A (8 hours)	CONDITION #1B (8 hours)	CONDITION 1A & 1B - COMBINATION (8 hours)	(4 hours)
2020 (2% Adjusted 2018) - Existing Volumes Strawberry Plains Pike at Brakebill Road (100% of Right Turns Included on Brakebill Road)	**Not Satisfied**	**Satisfied**	**Satisfied**	**Satisfied**
2020 (2% Adjusted 2018) - Existing Volumes Strawberry Plains Pike at Brakebill Road (0% of Right Turns Included on Brakebill Road)	**Not Satisfied**	**Not Satisfied**	**Not Satisfied**	**Not Satisfied**

7c) With the results of the traffic signal warrant analysis indicating that this intersection could be justified to have a traffic signal installed, Synchro Traffic Software (Version 8) was used to design a preliminary plan for traffic signalization. This preliminary design included coordinating the existing traffic signal at Strawberry Plains Pike at the Interstate 40 On/Off-Ramps (north side) with the proposed traffic signal at Strawberry Plains Pike at Brakebill Road. Based on an 80-second actuated-coordinated cycle, the preliminary design resulted in a much-improved level of service for eastbound left-turns on Brakebill Road at Strawberry Plains Pike. The level of service results of this initial design for the two intersections are shown in Table 11, and Appendix G includes the worksheets for these capacity analyses. The results shown in Table 11 consists of the recommended addition of a northbound left-turn lane at the intersection of Strawberry Plains Pike at the Interstate 40 On/Off-Ramps (north side). Also, the results of the calculated vehicle queue lengths based on the preliminary traffic signal design are shown in Table 12.

TABLE 11
2025 INTERSECTION CAPACITY ANALYSIS RESULTS -
OPENING YEAR (WITH PROJECT) WITH PRELIMINARY NEW TRAFFIC SIGNAL DESIGN

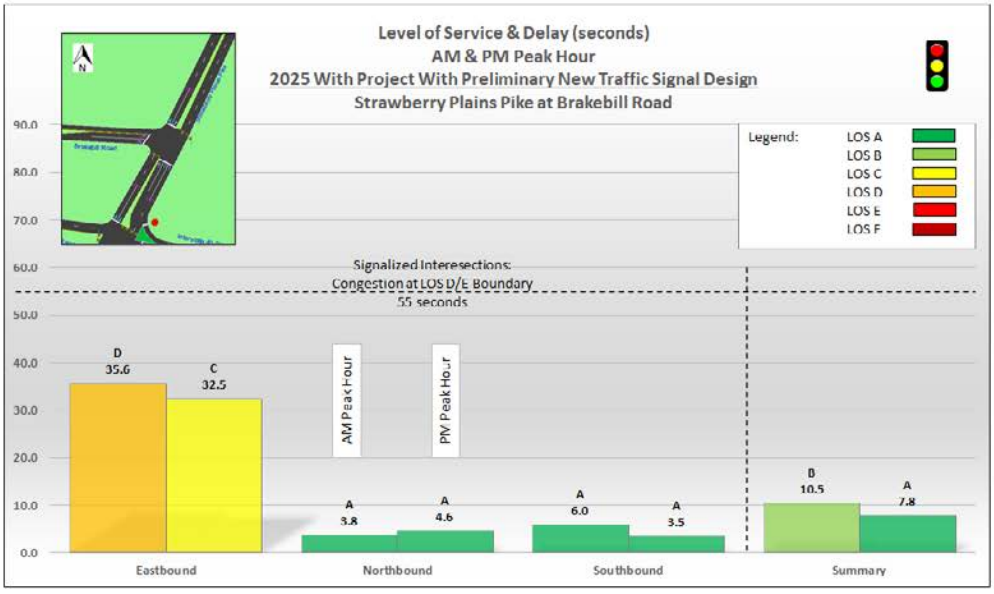
INTERSECTION	TRAFFIC CONTROL	APPROACH/ MOVEMENT	AM PEAK			PM PEAK		
			LOS	DELAY (seconds)	V/C	LOS	DELAY (seconds)	V/C
Strawberry Plains Pike at Brakebill Road	Signalized	Eastbound	D	35.6		C	32.5	
		Northbound	A	3.8		A	4.6	
		Southbound	A	6.0		A	3.5	
		Summary	B	10.5	0.550	A	7.8	0.700
Strawberry Plains Pike at Interstate 40 On / Off Ramp (north side)	Signalized	Westbound	C	32.6		C	33.9	
		Northbound	A	5.4		A	5.7	
		Southbound	A	6.8		B	11.3	
		Summary	B	10.8	0.540	B	11.7	0.530

Note: All analyses were calculated in Synchro 8 software and reported with HCM 2000 methodology for signalized intersections

[a] Level of Service

[b] Average Delay (sec/vehicle)

[c] Volume-to-Capacity Ratio



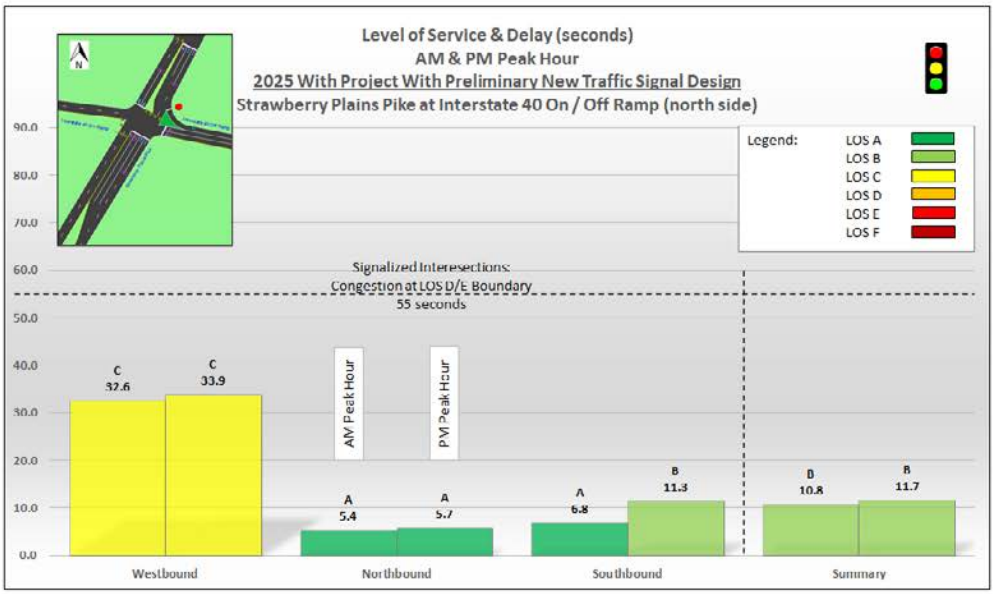
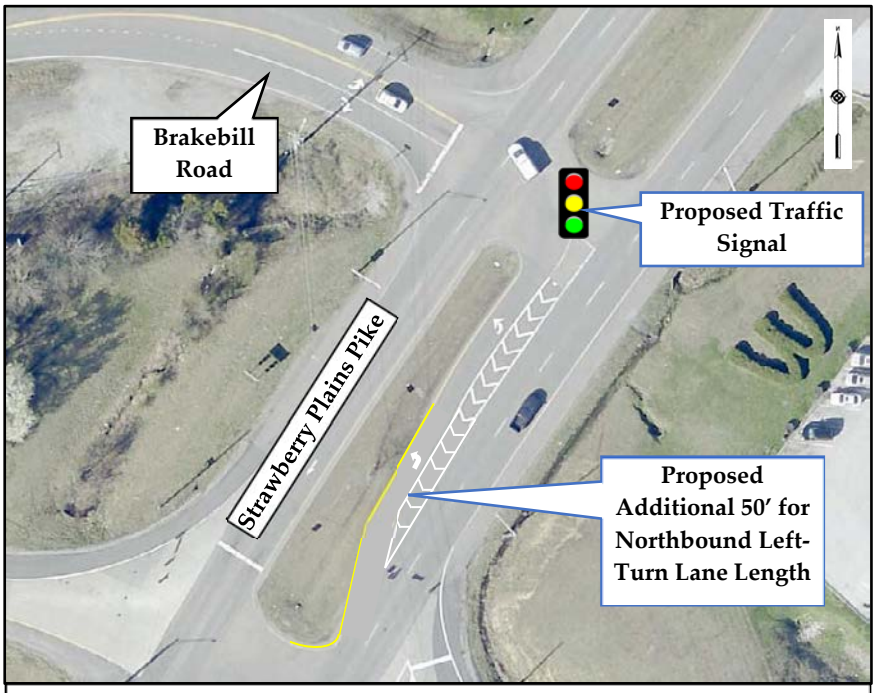


