SUBDIVISION REPORT - CONCEPT/USE ON REVIEW

FILE #: 12-SA-20-C
12-A-20-UR

SUBDIVISION: WOODBURY CROSSING
APPLICANT/DEVELOPER: WC WOODBURY CROSSING LIMITED PARTNERSHIP
OWNER(S): People Bank of the South

TAX IDENTIFICATION: 21 00203
JURISDICTION: County Commission District 8
STREET ADDRESS: 7605 Twin Oak Ln.
LOCATION: Southeast terminus of Edwards Place Blvd., southeast of Thompson School Rd.
SECTOR PLAN: Northeast County
GROWTH POLICY PLAN: Planned Growth Area
WATERSHED: Beaver Creek
APPROXIMATE ACREAGE: 30.748 acres

ZONING: PR (Planned Residential)
EXISTING LAND USE: Vacant land
PROPOSED USE: Detached residential subdivision
SURROUNDING LAND USE AND ZONING: The subject site is located within the Edwards Place subdivision and general area has been transitioning from a rural area to a residential area with small, single-family lots. Rezonings to PR began in the mid-1990s, with PR developments being built through the early 2000s. Gibbs Elementary, Middle, and High Schools are nearby to the south off of Tazewell Pike.

NUMBER OF LOTS: 79
SURVEYOR/ENGINEER: Charles Garvick / Chadan Engineering, Inc.
ACCESSIBILITY: Access is via Edwards Place Blvd, a local street with 26' of pavement width within 50' of right-of-way, and via Lawgiver Circle, a local street with 26' of pavement width within 50' of right-of-way.

SUBDIVISION VARIANCES REQUIRED:

VARIANCE

1) Reduce the minimum tangent for a broken back curve on Lawgiver Circle at STA 13+87.42 from 150 feet to 38.669 feet.

ALTERNATIVE DESIGN STANDARDS APPROVED BY KNOX COUNTY ENGINEERING AND PUBLIC WORKS

1) Increase the maximum intersection approach from 1% to 1.5% for Lawgiver Circle at Edwards Place Boulevard.
STAFF RECOMMENDATION:

► APPROVE variance 1 because the site conditions restrict compliance with the Subdivision Regulations and the proposed variance will not create a traffic hazard.

APPROVE the Concept Plan subject to 13 conditions.

1. Connection to sanitary sewer and meeting any other relevant requirements of the utility provider.
2. Provision of street names which are consistent with the Uniform Street Naming and Addressing System within Knox County (County Ord. 91-1-102).
3. Providing a greenway easement on the southeast side of Beaver Creek, as shown, or as otherwise approved by Knox County Engineering and Public Works and Knox County Parks and Recreation.
4. Certifying that the required sight distance is available at the Lawgiver Circle intersection with Edwards Place Boulevard. This documentation is to be provided to Knox County Engineering and Public Works for review and approval during the design plan phase.
5. Platting either a 20' wide easement or common area between lots 51 and 52 for a pedestrian connection to the Twin Oak Landing subdivision (see file number 8-SA-20-C / 8-B-20-UR). This sidewalk is to be installed at a time determined by the Knox County Department of Engineering and Public Works during design plan review.
6. Platting either a 20' wide easement or common area for the sidewalk between lots 40 and 41 for a pedestrian connection to the future Beaver Creek greenway. This sidewalk is to be installed at a time determined by the Knox County Department of Engineering and Public Works during design plan review.
7. Providing the necessary sight distance and safety improvements at the mid-block crossing on Lawgiver Circle, taking into consideration the location of on-street parking, as required by Knox County Engineering and Public Works during design plan review.
8. Installing the sidewalk on Edwards Place Boulevard to the west side of the street, unless otherwise approved by Knox County Engineering and Public Works during design plan review.
9. Providing a maximum cross slope of 2% for all crosswalks at a stop sign unless otherwise approved by Knox County Engineering and Public Works during design plan review.
10. Meeting all applicable requirements of Knox County Engineering and Public Works.
11. Meeting all applicable requirements of the Knox County Zoning Ordinance.
12. Submitting to Planning staff prior to final plat review by the Planning Commission or Planning staff, the certification of design plan approval form as required by the Knoxville-Knox County Subdivision Regulations.
13. Prior to certification of the final plat for the subdivision, establishing a property owners association that will be responsible for the maintenance of the common areas, drainage system and any recreational amenities.

