



SUBDIVISION REPORT - CONCEPT/USE ON REVIEW

▶ **FILE #:** 7-SC-20-C **AGENDA ITEM #:** 17
7-C-20-UR **AGENDA DATE:** 9/10/2020

POSTPONEMENT(S): 7/9/2020 - 8/13/2020

▶ **SUBDIVISION:** SMITH DEVELOPMENT - GOVERNOR JOHN SEVIER HWY.

▶ **APPLICANT/DEVELOPER:** PERRY SMITH DEVELOPMENT, LLC

OWNER(S): Doug Hodge / JSP Development

TAX IDENTIFICATION: 148 001 & 00101 [View map on KGIS](#)

JURISDICTION: County Commission District 9

STREET ADDRESS: 0 W. Governor John Sevier Hwy.

▶ **LOCATION:** South side of W. Gov. John Sevier Hwy., east of Government Farm Rd., west of Martin Mill Pk.

SECTOR PLAN: South County

GROWTH POLICY PLAN: Planned Growth Area

WATERSHED: Knob Creek & Stock Creek

▶ **APPROXIMATE ACREAGE:** 48.67 acres

▶ **ZONING:** PR (Planned Residential)

▶ **EXISTING LAND USE:** Vacant, forrested land

▶ **PROPOSED USE:** Detached residential subdivision

SURROUNDING LAND USE AND ZONING: North: Gov. John Sevier Hwy, Vacant, Rural residential / A (Agricultural)
South: Rural residential / A (Agricultural)
East: Rural residential / RA (Low Density Residential)
West: Rural residential / A (Agricultural)

▶ **NUMBER OF LOTS:** 174

SURVEYOR/ENGINEER: Batson, Himes, Norvell & Poe

ACCESSIBILITY: Access is via W. Governor John Sevier Hwy., a major arterial street with 43' of pavement width within 80' - 110' of right of way.

▶ **SUBDIVISION VARIANCES REQUIRED:** ALTERNATIVE DESIGN STANDARDS REQUIRING PLANNING COMMISSION APPROVAL:

- 1) Reduction of horizontal curve radius on Road 'A' from 250 feet to 125' feet at STA 7+50.
- 2) Reduction of horizontal curve radius on Road 'A' from 250 feet to 175' feet at STA 19+50.
- 3) Reduction of horizontal curve radius on Road 'A' from 250 feet to 175' feet at STA 28+75.

ALTERNATIVE DESIGN STANDARDS APPROVED BY KNOX COUNTY ENGINEERING AND PUBLIC WORKS:

- 1) Intersection grades between 1 and 3 percent for all approaches to an intersection.
- 2) Reduction of the Governor John Sevier Highway right-of-way dedication from 56' to 50'.

STAFF RECOMMENDATION:

- **APPROVE** alternate design standard 1-3 based on the recommendations of the Knox County Department of Engineering and Public Works.

APPROVE the Concept Plan subject to 8 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) Meeting all applicable requirements of Knox County Engineering and Public Works.
 - 4) Providing a stream determination to Knox County Engineering and Public Works that documents that the blue line stream shown on the USGS maps is not a stream. If it is determined to be a stream, the appropriate buffers must be provided. The location of the blue line is in the general location of Road 'E' and crosses under Governor John Sevier Highway at the northwest corner of the site.
 - 5) 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, recreational amenities and drainage system.
 - 6) Providing a 200' sight distance easement along the Road 'A' frontage of Lot 89 as identified on the Concept Plan.
 - 7) Providing documentation of an approved waiver from the Tennessee Department of Transportation (TDOT) during design plan review for the requested reduction of right-of-way dedication from 56' to 50' from the centerline of Governor John Sevier Highway. If TDOT does not approve the waiver, the right-of-way requirements of the Major Road Plan must be dedicated.
 - 8) A final plat application based on this concept plan will not be accepted for review until certification of design plan approval has been submitted to Planning staff.
- **APPROVE** the development plan for up to 174 detached residential lots subject to 4 conditions.
- 1) Meeting all applicable requirements of the Knox County Zoning Ordinance.
 - 2) Providing a tree buffer with 50' of depth along the Governor John Sevier Highway frontage this is within common area, as shown on the development plan.
 - 3) Installation of fencing to protect the trees identified as within the 50-foot tree buffer/common area along Governor John Sevier Highway. This fencing is to be installed before grading activities begin on the site.
 - 4) Providing a note on the final plat stating, "No trees in the 50-foot 'tree buffer' shall be removed unless it is dead or dying, an invasive species, or must be removed for safety reasons, such as sight distance standards or the tree presents a falling hazard."

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

This proposal is for the construction of 174 detached houses on the 48.67 acre site on the south side of Governor John Sevier Highway, located approximately 1,400' west of W. Martin Mill Pike. The zoning on the property is PR (Planned Residential) up to 5 du/ac and the proposed density is 3.58 du/ac. There are two access points proposed to Governor John Sevier Highway and eastbound right-turn lanes as recommended by TDOT. A 50' tree buffer is provided along the Governor John Sevier Highway frontage as recommended by the Governor John Sevier Scenic Highway Corridor Study (2019). The tree buffer will be within common area and 5' walking trail is proposed for the portion between Road 'A' and Road 'B'. An amenity area is proposed on the west side of Road 'B' that includes the mail kiosk, gazebo, "bark park", and parking area. Lots 58-61 and 174 will have a 30' front setback to accommodate more off-street stacking of vehicles. These lots have frontage in the first block of Road 'A' and Road 'B' between Governor John Sevier Highway and Road 'E', which will be the road segments with the most traffic and where on-street parking will be the most disruptive and pose potential safety concerns because of the proximity to the Governor John Sevier Highway intersection.

Background

This property was zoned PR up to 5 du/ac in 2008 and in 2016 a retirement community was proposed for the site that included a detached residential subdivision, independent living apartments, and an assisted living facility, however, this application was tabled before eventually being withdrawn.

Plan Recommendations

The Governor John Sevier Scenic Highway Corridor Study was adopted in 2019 and outlines three community priorities; traffic safety, scenic corridor highway overlay standards, and scenic highway business and property owners beautification projects. The recommended corridor overlay standards are the most applicable to this proposal (see Exhibit B). Most of the overlay recommendations are only applicable to non-residential uses but there is a 50' tree protection and replacement buffer recommended from the right-of-way of Governor John Sevier Highway. The applicant has incorporated a 50' tree buffer entire Governor John Sevier Highway frontage that will be in common area. The only location where trees have been cleared in the tree buffer is the 150' wide TVA transmission line easement on the western portion of the frontage. Within the tree buffer, it is acceptable to remove underbrush, dead or dying trees, invasive species, and any vegetation for safety reasons, such as sight distance.