TABLE 12
TURN LANE STORAGE & VEHICLE QUEUE SUMMARY -
2025 PROJECTED PEAK HOUR TRAFFIC VOLUMES WITH PRELIMINARY NEW TRAFFIC SIGNAL DESIGN

INTERSECTION	APPROACH/ MOVEMENT	EXISTING STORAGE (ft)	PROPOSED STORAGE (ft)	SIMTRAFFIC 95th PERCENTILE QUEUE LENGTH (ft)	
				AM PEAK HOUR	PM PEAK HOUR
Strawberry Plains Pike at Brakebill Road	Eastbound Left	120	120	90	83
	Nortbound Left/U-Turn	150	200	97	175
Strawberry Plains Pike at I-40 On/Off Ramps	Westbound Left #1	200	225	156	196
	Westbound Left #2	200	225	214	243
	Northbound Left #1	190	190	126	131
	Northbound Left #2	-	190	199	202

Note: 95th percentile queues were calculated in SimTraffic 8 software

The results from SimTraffic of the queue analysis shown in Table 12 indicate that some of the turn lane lengths will need to be increased based on the projected volumes and the outcome of the preliminary signal timing design. The left northbound lane at Strawberry Plains Pike at Brakebill Road was calculated to have a 95th percentile queue length of 175 feet with an existing storage length of 150 feet in the PM peak hour. Meeting this storage would require this turn lane to be lengthened to its maximum length available in between the two intersections. An additional 50 feet is potentially possible but will require careful consideration since this additional length will encroach the intersection of Strawberry Plains Pike at Interstate 40 On/Off-Ramps (north side). The existing eastbound left-turn lane on Brakebill Road with 120 feet of storage is projected to be adequate operating with a traffic signal. See the following exhibit for clarification. Additionally, the channelized I-40 Westbound Off-Ramp right-turn lane will most likely need to be realigned to facilitate motorists making right-turns from the I-40 Off-Ramp when the northbound left-turn lane at the Strawberry Plains Parkway at Brakebill Road is extended.



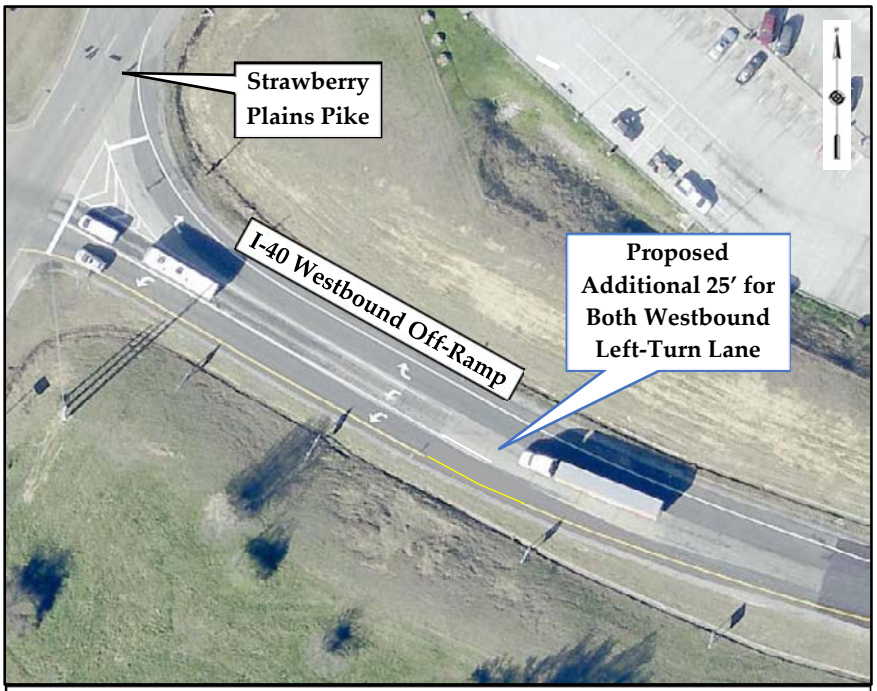
Proposed Traffic Signal and Additional 50′ for Northbound Left-Turn Lane at Intersection of Strawberry Plains Pike at Brakebill Road

Double Left-Turn on Interstate 40 Off-Ramp at Strawberry Plains Pike (Looking West)

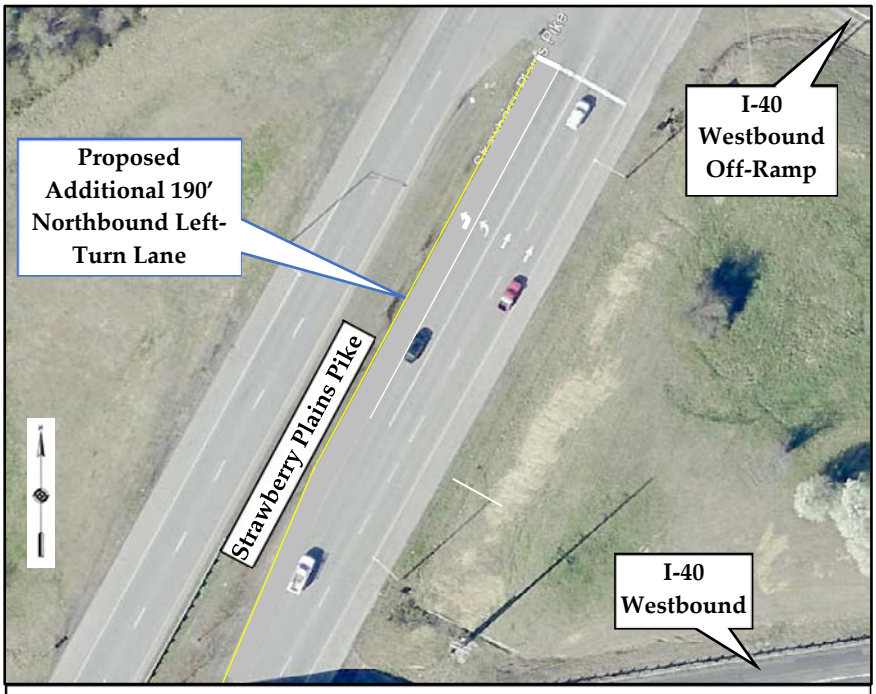
Based on the 2025 projected volumes, other turn lane lengths will also need to be increased, and this includes the turn lanes at the intersection of Strawberry Plains Pike at the Interstate 40 On/Off-Ramps (north side). The results indicated that the existing Interstate 40 Off-Ramp westbound dual left-turn lane storage lengths could be exceeded by what is currently available. In the projected PM Peak Hour, the vehicle queues for the westbound double left-turn lanes will exceed the existing storage length available. Distributing the projected queue lengths of 196 feet and 243 feet across both lanes results in a total queue length of 219.5 feet in both lanes (196 feet + 243 feet / 2 lanes = 219.5 feet). Adding 25 feet to both left-turn lanes to a total of 225 feet would provide enough storage based on the projected volumes.