► APPROVE the development plan for up to 79 detached residential lots, as shown, 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 other criteria for approval of a use on review.

COMMENTS:

Summary

Construction of a 79-lot detached residential subdivision in the undeveloped portion of the Edwards Place subdivision (approximately 30.75 acres). The proposed subdivision will extend both Edwards Place Boulevard and Lawgiver Circle, similarly to the original road design for the Edwards Place subdivision. Also, Road ‘A’ is in the same general location as a road that was originally proposed to cross Beaver Creek to provide access for lots on the south side of the creek. This current proposal does not have house lots on the south side of the creek. A greenway easement is provided on the south side of Beaver Creek and a sidewalk connection to the future greenway is proposed from Lawgiving Circle, between lots 40 and 41. There is also a sidewalk connection from Lawgiver Circle, between lots 51 and 52, that extends to the shared property line with the approved Twin Oak Landing subdivision that also has a sidewalk connection at this point (8-SA-20-C / 8-B-20-UR).

Background

The Edwards Place subdivision was originally approved in 2007 (2-SI-07-C / 2-K-07-UR) with 187 single family residential lots. The unbuilt portion of the subdivision was reapproved in 2013 (11-SA-13-C) with the same layout and number of lots. Lawgiver Circle was intended to wrap around Forest Willow Lane and connect to the
southern portion of Edwards Place Boulevard, and there was to be a street that extended to the south side of Beaver Creek with lots in the hillside area adjacent to the Gibbs school property.

Sidewalks were required throughout the subdivision and there was a requirement to make a pedestrian connection to the school property, if desired by Knox County Schools. Because the number of lots within the subdivision, the planning commission also required an amenity area that was to be located on the south side of Beaver Creek, near the terminus of Twin Oak Lane. The amenity was never constructed and the location is now part of the subject property. The 2007 Use on Review approval also had a requirement to connect to the terminus of Twin Oak Lane. (NOTE: The portion of Twin Oak Lane that terminates into the subject property has since been closed by Knox County)

The installation of the required sidewalks began with the construction of houses sometime between 2016 and 2018. Most of the sidewalks were installed in areas with the least amount of vehicle traffic. Edwards Place Boulevard will be the most heavily traveled road in the neighborhood and it is currently without a sidewalk for the majority of its length.

The 2007 and 2013 Concept Plan approvals had a condition that allowed Knox County Engineering and Public Works to require traffic calming to be installed. This could still be an option going forward to help slow down traffic, particularly on Edwards Place Boulevard.

In August 2020, the planning commission denied the request for an 80-unit apartment complex on this same site, as well as the associated cul-de-sacs at the existing termini of Edwards Place Boulevard and Lawgiver Circle (6-SA-20-C / 6-A-20-UR).

Density

The PR (Planned Residential) zoning allows up to 4 dwelling units per acre (du/ac). The proposed subdivision will have a density of 2.57 du/ac. The existing neighborhood consists of 95 lots on approximately 22.5 acres (4.22 du/ac). The combined density for the Edwards Place subdivision and the Woodbury Crossing subdivision is approximately 3.27 du/ac (174 dwellings on 53.25 acres). Approximately 39 additional dwelling units could be constructed based on the current zoning of PR up to 4 du/ac. If additional dwellings are proposed in the future, a new Concept Plan and/or Use on Review approval would be required.