Open Space / Amenities

The proposed open space and amenities includes a "bark park", gazebo, and mail kiosk with a parking area west of Road 'B' and between the TVA and natural gas pipeline easements, and a walking trail that is approximately 915' long in the 50' tree buffer between Road 'A' and Road 'B'. The walking trail has a mid-block crossing on Road 'B' approximately 75' south of the closest travel lane of Governor John Sevier Highway. This crossing will make a connection with the amenities on the west side of Road 'B'. Knox County Engineering and Public Works prefers the mid-block crossing at the proposed location rather than moving the crosswalk to the Governor John Sevier Highway intersection to the north. The first intersection to the south at Road 'E' will have a cross slope that cannot meet ADA standards. The next intersection to the south at Road 'C' appears to have a cross slope that will meet ADA standards, however, this is a long distance to walk for a crosswalk and may encourage people to cross without a designated crosswalk if they are going to the amenity area.

Transportation Impact Study

The "Perry Smith Development on Governor John Sevier Highway" transportation impact study (TIS) was completed by the applicant's engineer to determine if improvements are required on Governor John Sevier Hwy and the design of the two entrance approaches for the subdivision (Road 'A' and Road 'B'), and provide guidance for designing the internal streets. The full conclusions and recommendations of the TIS are provided in Exhibit A and the primary items addressed the study are listed below:

1. A single exiting lane at Road 'A' and Road 'B' will operate a reduced level during peak periods but is acceptable. This single exit lane design is preferred by TDOT and Knox County Engineering and Public Works.
2. An exclusive eastbound right-turn lane is now warranted at Road 'A' or Road 'B'. However, TDOT has recommended that a separate right-turn lane be constructed for each road. The civil site designer proposes a 75' right-turn storage length with a 50' taper. The final design of this turn lane will be coordinated with TDOT during permitting.
3. The continuous center two-way left-turn lane should be re-striped to accommodate the turn movements at the new intersections at Road 'A' and Road 'B'. TDOT has recommended that the re-striping not happen at this time but it may be done in the future if it is determined to be necessary.
4. TDOT has recommended the entrance sign for Road 'A' and Road 'B' be design with a wider width of 30' to accommodate larger vehicles. The width of the entrance and exit lanes will be determined during permitting but it is anticipated that the entrance lane will be wider.
5. The internal street system should be designed for a 25-MPH speed limit.
6. Traffic calming may be necessary on Road 'A' because of the long and straight road segments. Any traffic calming will need to be coordinated with Knox County Engineering and Public Works.

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

- 1) Public utilities are available to serve this site.
- 2) Eastbound right-turn lanes on Governor John Sevier Highway for turn movements into the development will be installed as part of this development.
- 3) The lot sizes within the subdivision are much smaller than the large lot residential development that

surrounds the development, however, the density of this development approximately 3.6 du/ac and the zoning would allow consideration of up to 5 du/ac.

4) The applicant is proposing 50' tree buffer along the Governor John Sevier Highway frontage which will screen the development from the scenic corridor.

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

1) With the stated conditions, the detached residential development meets the standards for development within a PR (Planned Residential) Zone and all other requirements of the Zoning Ordinance.

2) The proposed development 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 significant additional traffic through residential areas because the development has direct access to Governor John Sevier Highway.

CONFORMITY OF THE PROPOSAL TO ADOPTED PLANS

1) The South County Sector Plan designates this property for low density residential use with a maximum density of 5 du/ac. At a proposed density of 3.6 du/ac, the 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.

3) With the addition of the 50-foot tree buffer this development plan is consistent with the adopted Governor John Sevier Scenic Highway Corridor Study (2019).

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.

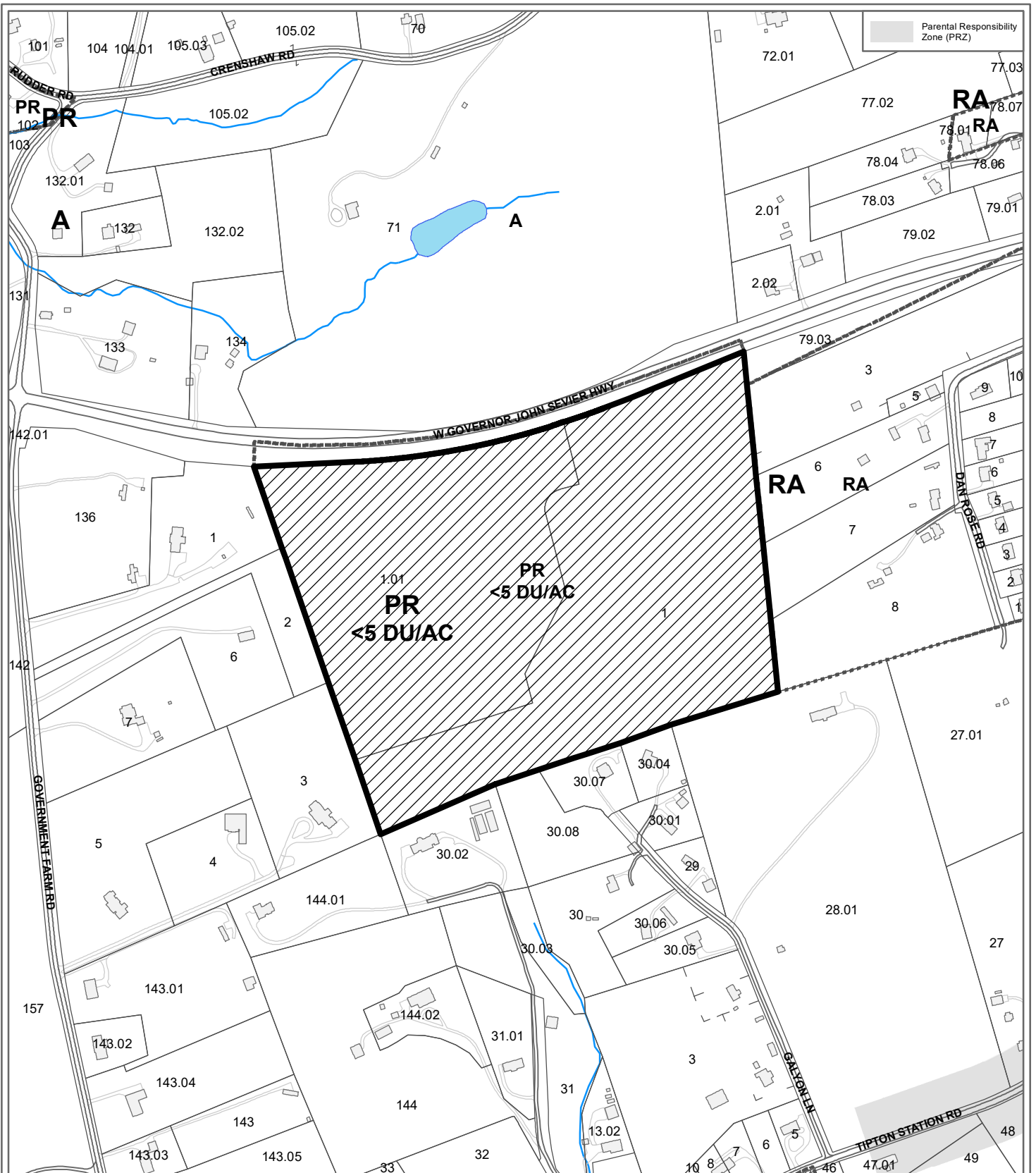
ESTIMATED STUDENT YIELD: 58 (public school children, grades K-12)

Schools affected by this proposal: Bonny Kate Elementary, South Doyle Middle, and South Doyle 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.