Single Left-Turn on Strawberry Plains Pike at Interstate 40 On/Off-Ramps (Looking North)

As discussed earlier, the addition of a second northbound left-turn lane at the intersection of Strawberry Plains Pike at the Interstate 40 On/Off-Ramps (north side) with a similar storage lane length of 190 feet should be sufficient to handle the projected volumes. The software results indicated that the northbound left-turn lanes would have a 95th percentile queue of 131 feet and 202 feet in the PM Peak Hour. In actuality, the expected queue lengths could be more evenly distributed between the two lanes, which would result in a required length of 180 feet in both lanes (131 feet + 202 feet / 2 lanes = 166.5 feet). Thus, adding an additional northbound left-turn lane with a similar length as the existing storage length of 190 feet should be sufficient. See the following exhibits that show the proposed modifications to the turn lanes.



Proposed Additional 25′ for Both Westbound Left-Turn Lane Lengths at Intersection of Strawberry Plains Pike at I-40 On/Off Ramps



Proposed Additional 190′ Northbound Left-Turn Lane at Intersection of Strawberry Plains Pike at I-40 On/Off Ramps

Further analysis of the coordinated signal system at these two intersections should be optimized based on the actual future volumes instead of the projected volumes. Using the actual future volumes versus the projected volumes from this study could reduce the projected peak queue lengths and the potential turn lane storage extensions required.

7d) It is recommended that this intersection be signalized. Signalization is recommended even though in 2010, TDOT deemed signalization as "undesirable" while meeting signal warrants.

This intersection currently meets warrants for traffic signalization, and it is projected to continue to meet signalization warrants in the future. It is recommended that this intersection be signalized before the Brakebill Road Subdivision is opened to residents. If this intersection is not signalized and experiences the potential increased traffic volumes, excessive vehicle delays will occur. Without remediation, this intersection could experience increased vehicle crashes due to impatient drivers. Possible issues to consider related to installing a

traffic signal at the intersection of Strawberry Plains Pike at Brakebill Road include the following:

a. Shorter traffic signal cycle lengths are recommended since queue lengths tend to be shorter for short cycle lengths and will be necessary due to the short distance between the two intersections.

b. The traffic signals on Strawberry Plains Pike at both intersections in the northbound and southbound approaches need to be carefully designed with respect to placement and visibility. The signal heads on these approaches will need to be installed with louvers or optically programmed signals to restrict signal visibility to these traffic lanes. Screening will be required to eliminate drivers from driving thru or not recognizing the first set of signal heads in the progression thru the two sets of signalized intersections.

c. Advance traffic warning signage will be necessary for the approach of Brakebill Road at Strawberry Plains Pike due to the horizontal curvature of Brakebill Road. To highlight this need, it was observed during the field review that the current Stop Ahead Sign (W3-1) on the Brakebill Road approach was obscured by vegetation.

Sign Obscured by Vegetation on Brakebill Road Approach

Brakebill Road: From the results discussed earlier in this report, it was shown that the calculated crash rates on Brakebill Road were not high enough to receive consideration for TDOT safety funding. Nonetheless, the narrowness of the roadway, the shoulder drop-offs, and the lack of a clear zone outside the roadway are potential factors in the road crashes. Based on evaluating the obtained individual traffic crash reports from Brakebill Road over the past three years, 10 of the 17 crashes indicated that the narrowness of Brakebill Road could have been a contributable factor. These ten crashes were either opposite direction sideswipes or road departures. As one can easily conclude, research has indicated that narrow roads have a significant influence on these types of crashes. Pictures showing the various pavement drop-offs and roadside hazards on Brakebill Road are shown below:

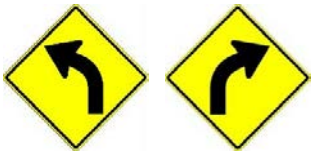
The most logical recommendation would include widening Brakebill Road. Brakebill Road is a major collector and an essential link between Asheville Highway (US 25E/Hwy 11E) and Strawberry Plains Pike at Interstate 40. Improving Brakebill Road with appropriate horizontal and vertical alignments, lane widths, shoulders, and clear zones would potentially significantly decrease the number of vehicle crashes. It is expected that

this road in the future will need to be widened and improved. In the interim, and to accommodate traffic growth and development in the area, several strategies should be employed to reduce the number of opposite direction sideswipes, and roadway departure crashes.

To determine appropriate strategies to potentially reduce traffic crashes on Brakebill Road, resources from the FHWA were reviewed. The following measures are recommended to be implemented on Brakebill Road:

a. Identify and remove or re-locate roadside hazards (ditches, utility poles, and trees): Research has indicated that increasing the clear zone prevents crashes. Most of the road departure crashes on Brakebill Road involved striking trees and utility poles. The next most common object struck was roadside ditches. According to research, 80% of all fatal crashes at curves are roadway departure crashes. (Source: Fatality Analysis Reporting System). Roadside hazards that have been identified and documented along Brakebill Road are shown in a picture summary located at the end of this section.

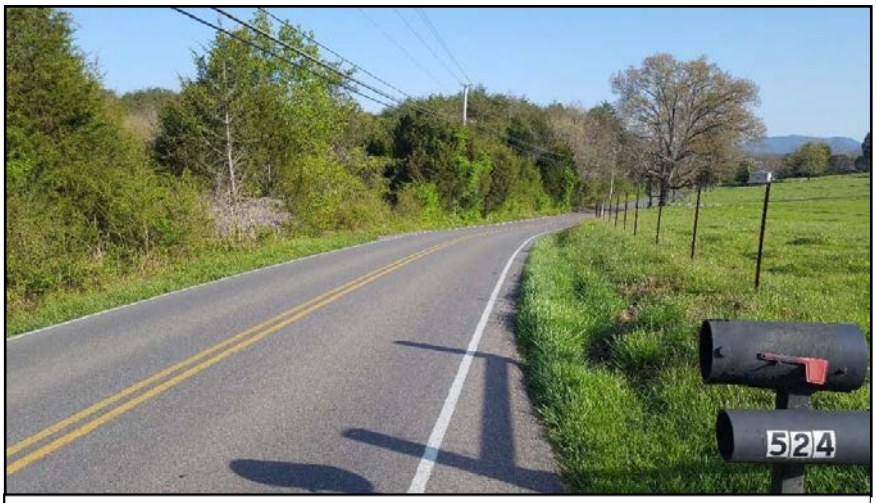
b. Advance Warning Signs: Warning signs call attention to unexpected conditions on or next to the roadway. It is recommended that Advance Warning Signs be installed on Brakebill Road in advance of two of the horizontal curves where evidence of crash clusters have occurred. Advance Warning Curve Signs should be placed before the horizontal curve in both directions, just to the north of 524 Brakebill Road. Advisory Speed Plaques (W13-1P) may be used to supplement the warning signs if a subsequent engineering study supports it. The other location where an Advance Warning Curve Sign (W1-2R) should be installed is before the horizontal curve on Brakebill Road heading southbound near the intersection of Brakebill Road at Palmer



W1-2L **W1-2R**

Deteriorated Curve Sign for NB Traffic on Brakebill Road near Kilbridge Drive

Lane. An Advance Warning Curve Sign (W1-2L) is already posted for the northbound direction on Brakebill Road but should be replaced due to its deteriorated nature and lack of reflectivity.



Horizontal Curve on Brakebill Road near 524 Brakebill Road (Looking North)

Horizontal Curve on Brakebill Road near Palmer Lane (Looking South)

Another advance warning sign on Brakebill Road that needs correction is the existing Advance Turn Sign (W1-1L) near 604 Brakebill Road for southbound traffic. It is currently leaning and needs to be reset and stabilized.

Leaning Sign near 604 Brakebill Road

c. Installation of Rumble Strips (along the edgeway and the center of the road): According to the FHWA, edgeway and centerline rumble strips are an effective countermeasure to reduce vehicle departure crashes, head-on collisions, and opposite direction sideswipe crashes. A table from NCHRP Report 641, Guidance for the Design and Application of Shoulder and Centerline Rumble Strips, is shown below, which shows the reduction in crash history based on before and after research studies on urban and rural two-lane roads.

Center line Rumble Strip – Reduction in crash frequency from before to after rumble strip implementation for head-on and opposite direction sideswipe fatal and injury collisions

	Percent reduction in crash frequency from before to after rumble strip implementation	Standard Error
Rural two-lane roads	45%	6%
Urban two-lane roads	64%	27%

Excerpt from Table 67 of NCHRP Report 641.