Proposal

The Woodbury Crossing subdivision will be an expansion of the existing Edwards Place subdivision and extends Edwards Place Boulevard and Lawgiver Circle similarly to the original Edwards Place subdivision design. There will be sidewalks on one side of all new road segments, as well as a sidewalk connection to the future Oak Landing subdivision to the east and a sidewalk connection to the proposed greenway on the south side of Beaver Creek. The sidewalk to the greenway easement will terminate at the closed Twin Oak Lane creek crossing which still exists and can hopefully be used as a pedestrian crossing. The old roadbed for Twin Oak Lane also exists which could potentially be used as part of the pedestrian network that makes a connection to the nearby Gibbs school property.

A 60' wide greenway easement is being provided on the southeast side of Beaver Creek at the request of Knox County Parks and Recreation. The Knox County Greenway Corridor Study proposes a greenway along Beaver Creek and the preferred route in this area runs through this property (see Exhibit A). The previous approvals for Edwards Place and the adjacent Twin Oak Landing subdivision (approved and not developed) had requirements to make a pedestrian connection to the Gibbs school property. In conversations with the school system, the preferred location for a pedestrian connection is the one approved in the Twin Oak Landing subdivision that is at the end of the Gibbs Elementary School driveway, just as the driveway forks and extends up the hill to Gibbs Middle School. The sidewalk connections to Twin Oak Landing and the future greenway will provide two potential paths to making the pedestrian connection to the school property which the community has expressed as a need for the area.

Traffic Impact Study

The Woodbury Crossing Traffic Impact Study (CDM Smith, Revised October 2020) was prepared to address the impact of the proposed development on Thompson School Road. The Edwards Place subdivision was previously studied in 2007 for 187 single-family lots. This revised study only analyzed impact of the development on the Edwards Place Boulevard and Thompson School Road intersection, it did not analyze the impact on the internal neighborhood streets. The conclusion of the TIS was that no improvements are
necessary at the Thompson School Road intersection and that the new internal roads must connect to the
terminus of Edwards Place Boulevard and Lawgiver Circle in accordance with the requirements of Knoxville-
Knox County Planning and Knox County Engineering and Public Works.

Open Space

The 2007 Use on Review approval had a condition of providing both active and passive recreational uses on a
1.63 acre common area. According to the staff report, this is because the subdivision was going to have more
than 150 houses. The total lots within the existing and proposed subdivision will be more than the stated
threshold to warrant the inclusion of an amenity. This proposal does not specify an amenity but does provide
pedestrian connections to the future Twin Oak Landing subdivision and the future greenway along the south
side of Beaver Creek. The creek crossing of the closed roadbed of Twin Oak Lane still exists and is intended
to be used as a pedestrian crossing of the creek.

EFFECT OF THE PROPOSAL ON THE SUBJECT PROPERTY, SURROUNDING PROPERTY AND THE
COMMUNITY AS A WHOLE

1) The proposed development must work with the utility provider to ensure adequate service can be provided to
the site and not adversely impact the Edwards Place subdivision that has experienced problems with their
utilities.
2) The development will stay out of the Beaver Creek stream buffer and leave the forested hillside area on the
southeast side of Beaver Creek undisturbed.
3) The development is providing a 60’ greenway easement on the southeast side of Beaver Creek for future
installation by Knox County and a sidewalk will be constructed from Lawgiver Circle to the existing roadbed
crossing of Beaver Creek.
4) No improvements to Thompson School Road are required for this development based on the anticipated
number of vehicle trips and the existing condition of the road in this location.
5) The development will establish the connected road system that the original Concept Plan approval intended
and will have sidewalks on one side of all new street segments.

CONFORMITY OF THE PROPOSAL TO CRITERIA ESTABLISHED BY THE KNOX COUNTY ZONING
ORDINANCE

1) With the stated conditions, the proposal meets the standards for development within a PR (Planned
Residential) Zone and all other requirements of the Zoning Ordinance.
2) The proposed subdivision is consistent with the general standards for uses permitted on review: The
proposed development is consistent with the adopted plans and policies of the General Plan and Sector Plan.
The use is in harmony with the general purpose and intent of the Zoning Ordinance. The use is compatible with
the character of the neighborhood where it is proposed. The use will not significantly injure the value of
adjacent property. The use will not draw additional traffic through residential areas because the Edwards Place
subdivision was intended to be expanded generally as proposed.