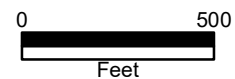
**7-SC-20-C / 7-C-20-UR
CONCEPT PLAN/USE ON REVIEW**



Detached residential subdivision in PR (Planned Residential)

Petitioner: Perry Smith Development, LLC
Smith Development - Governor John Sevier Hwy.

Map No: 148
Jurisdiction: County



Original Print Date: 6/16/2020 Revised:
Knoxville - Knoxville Planning Commission * City / County Building * Knoxville, TN 37902

BATSON, HIMES, NORVELL & POE

REGISTERED ENGINEERS AND LAND SURVEYORS

4334 Papermill Road

Knoxville, Tennessee 37909

Phone (865) 588-6472

Fax (865) 588-6473

June 29, 2020



AUTOMATIC POSTPONEMENTS: 30 DAYS

File #: 7-SC-20-C_7-C-20-UR

Meeting Date: 7.9.2020

Mr. Mike Reynolds
Knoxville Knox County Planning
(KKCP)

Dear Mr. Reynolds:

We request the following at the July 9, 2020 KKCP meeting:

Please postpone consideration of the following Concept/Use on Review Plan:

- Smith Development – Gov. John Sevier Highway (7-SC-20-C & 7-C-20-UR)

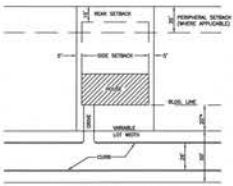
Until the August 13, 2020 KKCP meeting.

Thank you for your assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read "David Harbin".

David Harbin PE, RLS



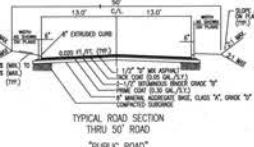
TYPICAL LOT LAYOUT FOR SINGLE FAMILY DETACHED
 *LOTS 58-61 & 174 WILL HAVE A 30' FRONT BUILDING SETBACK



LOCATION MAP



- NOTES
1. ALL DIMENSIONS ARE SCALED AND SUBJECT TO CHANGE ON THE FINAL PLAN.
 2. A 12" DRAINAGE, UTILITY AND CONSTRUCTION EASEMENT EXISTS AROUND ALL EXTERIOR LOT LINES AND ROAD LINES, 5' EACH SIDE OF INTERIOR ROAD LINES.
 3. A 15' UTILITY EASEMENT EXISTS 7.5' EACH SIDE OF CONTIGUOUS OF SANITARY SEWER AS INDICATED.
 4. THIS PROPERTY CONTAINS APPROXIMATELY 48.884 ACRES SUBDIVIDED INTO 174 SINGLE FAMILY DETACHED LOTS AND FOUR COMMON AREAS.
 5. THIS PROPERTY IS ZONED PH.
 6. ALL ROAD PROFILES ARE BASED ON HIGHS CONTOURS.
 7. UTILITIES:
 KNOX COUNTY CHAPMAN UTILITY DISTRICT
 KNOX COUNTY CHAPMAN UTILITY DISTRICT
 ELECTRIC KNOXVILLE UTILITIES BOARD
 GAS KNOXVILLE UTILITIES BOARD
 TELEPHONE BELLSOUTH
 8. BOUNDARY SURVEY BY OTHERS.
 9. GEOTECHNICAL ENGINEER SHALL CERTIFY THE SLOPE STABILITY ON ALL FILL SLOPES.
 10. VEHICULAR ACCESS FOR ALL LOTS IS LIMITED TO INTERIOR ROAD SYSTEM ONLY.
 11. ALTERNATIVE DESIGN STANDARDS ARE AS FOLLOWS:
 - REDUCING THE HORIZONTAL CURVE RADIUS FROM 250' TO 125' AT STATION 7+50 ROAD 5A.
 - INCREASING THE HORIZONTAL CURVE LENGTH FROM 250' TO 175' AT STATION 18+50 ROAD 5A.
 - REDUCING THE HORIZONTAL CURVE LENGTH FROM 250' TO 175' AT STATION 28+75.
 - INTERSECTION GRADINGS BETWEEN 1 AND 3 PARCELS HAVE BEEN PROVIDED AND APPROVED BY KNOX COUNTY.
 12. NO BUILDINGS OR STRUCTURES ARE ALLOWED WITHIN THE 75A POWER LINE EASEMENT.
 13. NO BUILDING OR STRUCTURES ARE ALLOWED WITHIN THE INTERIOR GOLF EASEMENT.
 14. NO STRUCTURES OR VEGETATION IS ALLOWED WITHIN THE 500' DISTANCE EASEMENT ON LOT 58 THAT MAY IMPAIR THE VISION OF VEHICLES TRAVELING.
 15. MINIMUM FLOOR ELEVATION FOR LOTS 30 & 31 IS 5' ABOVE THE BENCH OF THE GROUNDLINE POINT ADJACENT TO THAT LOT.
 16. VARIANCE APPROVED BY THE KNOXVILLE METRO COUNTY PLANNING DEPARTMENT AT THEIR JULY 30th MEETING RESOLVING THE REQUIRED RIGHT-OF-WAY DESIGNATION ON W. GOVERNOR JOHN SEVER HIGHWAY FROM 56' TO 50' FROM CENTERLINE.



6/18/2020

CORPORATION 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 SIGNATURE AND EXISTENCE CONFORM TO THE BEST OF MY KNOWLEDGE, TO ALL APPLICABLE PROVISIONS OF THE ANNUALLY REBORN COUNTY SUBDIVISION ACT AND THE RULES AND REGULATIONS THEREUNDER.
 David B. Harris
 PROFESSIONAL ENGINEER
 TENNESSEE LICENSE NO. 18185 DATE: 6/18/2020

OWNER/DEVELOPER:
 PERRY SMITH DEVELOPMENT LLC
 190 COMMUNITY CENTER DRIVE, STE 104
 PIGEON FORGE, TN 37863
 PHONE: (865) 227-7973