Shoulder Rumble Strip – Reduction in crash frequency from before to after rumble strip implementation for single-vehicle run-off-road fatal and injury crashes

	Percent reduction in crash frequency from before to after rumble strip implementation	Standard Error
Rural two-lane roads	36%	10%
Rural freeways	17%	7%

Excerpt from Table 28 of NCHRP Report 641.

The results from the NCHRP (National Cooperative Highway Research Program) report show significant reductions in head-on, opposite direction sideswipes, and roadway departure crashes after installation of rumble strips on two-lane roadways. It is recommended both centerline and edge line rumble strips are installed on Brakebill Road at a minimum at the two horizontal curves identified above where Advance Curve Signs are recommended. In the recent past, clusters of crashes have occurred at these horizontal curves and could be reduced in the future with the installation of rumble strips. Other horizontal curves on Brakebill Road should be considered as well or the entire length of Brakebill Road. TDOT provides a standard installation detail (T-M-16) for asphalt shoulder rumble stripe for non-access-controlled routes.

Some potential issues to consider related to installing rumble strips involve the following:

i. Pavement: The asphalt pavement of the roadway needs to be of sufficient thickness and quality to install rumble strips.
ii. Bicyclists: Rumble strips can be detrimental to bicycle travel and hazardous to bicyclists. However, currently, there is little evidence of regular bicycle travel on Brakebill Road.
iii. Noise: Rumble strips can be a nuisance with respect to the noise generated from vehicles traveling over the strips. The sound is beneficial to the driver inside the vehicle to give a warning but can be a nuisance to those who live nearby. Brakebill Road is not a densely populated area, but there are residences adjacent to the two horizontal curves where rumble strips are recommended. There are options to reduce noise by reducing rumble strip widths, installing sinusoidal-shaped rumble strips which do not produce as much noise, and by discontinuing rumble strips near intersections and major driveways.

These potential issues are not expected to be a severe impediment to installing rumble strips on Brakebill Road. These measures should be beneficial to reducing the number of opposite direction sideswipes, and departure crashes on Brakebill Road. A picture summary of the identified roadside hazards along Brakebill Road is listed in the following pages. These identified roadside

hazards are comprised of vegetation obstructions, drainage ditches, utility poles, trees, and road shoulder drop-offs.

Roadside vegetation obscures sight distance for turning vehicles at Crosswood Boulevard and Brakebill Road (Looking Northwest)

Steep road/shoulder drop-off and deteriorated pavement near 701 Brakebill Road Driveway (Looking North)

Large trees and utility poles adjacent to the roadway near 512 Brakebill Road with shoulder drop-off into the drainage ditch (Looking North)

Large trees and utility poles adjacent to the roadway near 508 Brakebill Road with shoulder drop-off into the drainage ditch (Looking North)

Large trees and utility poles adjacent to the roadway near 428 Brakebill Road with shoulder drop-off into the drainage ditch (Looking South)

Large trees adjacent to the roadway just south of Kilbridge Drive with shoulder drop-off into the drainage ditch (Looking North)

Large trees adjacent to roadway near 420 Brakebill Road with shoulder drop-off into the drainage ditch (Looking North)

Utility poles adjacent to roadway near 322 Brakebill Road with shoulder drop-off (Looking South)

Large trees adjacent to roadway near 320 Brakebill Road (Looking North)

Shoulder drop-off with evidence of vehicle scraping asphalt near 320 Brakebill Road (Looking North)

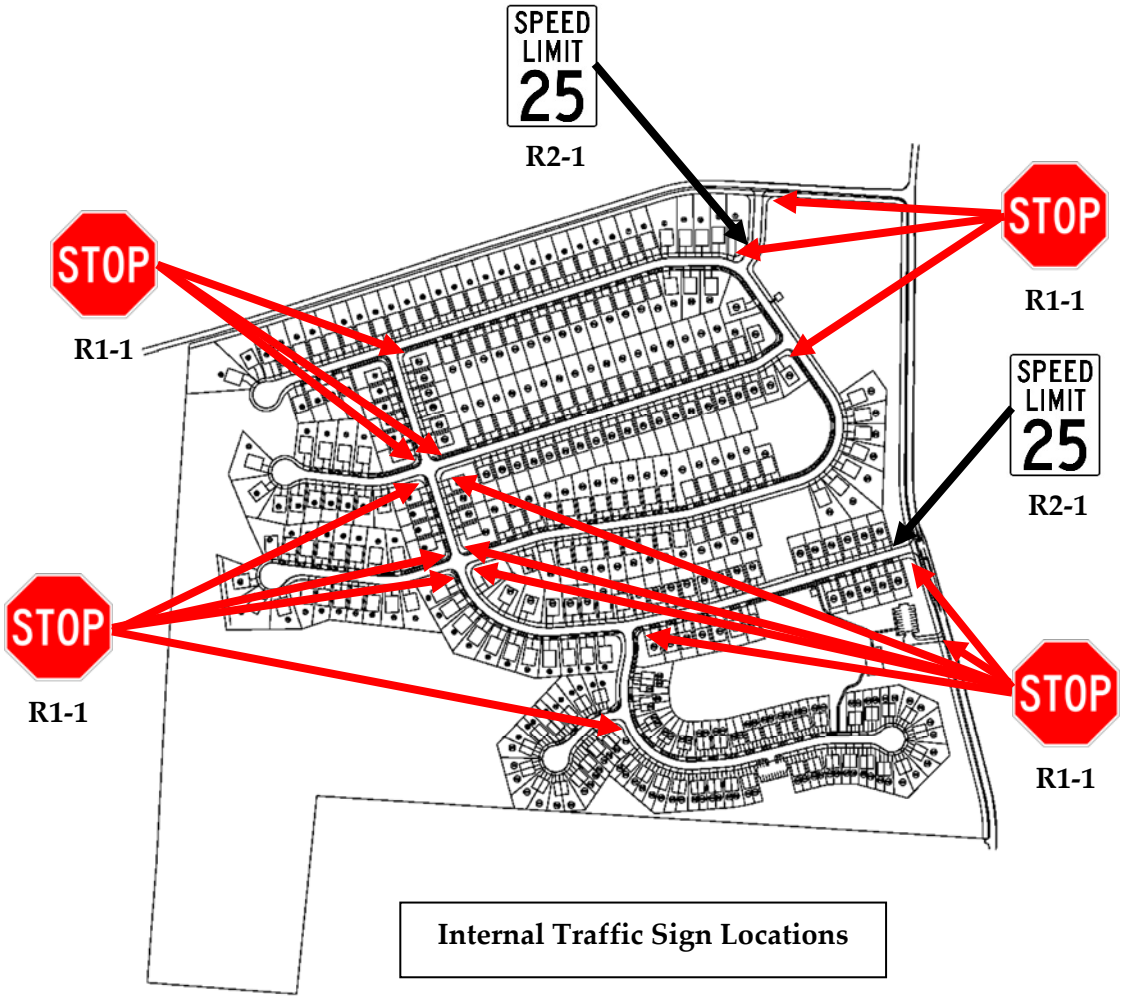
d. Pavement Markings: The existing pavement markings along Brakebill Road are faded and are recommended to be refreshed. The pavement markings on Brakebill Road within the City limits are notably diminished and need the markings to be re-applied.

Deteriorated Pavement Markings on Brakebill Road within City Limits

9 **Brakebill Road Subdivision Internal Roads:** The current concept plan shows six new streets being constructed within the development, as shown in Figure 3.

9a) It is recommended that 25-mph Speed Limit Signs (R2-1) be posted near the front of both new streets, Road "A" and Road "B", off Brakebill Road and Hammer Road, respectively.

9b) Stop Signs (R1-1) with 24" white stop bars and the other traffic signage should be installed at the locations as shown below:



Internal Traffic Sign Locations

9c) Sight distance at the new intersections in the subdivision must not be impacted by new signage or future landscaping. For a posted speed limit of 25-mph in the subdivision, the intersection sight distance requirement is 250 feet. The stopping

sight distance required is 155 feet for a level road grade. The road layout designer should ensure that these sight distance lengths are met, and they should be labeled on the plans.