CONFORMITY OF THE PROPOSAL TO ADOPTED PLANS

1) The Northeast County Sector Plan designates this property for low density residential use with a maximum
density of 5 du/ac. At a proposed density of 2.57 du/ac for the subject property and 3.27 du/ac for the overall
development (including the Edwards Place subdivision), the proposed development is consistent with the
Sector Plan.
2) The site is located within the Planned Growth Area on the Knoxville-Knox County-Farragut Growth Policy
Plan map.

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: 26   (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.

Knoxville-Knox County Planning Commission's approval or denial of this use on review request is final, unless the action is appealed to the Knox County Board of Zoning Appeals. The date of the Knox County Board of Zoning Appeals hearing will depend on when the appeal application is filed.
Detached residential subdivision in PR (Planned Residential)

Original Print Date: 11/6/2020
Revised:

Knoxville - Knox County Planning Commission * City / County Building * Knoxville, TN 37902
Figure 4-3. Beaver Creek East: East of Beeler Road to Campbells Point Road
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INTRODUCTION

CDM Smith was commissioned to prepare this report to address the impact of an additional proposed single-family residential development located within the Edwards Place subdivision on Thompson School Road in northeast Knox County, TN. The Edwards Place subdivision was previously studied in 2007 for 187 single-family unit development. The development of these additional single-family units would buildout the Edwards Place subdivision with a total of 175 single family units. The study required the collection of traffic data, generation of anticipated traffic volumes from the proposed site and development of projected traffic volumes from normal growth and from the potential site. Analysis of the resulting traffic projections was conducted to determine the capacity and levels of service for the site access with Thompson School Road. This study will develop measures necessary to mitigate any traffic impacts including improved roadway geometrics and traffic control devices with its access with Thompson School Road.

Knox County Traffic Engineering assisted in developing the required scope of this study. The proposed residential development site was assessed as a Level 1 Traffic Impact Study. This study will address the anticipated traffic impacts of the proposed residential development on the study access intersection.

Project Description

The proposed Woodbury Crossing site is a 79-unit single-family residential development on approximately 54 acres with a zoning of PR (1-4). Access for the site are the extensions from Edwards Place Boulevard and Lawgiver Circle. Figure 1 illustrates the proposed site plan.

Site Location

The proposed Woodbury Crossing site is at the termini of Edwards Place Boulevard, which intersects with Thompson School Road to the north, and Lawgiver Circle. The site is near the Gibbs Community in northeast Knox County. The single-family residential development is east of Thompson School Road, south of Karnes Drive, west of Tazewell Pike, and north of E. Emory Road. Figure 2 illustrates the site location relative to local and regional access.
LOCAL AND REGIONAL ACCESS

Local Access
Local access to this site is from the Edwards Place Boulevard and its intersection with Thompson School Road. Edwards Place Boulevard is a residential street. Thompson School Road through a series of connections provides access to Tazewell Pike, Maynardville Highway, and several intersections along E. Emory Road. Thompson School Road is a major collector having a width of 20 feet and a 2017 average daily traffic (ADT) of 2,630. The posted speed limit is 30 mph. Its intersection with E. Emory Road, south of the site, is currently undergoing improvements which includes an alignment with Fairview Road, a minor arterial between E. Emory Road and Tazewell Pike.