7-SC-20-C 7-C-20-UR Revised: 6/22/2020

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| | | 1/8/18/20 | | | | | KKCP COMMENTS | | |
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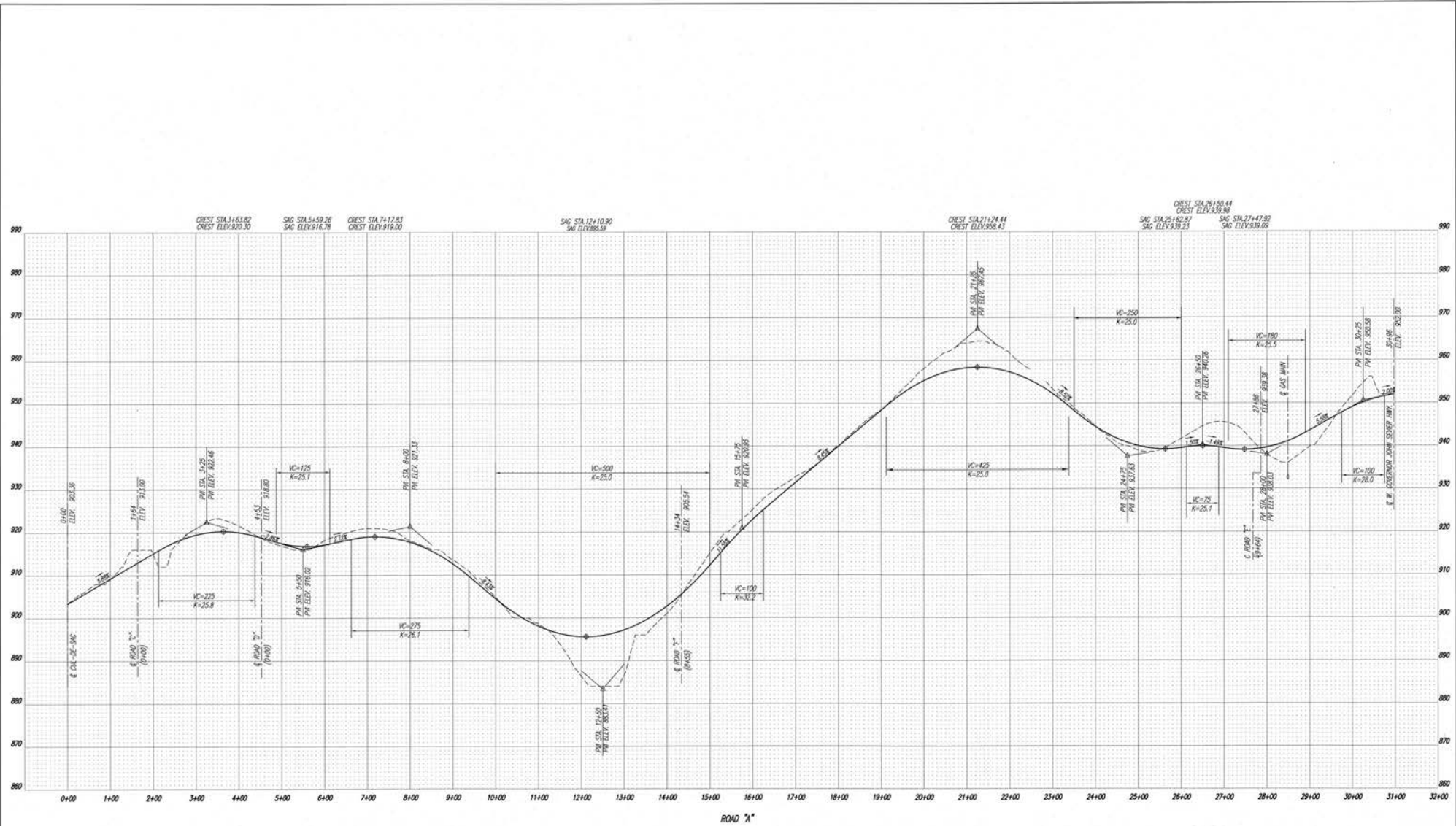
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DEED REFERENCES: INSTR. # 201712070035342 INSTR. # 200309100726L
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 PLAT REFERENCE: INSTR. # 201602230048835 INSTR. # 200309100726L

1" = 100'

CONCEPT/DEVELOPMENT PLAN FOR
 SMITH DEVELOPMENT - GOV. JOHN SEVER HIGHWAY
 TAX MAP 148, PARCELS 1 & 1.01
 DISTRICT 9, KNOX COUNTY, TENNESSEE

25176-SP
 SHEET 1 OF 4 SHEET(S)
 6/23/17625176-3.DWG



7-SC-20-C
 7-C-20-UR
 Revised: 6/22/2020



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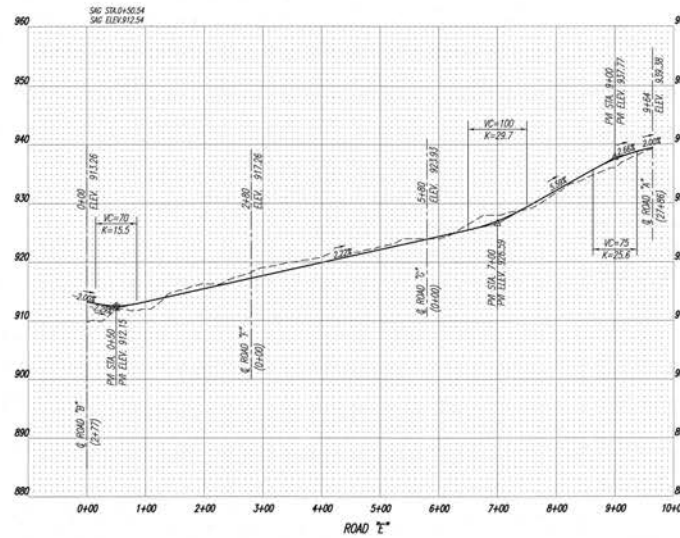
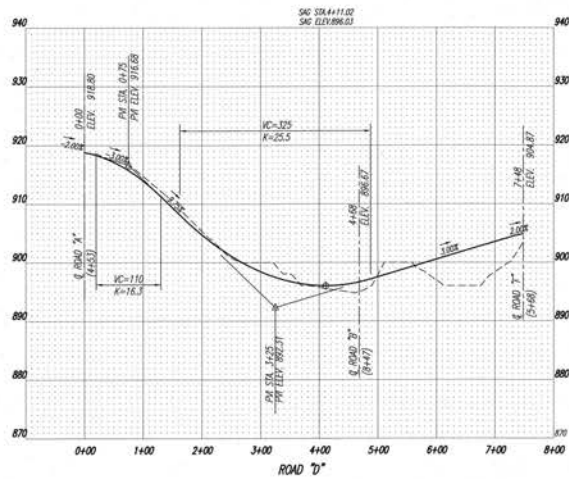
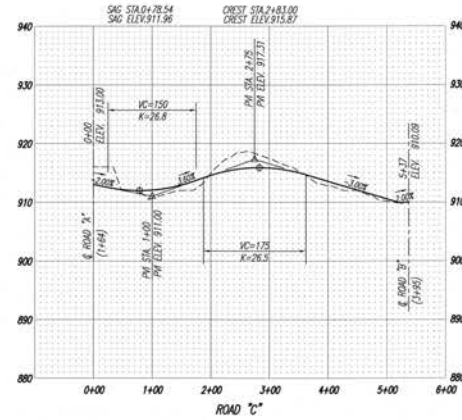
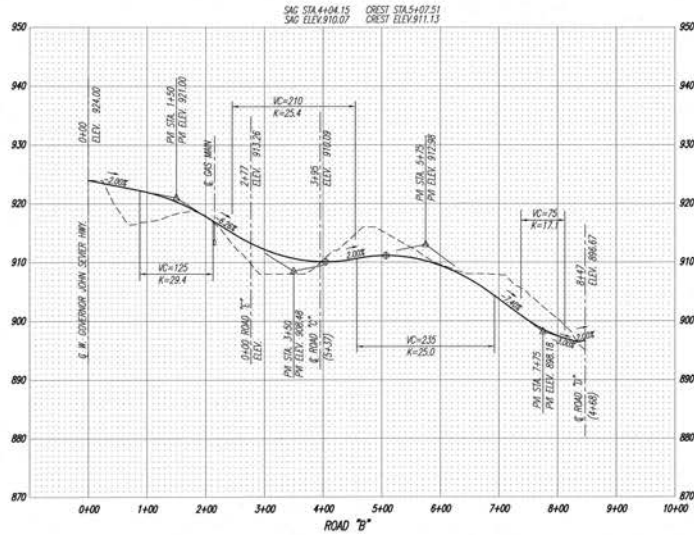
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ROAD PROFILE FOR
 SMITH DEVELOPMENT - GOV. JOHN
 SEVIER HIGHWAY
 TAX MAP 148, PARCELS 1 & 1.01
 DISTRICT 9, KNOX COUNTY, TENNESSEE