9d) All drainage grates and covers for the residential development need to be pedestrian and bicycle safe.

9e) The internal sidewalks that are proposed for the development should have appropriate ADA compliant curbed ramps at intersection corners, and the sidewalks are recommended to be 5 feet minimum in width.

9f) The United States Postal Service (USPS) has recently implemented changes to its guidelines for delivery in new residential subdivisions. If directed by the local post office, the designer should include an area within the development with a parking area for a centralized mail delivery center.

Centralized USPS Delivery Center

9g) Traffic calming measures might be needed for this development. Sections of the horizontal alignment for proposed Road "A", "C", and "D" within the development have long and straight road segments. The possible need for traffic calming measures inside the development will need to be coordinated with Knox County Engineering and Public Works during the detailed design phase.

9h) All road grade and intersection elements internally and externally should be designed to AASHTO, TDOT, and Knox County specifications and guidelines to ensure proper operation.

10 **Brakebill Road Widths (Addendum):** As requested in the TIS Comment Response Document for Brakebill Road Subdivision dated August 19, 2020, road width information was collected on Brakebill Road in between Hammer Road and the 90-degree curve at the intersection with Crosswood Boulevard.

The information shown on the following pages lists the pavement width measurements that were made and shows photographs of these road width measurements locations. These road measurements are not the absolute minimum and maximum widths but are a representative sample of the roads. They were taken at driveways and other locations that are readily identifiable on Brakebill Road.

EXHIBIT A

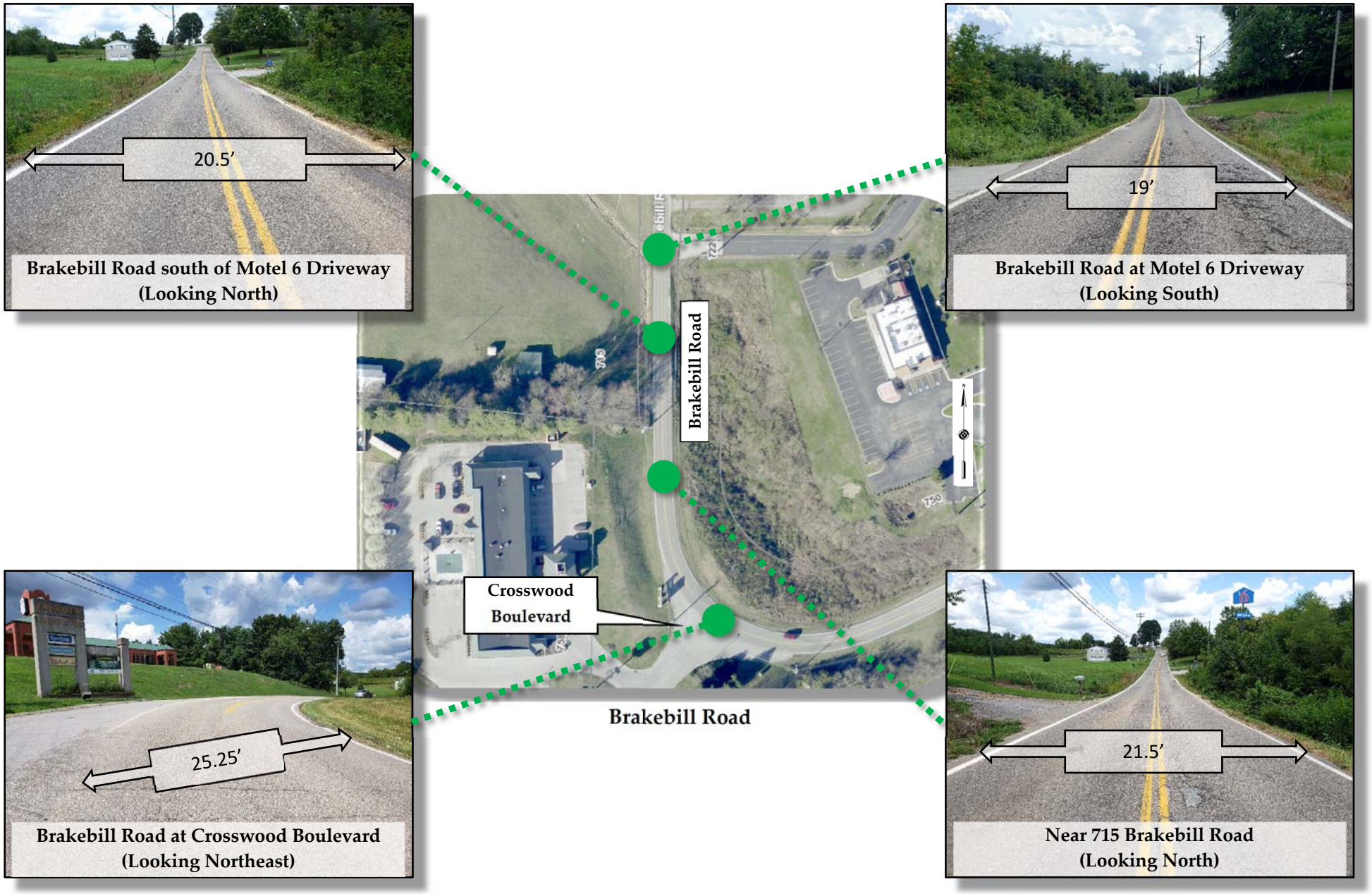
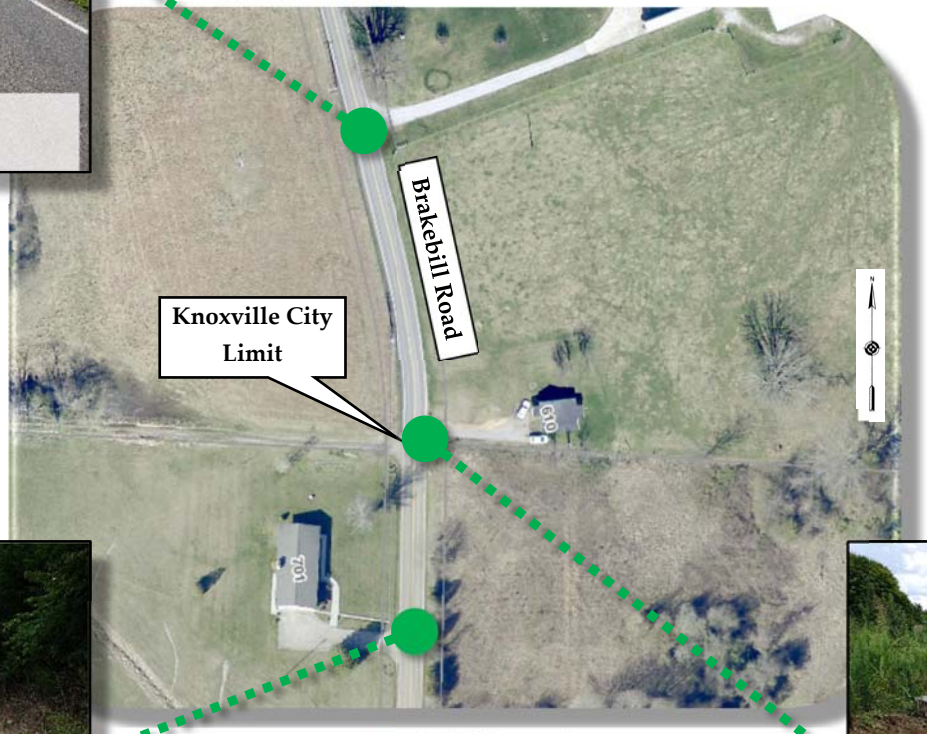

20.5’
Brakebill Road south of Motel 6 Driveway
(Looking North)
19’
Brakebill Road at Motel 6 Driveway
(Looking South)
Brakebill Road
Crosswood
Boulevard
Brakebill Road
25.25’
Brakebill Road at Crosswood Boulevard
(Looking Northeast)
21.5’
Near 715 Brakebill Road
(Looking North)