Regional Access
Emory Road (SR 131) extends for more than 26 miles across northern Knox County. Emory Road extends west to Oak Ridge Highway near the Anderson County line and east into Grainger County. Emory Road to the west had a 2017 ADT of approximately 12,220 and 5,180 to the east. Major intersections include Clinton Highway, Interstate 75, Norris Freeway, Maynardville Highway, Tazewell Pike, and Washington Pike. Oak Ridge Highway (SR 62) near the Anderson County line had a 12,270 ADT in 2017. Clinton Highway (US 25W/SR 9) had a recorded 2017 ADT of 30,090. The ADT south of Exit 112 on I-75 in 2017 was approximately 64,360. Norris Freeway (US 441/SR 71) is principle highway with a 2017 ADT of approximately 12,380. The Maynardville Highway (SR 33) 2017 ADT, north of Emory Road, was 16,150. Tazewell Pike (SR 331) have approximate 2017 ADTs of 7,200 and 14,280 north and south of Emory Road, respectively. Washington Pike near the Grainger County line had a 2017 ADT of approximately 620. These roadways provide a significant north-south connection between north Knox County and the downtown Knoxville central business district (CBD).

Modes of Travel in the Site Vicinity
Some sidewalks are provided in the subdivision but are not extensive. There are not any bike facilities in the vicinity of the proposed site. Knoxville Area Transit does not extend to the site; bus Route 22 extends as far north as Jacksboro Pike and Garden Drive.
EXISTING TRAFFIC CONDITIONS

Existing Traffic Control
The Edwards Place Boulevard approach to Thompson School Road is stop controlled. Thompson School Road has a posted speed limit of 30mph. E. Emory Road has a posted speed limit of 45 mph.

Existing Traffic Volumes
Peak-hour turning movement count was conducted February 20, 2020 for the intersection of Edwards Place Boulevard and Thompson School Road. The peak hours were measured to be 7:00 AM to 8:00 AM and 4:45 PM to 5:45 PM. Figure 3 illustrates the resulting intersection peak-hour turning movements for the AM and PM peak hours.

Existing Capacity and Level of Service
In order to evaluate the current operations of the traffic control devices, capacity and level of service were calculated using the Highway Capacity Manual, Special Report 209, Sixth Edition published by the Transportation Research Board (TRB). Unsignalized intersections are evaluated based on estimated intersection delays, which may be related to level of service (LOS).

Level of service and capacity are the measurements of an intersection’s ability to accommodate traffic volumes. Levels of service for intersections range from A to F. A LOS A is the best, and LOS F is failing. Unsignalized intersections levels of service have lower thresholds of delays than do signalized intersections. A LOS of F exceeds estimated delays of 50 seconds. For urban arterials, minor approaches may frequently experience levels of service E. A full level of service description for unsignalized intersections is presented in Table 1.

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Average Control Delay per Vehicle (seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤ 10.0</td>
</tr>
<tr>
<td>B</td>
<td>&gt; 10.0 and ≤ 15.0</td>
</tr>
<tr>
<td>C</td>
<td>&gt; 15.0 and ≤ 25.0</td>
</tr>
<tr>
<td>D</td>
<td>&gt; 25.0 and ≤ 35.0</td>
</tr>
<tr>
<td>E</td>
<td>&gt; 35.0 and ≤ 50.0</td>
</tr>
<tr>
<td>F</td>
<td>&gt; 50.0</td>
</tr>
</tbody>
</table>

Source: Highway Capacity Manual, TRB Special Report 209
LEGEND

TURNING MOVEMENT

XXX AM PEAK

(XXX) PM PEAK
Analyses were conducted using the Synchro Software, developed by Trafficware. Table 2 presents the levels of service for the existing traffic conditions; the levels of service for both the AM and PM peak hours were determined acceptable for the site access from Edwards Place Boulevard to Thompson School Road.

**TABLE 2**

**2020 EXISTING LEVELS OF SERVICE**

<table>
<thead>
<tr>
<th>INTERSECTION</th>
<th>TRAFFIC CONTROL</th>
<th>PEAK PERIOD</th>
<th>V/C</th>
<th>DELAY</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thompson School Road</td>
<td>STOP</td>
<td>AM</td>
<td>0.15 / 0.01</td>
<td>10.4 / 7.5</td>
<td>B / A</td>
</tr>
<tr>
<td>Edwards Place Boulevard</td>
<td>WB-LR/SB-L</td>
<td>PM</td>
<td>0.05 / 0.01</td>
<td>9.5 / 7.5</td>
<td>A / A</td>
</tr>
</tbody>
</table>

Note: Average vehicle delay
TRIP GENERATION

Project site traffic is typically generated using the publication, *Trip Generation, 10th Edition*. This reference is published by the Institute of Transportation Engineers (ITE) and represents national data collected for many different land uses including industrial, residential, and commercial uses. *Trip Generation* is an essential tool in calculating the traffic, which may be generated by a proposed development.