25176-RP
 SHEET 2 OF 4 SHEET(S)
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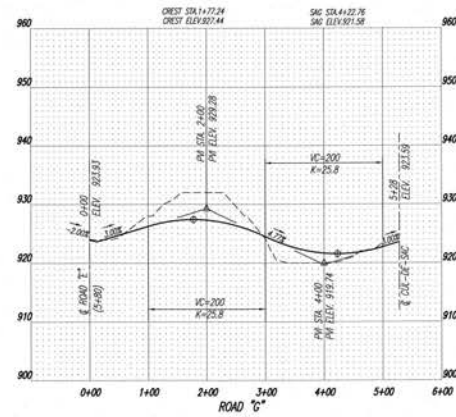
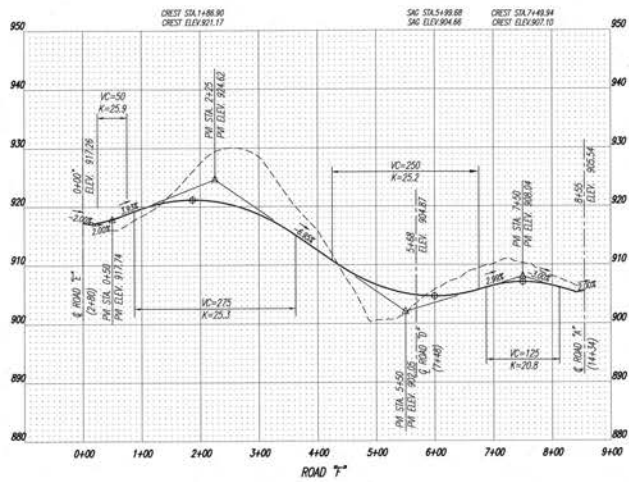
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ROAD PROFILE FOR
SMITH DEVELOPEMENT - GOV. JOHN
SEVIER HIGHWAY
TAX MAP 148, PARCELS 1 & 1.01
DISTRICT 9, KNOX COUNTY, TENNESSEE

25176-RP
SHEET 3 OF 4 SHEET(S)
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7-SC-20-C
7-C-20-UR
Revised: 6/22/2020



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ROAD PROFILE FOR
SMITH DEVELOPEMENT - GOV. JOHN
SEVIER HIGHWAY
TAX MAP 148, PARCELS 1 & 1.01
DISTRICT 9, KNOX COUNTY, TENNESSEE

25176-RP
SHEET 4 OF 4 SHEET(S)
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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.



West Governor John Sevier Highway (SR 168) at Road "A":

- 1a) From the capacity calculations, it has been shown (Table 4) that westbound left-turns from West Governor John Sevier into the development at Road "A" should operate very well during the AM and PM peak periods once the development becomes fully occupied. The level of service for exiting vehicles at Road "A" with a single lane will operate at a reduced level. For the AM and PM peak periods, northbound exiting vehicles will operate at LOS C and D, respectively. These lower levels of service are directly related to a large number of thru vehicles on West Governor John Sevier Highway (SR 168) in the peak periods that conflict with these future exiting turning movements.
- 1b) As part of the analysis of the intersection, the estimated queue lengths of the northbound exiting lane in the year 2025 were examined.

The previously mentioned Synchro Traffic Software includes SimTraffic. The Synchro portion of the software performs the macroscopic calculations for intersections and SimTraffic performs micro-simulation and animation of vehicular traffic. Both programs estimate 95th percentile vehicle queue lengths. The 95th percentile queue is a traditional measurement used when estimating vehicle queue distances. For this proposed intersection, the vehicle queue results were calculated from Synchro since SimTraffic is not able to accurately model intersections with continuous center two-way left-turn lanes (TWLTL) and their effects on vehicle gap acceptance. SimTraffic will only model vehicles to wait for gaps in both directions of traffic before turning (i.e. the vehicles are not allowed to cross halfway into the continuous center two-way left-turn lane (TWLTL) and wait for another gap to enter the opposite lane traffic stream). Due to this limitation, it is recommended that the Synchro 95th percentile vehicle queue results be used in these situations since it does account for two-stage left-turns if the median is sufficient enough to momentarily store a vehicle.

Based on the software results in Synchro with the projected volumes, the 95th percentile vehicle queue distance for the northbound approach at Road "A" with a single exiting lane was calculated to be 11 feet during the AM peak and 13 feet during the PM peak.

- 1c) As discussed earlier in Potential Safety Issues, Evaluation of Turn Lane Thresholds, the intersection of West Governor John Sevier Highway (SR 168) at Road "A" does not warrant an exclusive eastbound right-turn lane. However, after reviewing this study, the TDOT has recommended that a separate right-turn lane be constructed at Road "A". Typically, the length of a right-turn lane would be determined by calculating the stopping sight distance based on the observed operating speed. The length recommended in A Policy on Geometric Design of Highway and Streets by AASHTO is calculated to be 480 feet for eastbound vehicles to decelerate and stop from an observed 85th percentile speed of 55.7 mph. However, this recommended length is based on vehicles coming to a complete stop, and the right-turning vehicles coming off West Governor John Sevier Highway (SR 168) onto Road "A" will not completely stop. The civil site designer has proposed for a 75-foot right-turn storage length with a 50-foot taper. A diagram of this layout at Road "A" is provided below. The right-turn lane should be marked with the appropriate right-turn pavement marking symbols. With the recommended right-turn eastbound lane at Road "A", the capacity analysis was re-calculated, and the results are shown in Table 6.