EXHIBIT A

Near 604 Brakebill Road
(Looking South)



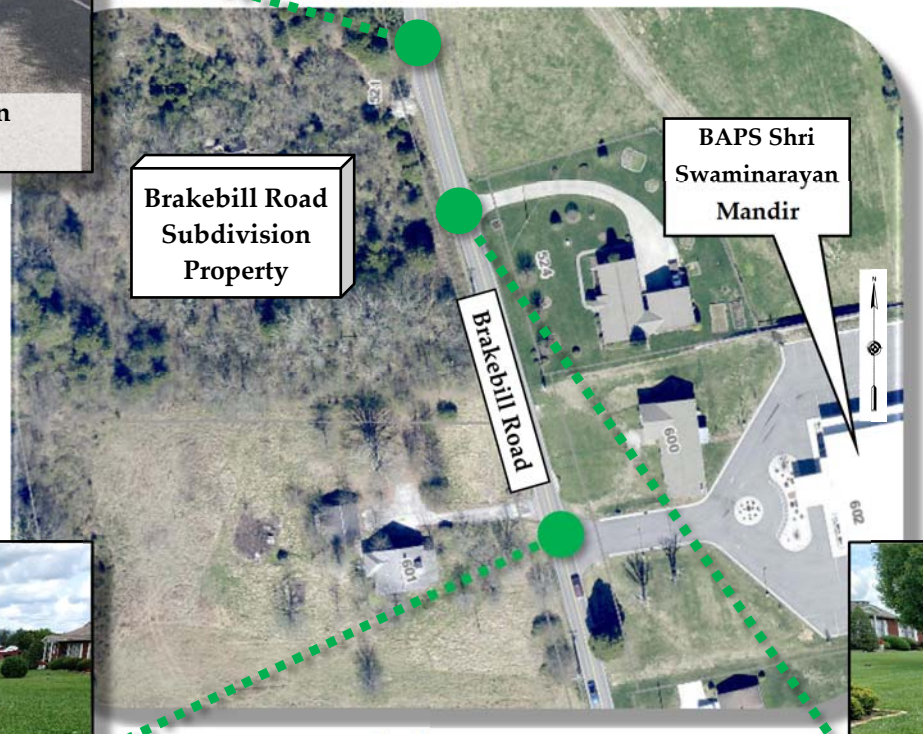
Brakebill Road

Near 701 Brakebill Road
(Looking North)

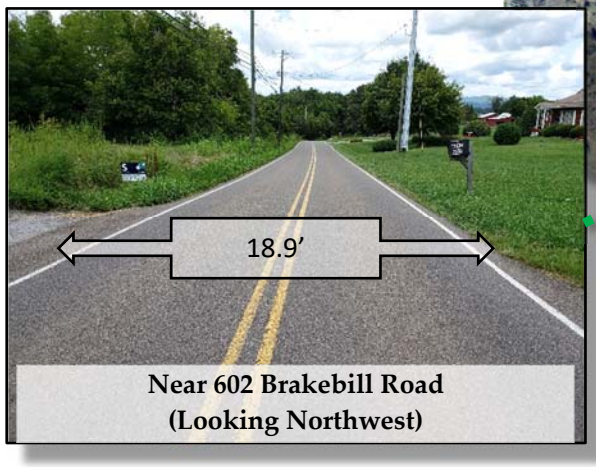
Brakebill Road at Knoxville City Limit
(Looking South)

EXHIBIT A

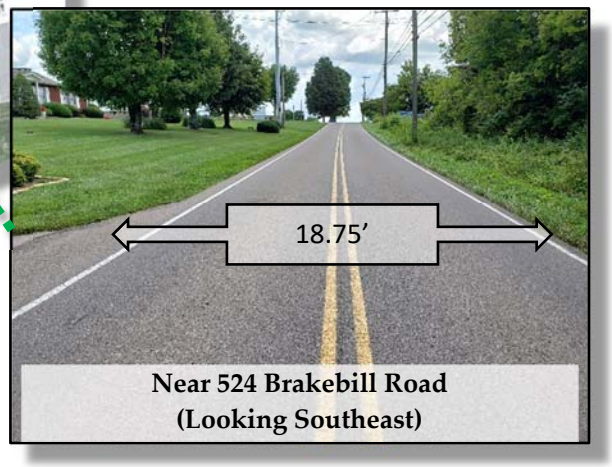
Near Proposed Road “A” Location
(Looking Southeast)



Brakebill Road



Near 602 Brakebill Road
(Looking Northwest)



Near 524 Brakebill Road
(Looking Southeast)