Daily trips generated for the Woodbury Crossing 79 single-family units are approximately 739, and peak-hour trips are approximately 56 and 76 generated during the AM and PM peaks, respectively. In addition to the proposed 79 units, it was assumed for background traffic conditions, that the existing and proposed subdivision would be built-out with 175 single-family units.

Table 3 presents the trip generation of this proposed site. The resulting trip generation of the single-family buildout and the proposed 79-unit single-family Woodbury Crossing is 1,740 daily trips, 129 AM peak-hour trips, and 174 PM peak-hour trips. This trip generation reflects an insignificant change from the trip generation studied in the 2007 Edwards Place traffic impact assessment.

**TABLE 3. TRIP GENERATION**

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>L.U.C</th>
<th>UNITS</th>
<th>DAILY TRAFFIC</th>
<th>AM PEAK</th>
<th>PM PEAK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>ENTER</td>
<td>EXIT</td>
<td>TOTAL</td>
</tr>
<tr>
<td>SINGLE FAMILY</td>
<td>210</td>
<td>175</td>
<td>1,740</td>
<td>32</td>
<td>97</td>
</tr>
<tr>
<td>(Existing+Proposed Subdivision)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SINGLE FAMILY</td>
<td>210</td>
<td>96</td>
<td>1,001</td>
<td>18</td>
<td>55</td>
</tr>
<tr>
<td>(Existing Subdivision)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SINGLE FAMILY</td>
<td>79</td>
<td>739</td>
<td>14</td>
<td>42</td>
<td>56</td>
</tr>
<tr>
<td>(Proposed Subdivision)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reference: (1) Trip Generation, 10 Edition
BACKGROUND TRAFFIC CONDITION

Background traffic is traffic that can be anticipated regardless of the proposed development. Traffic within the study area should continue to grow due to other developments as well as the continued growth within the surrounding area. This background traffic must be analyzed and evaluated for the purpose of establishing a baseline. The background traffic reflects the historical traffic volumes in the area of the proposed development.

Background Traffic Volumes

An average growth rate was determined using historical ADT traffic data from the Tennessee Department of Transportation count stations on Thompson School Road, E. Emory Road, and Tazewell Pike. Count stations in the site vicinity indicated an annual growth between 2.0- and 3.0-percent. The annual growth rate applied to the Thompson School Road traffic was, therefore, 3.0-percent. Assuming a buildout year of 2022 for Woodbury Crossing, the growth applied to the Thompson School Road traffic is 6-percent, a factor of 1.06 applied to the 2020 existing though traffic volumes. Figure 4A illustrates the projected traffic for intersection of Thompson School Road and Edwards Place with the growth rate applied.

In addition to the background growth applied, trips were assigned for the proposed Thompson Meadows subdivision located southwest of the proposed Woodbury Crossing site. The Thompson Meadows subdivision is 193 single family units. Figure 4B illustrates the tips assigned for this subdivision.

Turning movements to and from Edwards Place Boulevard at Thompson School Road also assumed buildout of the current single-family unit subdivision. Figure 4C illustrates the total trips generated for the current 96 single-family units of Edwards Place.