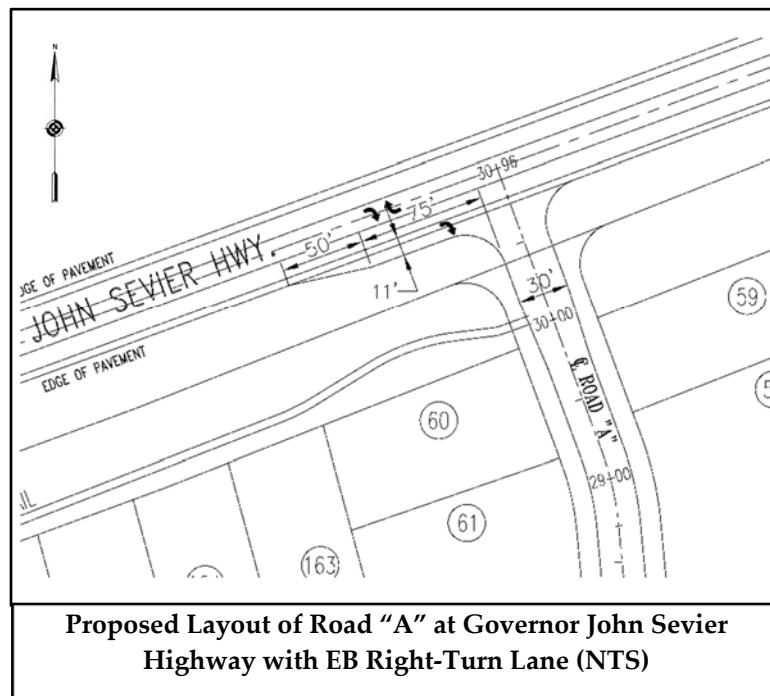

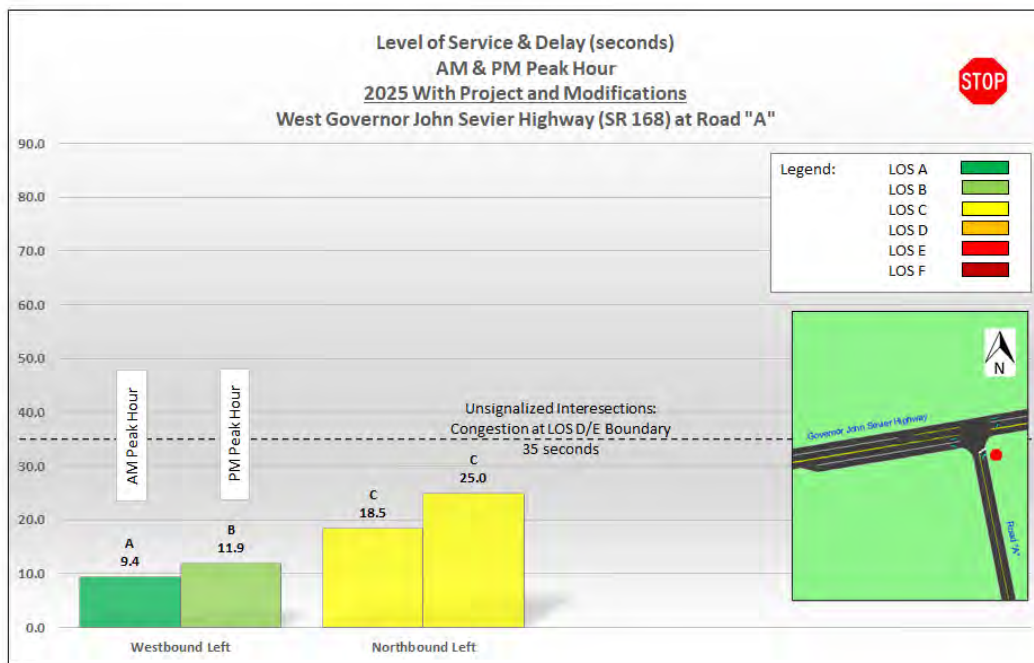


TABLE 6
2025 INTERSECTION CAPACITY ANALYSIS RESULTS -
WEST GOVERNOR JOHN SEVIER HIGHWAY (SR 168) AT ROAD "A"
OPENING YEAR (WITH PROJECT) AND EB RIGHT TURN LANE

| INTERSECTION | TRAFFIC CONTROL | APPROACH/ MOVEMENT | AM PEAK | | | PM PEAK | | |
|--|---|--------------------|---------|-----------------|-------|---------|-----------------|-------|
| | | | LOS | DELAY (seconds) | V/C | LOS | DELAY (seconds) | V/C |
| West Governor John Sevier Highway (SR 168) at Road "A" |  Unsignalized | Westbound Left | A | 9.4 | 0.020 | B | 11.9 | 0.060 |
| | | Northbound Left | C | 18.5 | 0.130 | C | 25.0 | 0.150 |

Note: All analyses were calculated in Synchro 8 software and reported using HCM 2000 intersection methodology

- ^a Level of Service
- ^b Average Delay (sec/vehicle)
- ^c Volume-to-Capacity Ratio



1d) Sight distance at the new proposed Road “A” at West Governor John Sevier Highway (SR 168) intersection must not be impacted by new signage, future landscaping, or existing vegetation. The existing site is heavily forested and will need site clearing along the highway to ensure sight distances are adequate. Based on the highest observed and calculated 85th percentile speed of 55.7 mph on West Governor John Sevier Highway (SR 168), the required Intersection Sight Distance (ISD) is 655 feet and the Stopping Sight Distance (SSD) is 530 feet for westbound vehicles and 480 feet for eastbound vehicles. This should be verified in the design plans.

- 1e) It is recommended that the Road "A" entrance approach at West Governor John Sevier Highway (SR 168) be designed and constructed with a 24" white stop bar and a Stop Sign (R1-1). The continuous center two-way left-turn lane (TWLTL) of West Governor John Sevier Highway (SR 168) should be re-striped to accommodate the new intersection with the new turning movements. This would involve installing breaks in the striping in the existing continuous center two-way left-turn lane (TWLTL).

- 1f) After reviewing this study, TDOT and Knox County has recommended that the entrance for Road "A" be designed with a wider width of 30 feet to accommodate larger vehicles.

**West Governor John Sevier Highway (SR 168) at Road "B":**

- 2a) From the capacity calculations, it has been shown (Table 5) that westbound left-turns from West Governor John Sevier into the development at Road "B" should operate very well during the AM and PM peak periods once the development becomes fully occupied. The level of service for exiting vehicles at Road "B" with a single lane will operate at a reduced level. For the AM and PM peak periods, northbound exiting vehicles will operate at LOS D. These lower levels of service are directly related to a large number of thru vehicles on West Governor John Sevier Highway (SR 168) in the peak periods that conflict with these future exiting turning movements.
- 2b) As part of the analysis of the intersection, the estimated queue lengths of the northbound exiting lane in the year 2025 were examined.

As discussed in the previous section, with the limitations in the traffic software with respect to unsignalized divided highway intersections, it is recommended that the Synchro 95th percentile vehicle queue results be used since it does account for two-stage left-turns with a median sufficient to store a vehicle. Based on the software results in Synchro with the projected volumes, the 95th percentile queue distance for the northbound approach at Road "B" was calculated to be 29 feet during the AM peak and 17 feet during the PM peak.