EXHIBIT A

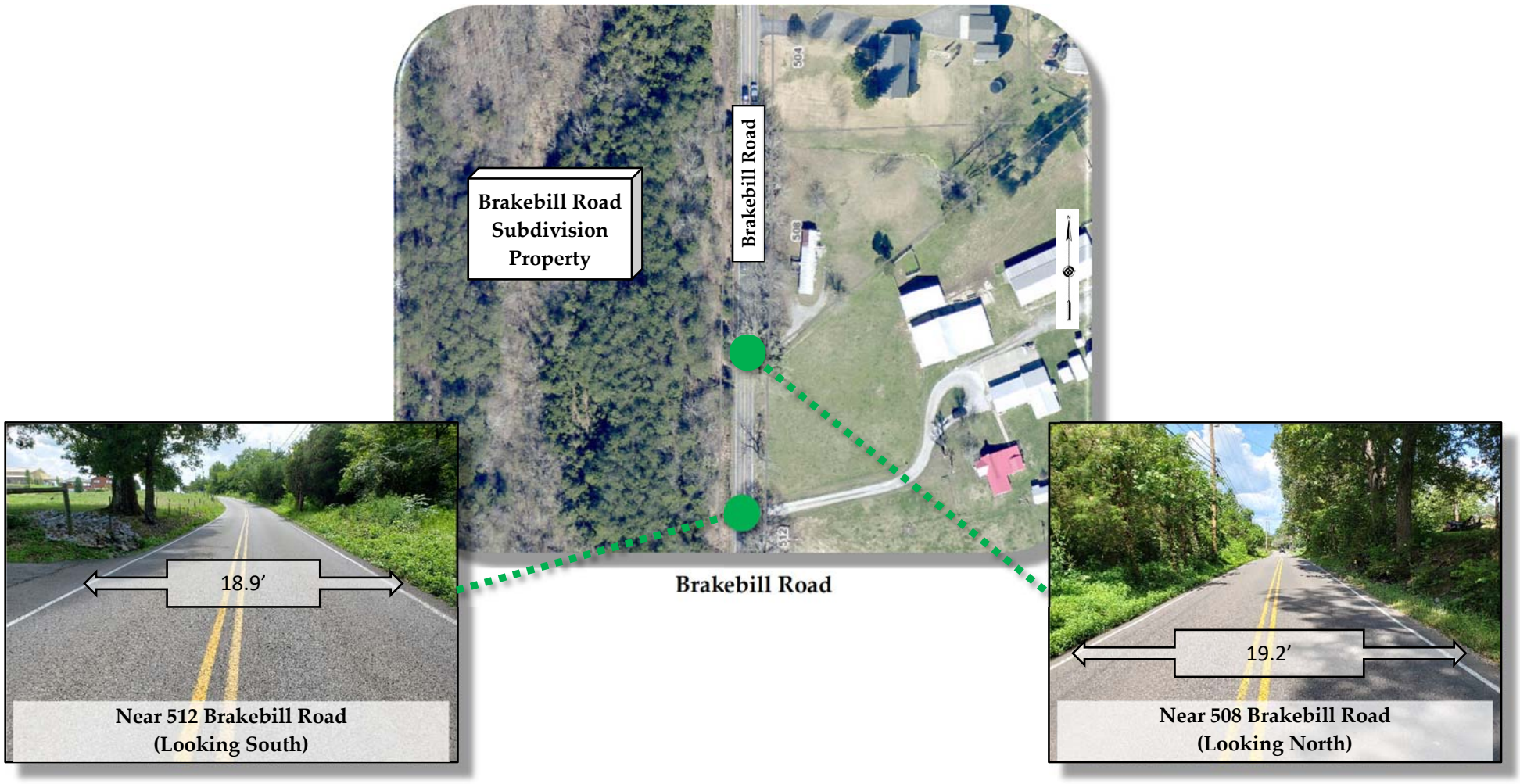
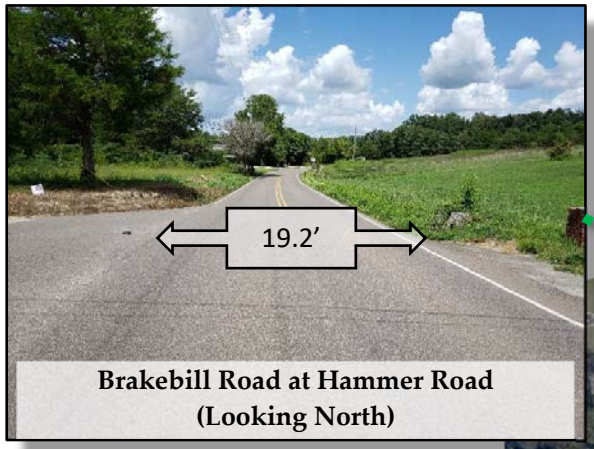
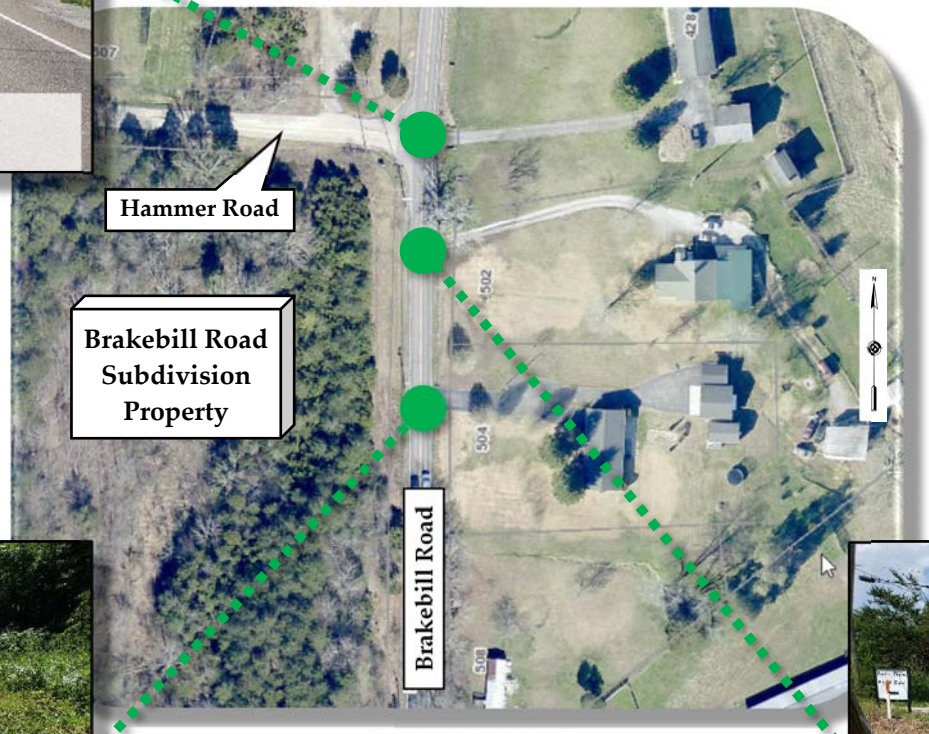

Brakebill Road Subdivision Property
Brakebill Road
504
508
512
N
Brakebill Road
18.9’
Near 512 Brakebill Road
(Looking South)
19.2’
Near 508 Brakebill Road
(Looking North)

EXHIBIT A



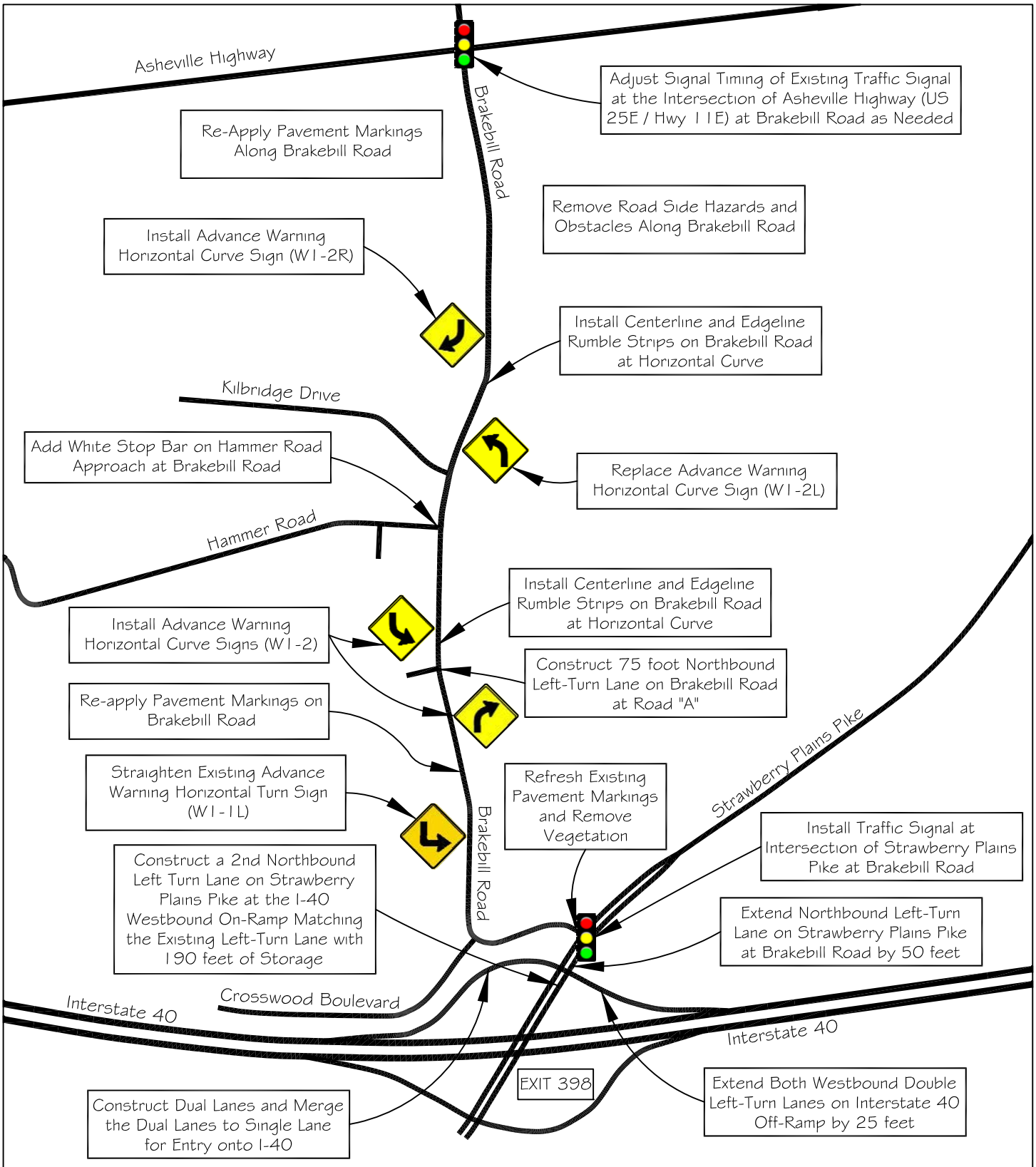
Brakebill Road at Hammer Road
(Looking North)



Near 504 Brakebill Road
(Looking South)

Near 502 Brakebill Road
(Looking North)

EXHIBIT A



AJAX ENGINEERING

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

NOT TO SCALE

NORTH

FIGURE 10

Brakebill Road Subdivision

Summary of Recommended External Road Improvements

EXHIBIT B

Planning
KNOXVILLE | KNOX COUNTY

Design Guidelines

Landscape Screening

Type “B” Screen: Continuous

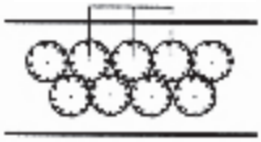
APPROPRIATE LOCATION: Screening parking and loading areas from adjoining residential and office districts

NOTE: Landscape buffer strips should be a minimum of 12 feet in width, and sown with grass or ground cover for their full width, allowing for mulch at the base of plantings.