Figure 5 illustrates the 2022 background traffic for the Edwards Place Boulevard and Thompson School Road intersection.
NOTE: Thompson School Road traffic increased by 6% for 2022 background growth.
LEGEND

ξ TURNING MOVEMENT
XXX ENTERING TRIPS
(XXX) EXITING TRIPS

Figure 4C
LEGEND
♀ TURNING MOVEMENT
XXX AM PEAK
(XXX) PM PEAK

Figure 5
**Background Capacity and Level of Service**

Analysis was performed with the grown traffic volumes presented in Figure 5. The levels of service are found to be acceptable and not failing for the unsignalized study intersections. The Edwards Place Boulevard approach traffic is expected to experience a LOS B in both the AM and PM peak hours. **Table 4** presents the level of service findings of the analyses conducted.

<table>
<thead>
<tr>
<th>INTERSECTION</th>
<th>TRAFFIC CONTROL</th>
<th>PEAK PERIOD</th>
<th>V/C</th>
<th>DELAY</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thompson School Road</td>
<td>STOP</td>
<td>AM</td>
<td>0.14</td>
<td>10.9</td>
<td>B / A</td>
</tr>
<tr>
<td>Edwards Place Boulevard</td>
<td>WB-LR/SB-L</td>
<td>PM</td>
<td>0.07</td>
<td>10.2</td>
<td>B / A</td>
</tr>
</tbody>
</table>

Note: Average vehicle delay
PROJECT IMPACTS

Projected traffic conditions are developed by distributing the trips generated to the study access intersection of Edwards Place Boulevard at Thompson School Road and again conducting analyses for capacity and level of service.

**Trip Distribution and Assignment**
Using the turning-movement count from the current residents of the Edwards Place subdivision, trips were distributed to the Thompson School Road for the AM and PM peak hours. Figures 6A and 6B illustrate the traffic distributions for the AM and PM peak hours, respectively.

**Project Traffic Volumes**
By multiplying the trips generated by the distribution percentages, the project traffic volumes were determined. Figure 7 illustrates the resulting site traffic volumes.

**Total Projected Traffic Volumes**
Background and project traffic volumes were added together to develop post-development traffic volumes for the year 2022. Figure 8 illustrates this 2022 projected traffic with the buildout of 175 single-family units. Using these projections, mitigation measures including traffic control devices and intersection geometry can be evaluated.

Projected traffic for the intersection of Thompson School Road and Edwards Place Boulevard do not meet any thresholds for turn lanes. Though traffic on Thompson School Road is well below traffic volumes required to meet turn-lane warrants.
LEGEND

asking MOVEMENT
XXX ENTERING TRIPS
(XXX) EXITING TRIPS
PM PEAK HOUR DISTRIBUTION & ASSIGNMENT
Woodbury Crossing

LEGEND

TURNING MOVEMENT
XXX ENTERING TRIPS
(XXX) EXITING TRIPS

Figure 6B
SITE TRIPS
Woodbury Crossing

Legend
- TURNING MOVEMENT
- XXX ENTERING TRIPS
- (XXX) EXITING TRIPS

Figure 7
**Projected Capacity and Level of Service**

The development traffic was analyzed to assess the impact at the unsignalized intersection of Edwards Place Boulevard at Thompson School Road. The proposed site access is expected to operate at a LOS B during the peak hours. The resulting 2022 levels of service are presented in **Table 5** and illustrated in **Figure 9**.

<table>
<thead>
<tr>
<th>INTERSECTION</th>
<th>TRAFFIC CONTROL</th>
<th>PEAK PERIOD</th>
<th>V/C</th>
<th>DELAY</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thompson School Road</td>
<td>STOP</td>
<td>AM</td>
<td>0.25 / 0.01</td>
<td>11.9 / 7.7</td>
<td>B / A</td>
</tr>
<tr>
<td>Edwards Place Boulevard</td>
<td>WB-LR/SB-L</td>
<td>PM</td>
<td>0.14 / 0.04</td>
<td>11.2 / 7.8</td>
<td>B / A</td>
</tr>
</tbody>
</table>

*Note: Average vehicle delay*

From the projected traffic and the analyses conducted, the current traffic control and intersection geometry are acceptable providing very good levels of service for both AM and PM peak hours.
Figure 9: 2022 Projected Level of Service