- 2c) As discussed earlier in Potential Safety Issues, Evaluation of Turn Lane Thresholds, the intersection of West Governor John Sevier Highway (SR 168) at Road "B" does warrant an exclusive eastbound right-turn lane. Typically, the length of a right-turn lane would be determined by calculating the stopping sight distance based on the observed operating speed. The length recommended in A Policy on Geometric Design of Highway and Streets by AASHTO is calculated to be 480 feet for eastbound vehicles to decelerate and stop from an observed 85th percentile speed of 55.7 mph. However, this recommended length is based on vehicles coming to a complete stop, and the right-turning vehicles coming off West Governor John Sevier Highway (SR 168) onto Road "B" will not completely stop. The civil site designer has proposed for a 75-foot right-turn storage length with a 50-foot taper. A diagram of this layout at Road "B" is provided below. The right-turn lane should be marked with the appropriate right-turn pavement marking symbols. With the recommended right-turn eastbound lane at Road

“B”, the capacity analysis was re-calculated, and the results are shown in Table 7.

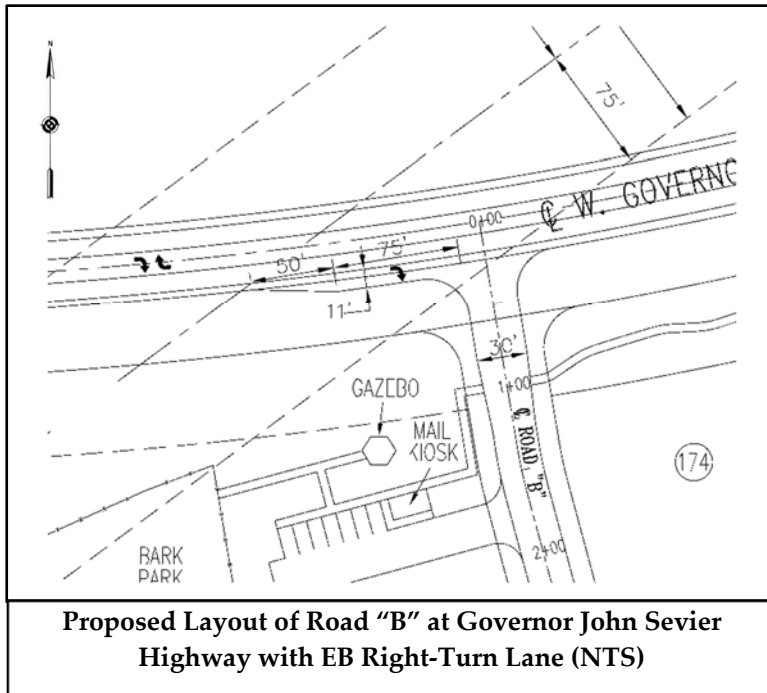

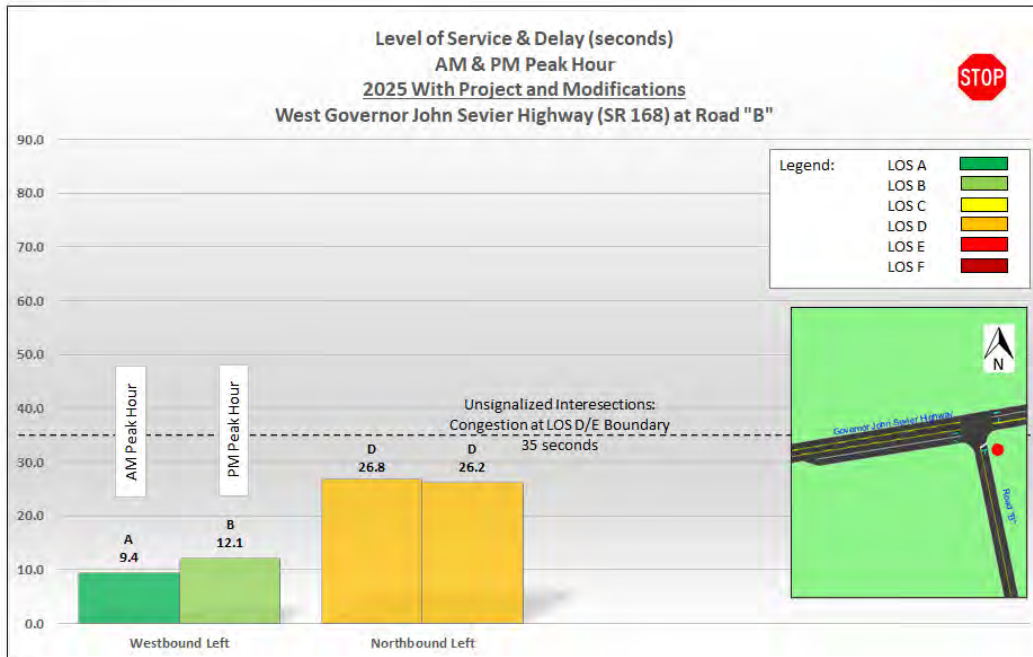


TABLE 7
 2025 INTERSECTION CAPACITY ANALYSIS RESULTS -
 WEST GOVERNOR JOHN SEVIER HIGHWAY (SR 168) AT ROAD "B"
 OPENING YEAR (WITH PROJECT) AND EB RIGHT TURN LANE

| INTERSECTION | TRAFFIC CONTROL | APPROACH/MOVEMENT | AM PEAK | | | PM PEAK | | |
|--|--|-------------------|---------|-----------------|-------|---------|-----------------|-------|
| | | | LOS | DELAY (seconds) | V/C | LOS | DELAY (seconds) | V/C |
| West Governor John Sevier Highway (SR 168) at Road "B" |  Unsignalized | Westbound Left | A | 9.4 | 0.010 | B | 12.1 | 0.030 |
| | | Northbound Left | D | 26.8 | 0.290 | D | 26.2 | 0.190 |

Note: All analyses were calculated in Synchro 8 software and reported using HCM 2000 intersection methodology

- ^a Level of Service
- ^b Average Delay (sec/vehicle)
- ^c Volume-to-Capacity Ratio



2d) Sight distance at the new proposed Road "B" at West Governor John Sevier Highway (SR 168) intersection must not be impacted by new signage, future landscaping, or existing vegetation. The existing site is heavily forested and will need site clearing along the highway to ensure sight distances are adequate. Based on the highest observed and calculated 85th percentile speed of 55.7 mph on West Governor John Sevier Highway (SR 168), the required Intersection Sight Distance (ISD) is 655 feet and the Stopping Sight Distance (SSD) is 530 feet for westbound vehicles and 480 feet for eastbound vehicles. This should be verified in the design plans.