SHRUB HEIGHT
Installed: 4 ft.
Mature: 6 ft.

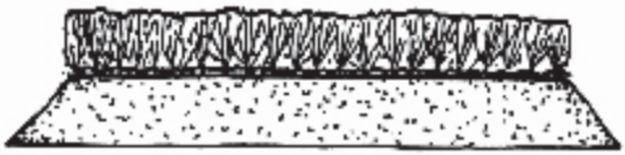
- Two offset rows of evergreen shrubs

Maximum 4’ Centers

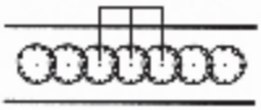


SHRUB HEIGHT
Installed: 2 ft.
Mature: 3 ft.

- A continuous row of evergreen shrubs on a 3 ft. high earth berm



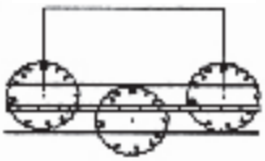
Maximum 3’ Centers



TREE HEIGHT
Installed: 8 ft.
Mature: 15 ft.

- A 5 ft. high masonry wall or timber fence with evergreen trees and low shrubs or climbing vines

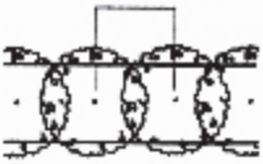
Maximum 50’ Centers



TREE HEIGHT
Installed: 8 ft.
Mature: 20 ft.

- One row of evergreen trees with branches touching the ground

Maximum 10’ Centers



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INTRODUCTION

Landscape screening reduces the impact of intense development upon adjacent land uses by providing visual separation, reducing the transmission of glare and air pollution, and limiting access. Screening also promotes the aesthetic appeal of a neighborhood and promotes higher property values.

This series of design guidelines defines several types of landscape screen. Each type is applicable to a certain intensity of conflict between adjacent land uses. Each screen type is illustrated by several planting schemes with an equivalent height, density and opacity of landscaping.

Planning uses these guidelines to illustrate desirable levels of screening appropriate to various site planning situations. Creative alternatives which achieve a comparable effect are encouraged.

The contents of these guidelines are advisory and are intended to supplement, but not replace, the requirements of the Knoxville Zoning Ordinance and the Knox County Zoning Ordinance.

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

Chris Sharp Urban Engineering, Inc. Cole Murphy
Applicant Name | Affiliation

3/27/2023	**5/11/2023**	**5-SB-23-C / 5-A-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.

Chris Sharp, P.E. Urban Engineering, Inc.
Name / Company

10330 Hardin Valley Rd. Pk. Suite 201 Knoxville TN 37932
Address

865-966-1924 / chris@urban-eng.com
Phone / Email

CURRENT PROPERTY INFO

Gabe Thomas
Owner Name (if different) | Owner Address | Owner Phone / Email

521 BRAKEBILL RD
Property Address

72 267		**64.38 acres**
Parcel ID	Part of Parcel (Y/N)?	Tract Size

Knoxville Utilities Board	**Knoxville Utilities Board**	
Sewer Provider	Water Provider	Septic (Y/N)

STAFF USE ONLY

South side of Hammer Road, west of Brakebill Road
General Location

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

East County	**MDR/O (Medium Density Residential/Office), HP (Hillside**	**Urban Growth Area (Outside City Limit**
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) **Attached residential subdivision**

SUBDIVSION REQUEST

Brakebill Road Subdivision

Proposed Subdivision Name

Related Rezoning File Number

Phase 2

Unit / Phase Number

☑ Split Parcels

96

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
$1,600.00	
Fee 2	
Fee 3	

AUTHORIZATION

Chris Sharp Urban Engineering, Inc. Cole Murphy	**3/27/2023**
Applicant Signature — Please Print	Date

Phone / Email

Gabe Thomas	**3/27/2023**
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

Applicant Name	Affiliation
Urban Engineering, Inc.	Engineer

Date Filed	Meeting Date (if applicable)	File Number(s)
3/27/23	5/11/2023	

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

Name	Company
Chris Sharp	Urban Engineering, Inc.

Address	City	State	ZIP
10330 Hardin Valley Road, Suite 201	Knoxville	TN	37932

Phone	Email
(865) 966-1924	chris@urban-eng.com

CURRENT PROPERTY INFO

Property Owner Name (if different)	Property Owner Address	Property Owner Phone
Maverick Development Group, Inc.	3200 N. Hawthorne Street, Chattanooga (3	(423) 668-6030

Property Address	Parcel ID
521 Brakebill Road (37924)	072 267

Sewer Provider	Water Provider	Septic (Y/N)
KUB	KUB	No

STAFF USE ONLY

General Location	Tract Size
South side of Hammer Road, west of Brakebill Road	64.37 acres

☐ City ☒ County

District	Zoning District	Existing Land Use
8th	PR	Agricultural / Forestry / Vacant

Planning Sector	Sector Plan Land Use Classification	Growth Policy Plan Designation
East County	MDR/O & HP	Urban Growth

DEVELOPMENT REQUEST

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

☒ Residential ☐ Non-Residential

Home Occupation (specify) _____

Other (specify) Attached residential subdivision

Related City Permit Number(s)

SUBDIVISION REQUEST

Brakebill Road Subdivision

Proposed Subdivision Name

Related Rezoning File Number

Phase 2 ☐ Combine Parcels ☒ Divide Parcel 96

Unit / Phase Number — Total Number of Lots Created

☐ Other (specify) _____

☐ 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
0102	Concept Plan	$1,600 MR
Fee 2		
Fee 3		

AUTHORIZATION

Applicant Signature	Cole Murphy Please Print	3/27/23 Date
423-304-8929 Phone Number	cole@rphomes.community Email	
Property Owner Signature	GABE THOMAS Please Print	3/27/23 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.

Planning
KNOXVILLE | KNOX COUNTY

NAMES OF ALL PROPERTY OWNERS INVOLVED OR HOLDERS OF OPTION ON SAME MUST BE LISTED BELOW:

Please print or type in black ink:

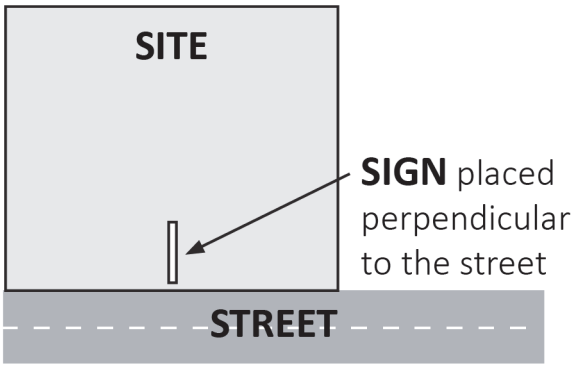
NAME	ADDRESS	CITY	STATE	ZIP	OWNER / OPTION	
GABE THOMAS	3200 N HAWTHORNE ST	CHATTANOOGA	TN	37406	X	
ROBERT JOHNSTON	3200 N HAWTHORNE ST	CHATTANOOGA	TN	37406	X	
TREY MOSS	3200 N HAWTHORNE ST	CHATTANOOGA	TN	37406	X	

If more space is needed, attach additional sheets.

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:

April 28, 2023 and May 12, 2023

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

Applicant Name: Urban Engineering, Inc.

Date: 3/28/2023

File Number: 5-SB-23-C / 5-A-23-DP

☒ Sign posted by Staff

☐ Sign posted by Applicant