Legend:
XXX AM Peak-Hour LOS
(XXX) PM Peak-Hour LOS
CONCLUSION AND RECOMMENDATIONS

The study of the proposed 79-unit single-family residential development evaluated the projected traffic conditions. Background traffic was determined using a 3.0% annual growth rate applied to the Thompson School Road traffic until the year 2022 and turning movement to and from Edwards Place Boulevard assuming buildout of the Edwards Place single-family units. Using the identified turning movements for the projected traffic conditions, unsignalized capacity and level of service analyses were conducted using the *Highway Capacity Manual, 6th Edition*. Unsignalized levels of service were found to be acceptable with very good levels of service for the existing traffic and background conditions with and without the proposed Woodbury Crossing development. The proposed development has a negligible impact on the access intersection of Edwards Place Boulevard at Thompson School Road. No improvements were found necessary for acceptable access for the residential development. The Woodbury Crossing connections with Edwards Place Boulevard and Lawgiver Circle must be provided in accordance with all applicable subdivision regulations and standards adopted by Knoxville-Knox County Planning and the Knox County Department of Public Works.
DEVELOPMENT REQUEST

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

SUBDIVISION
☐ Concept Plan
☑ Final Plat

ZONING
☐ Plan Amendment
☐ Rezoning

WC Woodbury Crossing Limited Partnership

Applicant Name

10/23/2020
Date Filed

12-10-2020
Meeting Date (if applicable)

12-SA-30-C / 12-A-20-UR
File Numbers(s)

CORRESPONDENCE

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

☐ Applicant ☐ Owner ☐ Option Holder ☐ Project Surveyor ☑ Engineer ☐ Architect/Landscape Architect

Charles Garvick
Name

Chadan Engineering, Inc.
Company

PO Box 695
Address

St. Clairsville
City

Ohio
State

43950
Zip

740-449-2194
Phone

cmgarvick@chadanengineering.com
Email

CURRENT PROPERTY INFO

People Bank of the South
Owner Name (if different)

PO Box 1221, LaFollette TN 37721
Owner Address

021 00203
Owner Phone

7605 Twin Oaks Lane, Corryton, TN 37721
Property Address

SE Terminus of Edwards Place Blvd. SE of Thompson School Rd.
Parcel ID

30.748 Acres
Tract Size

8th District
General Location

PR (Planned Residential) < 4 du/ac
PR (Planned Residential) < 4 du/ac

Jurisdiction (specify district above) ☐ City ☑ County

Zoning District

Northeast County LDR

Planned Growth

Planning Sector Sector Plan Land Use Classification

Vacant No HPUD

Growth Policy Plan Designation

Existing Land Use Septic (Y/N)

Sewer Provider

Water Provider
REQUEST

- Development Plan
- Use on Review / Special Use
  - Residential
  - Non-Residential
- Home Occupation (specify):
- Other (specify):

Woodbury Crossing
- Proposed Subdivision Name

One Phase
- Unit / Phase Number
- Total Number of Lots Created: 79

Zoning Change:
- Proposed Zoning

Plan Amendment Change:
- Proposed Plan Designation(s)

Proposed Density (units/acre)

Previous Rezoning Requests
- Other (specify):

PLAT TYPE
- Staff Review
- Planning Commission

ATTACHMENTS
- Property Owners / Option Holders
- Variance Request

ADDITIONAL REQUIREMENTS
- Design Plan Certification (Final Plat only)
- Use on Review / Special Use (Concept Plan only)
- Traffic Impact Study

| Fee 1: | (base fee) | 0406 | 1300.00 |
| Fee 2: | ($100 per acre) | 3074.80 |
| Fee 3: | TOTAL: | 4374.80 |

AUTHORIZATION
By signing below, I certify I am the property owner, applicant or the owners authorized representative.

Applicant Signature
614-396-3200
jwoda@wodagroup.com

Jeffrey J. Woda, Authorized Rep of the GP
09/24/2020

Staff Signature
Sherry McNichols
Sherry McNichols
10/33/2020