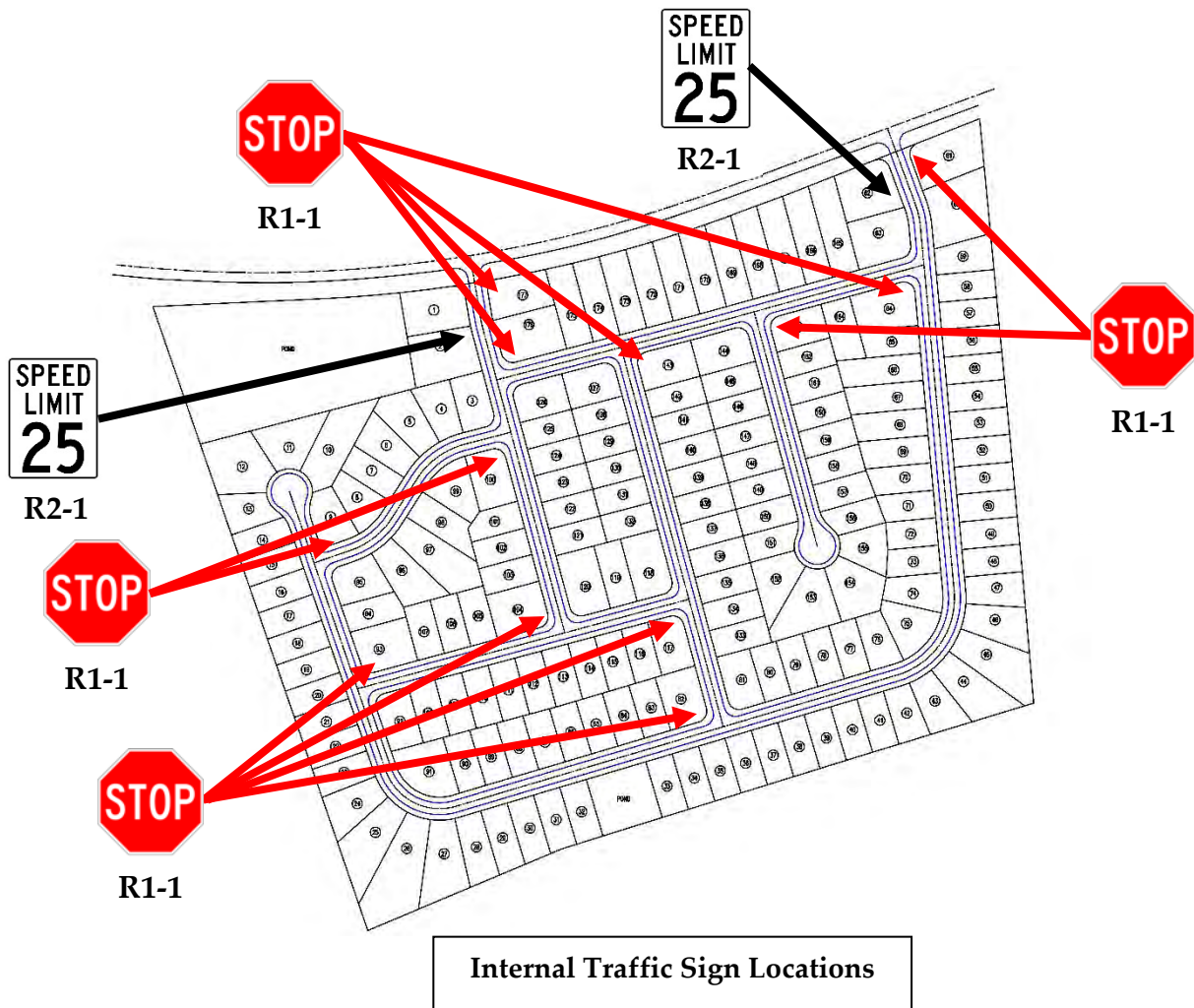
- 2e) It is recommended that the Road "B" entrance approach at the intersection with West Governor John Sevier Highway (SR 168) be designed and constructed with a 24" white stop bar and a Stop Sign (R1-1). The continuous center two-way left-turn lane (TWLTL) of West Governor John Sevier Highway (SR 168) should be re-striped to accommodate the new intersection with the new turning movements. This would involve installing breaks in the striping in the existing continuous center two-way left-turn lane (TWLTL).

- 2f) After reviewing this study, TDOT and Knox County has recommended that the entrance for Road "B" be designed with a wider width of 30 feet to accommodate larger vehicles.



Perry Smith Development on Governor John Sevier Highway Subdivision Internal Roads: The current concept plan shows seven new streets being constructed within the development as shown in Figure 3.

- 3a) It is recommended that 25-mph Speed Limit Signs (R2-1) be posted near the front of both new streets off West Governor John Sevier Highway (SR 168).
- 3b) Stop Signs (R1-1) with white stop bars and the other traffic signage should be installed at the locations as shown below:



- 3c) 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.

- 3d) All drainage grates and covers for the residential development need to be pedestrian and bicycle safe.
- 3e) Sidewalks are not shown on the concept plan. If the development does install internal sidewalks, they should have appropriate ADA compliant curbed ramps at intersection corners and the sidewalks are recommended to be 5 feet minimum in width.
- 3f) 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.



- 3g) Traffic calming measures might be needed for this development. The proposed Road "A" horizontal alignment within the development has a very long and straight road segment. The possible need for traffic calming measures inside the development for Road "A" will need to be coordinated with Knox County Engineering and Public Works during the detailed design phase. Speed humps could be considered to lower speeds through this portion of the subdivision.
- 3h) 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.



TDOT and Knox County Driveway Regulations and Considerations: TDOT has a detailed process for new entrances being constructed onto state highways. The Manual for Constructing Driveway Entrances on State Highways published by TDOT has several guidelines that pertain to this development.

- 4a) Number of Entrances: According to the TDOT manual, “For single-family residential properties, only one driveway shall be allowed unless the frontage is 200 feet or greater, then a second driveway may be allowed.” This residential development has over 1,800 feet of highway frontage property on West Governor John Sevier Highway (SR 168). Thus, with two entrances, this development is within the TDOT guidelines.

- 4b) It is recommended, and it is appropriate, that this development is constructed with two entrances at West Governor John Sevier Highway (SR 168). Providing two entrances would provide a secondary outlet for the subdivision and would be beneficial to ensure access during any potential road blockage or emergency. It is a long-standing practice by Knox County that residential subdivisions provide secondary outlets when developments exceed 150 lots. Furthermore, providing two entrances will spread the load of entering and exiting vehicles and will allow overall vehicle delays to stay below the congestion boundary of LOS D/E. The two entrances are spaced 950 feet apart and are not expected to interfere with traffic operations at one another.

- 4c) The Knox County requirement for intersection spacing on an arterial is 400 feet. This requirement is met based on the design of the entrances being spaced 950 feet apart.

- If adopted, Knoxville-Knox County Planning will provide assistance to facilitate the letters of support and meetings with TDOT, Knox County and the local utilities.

The next recommendation was developed in response to concerns for the look and feel of new development corridor, as it pertains to the scenic beauty and rural character of lands surrounding the highway. Protecting the base zone rights of property owners was a paramount concern to stakeholders and the larger community. Thus, an overlay zone is proposed that would not affect permitted uses, but would address how new development looks. This priority will require additional steps and could take up to a year to implement because of the necessary public involvement for adoption of an overlay zone district throughout the corridor.

PRIORITY # 2 – SCENIC CORRIDOR HIGHWAY OVERLAY STANDARD RECOMMENDATIONS

Recommend to Knox County Commission that Knoxville-Knox County Planning begin working on public engagement for a draft corridor overlay zone, which does not affect base zone use rights. Other sectors of Knox County have also expressed an interest in a



The tree line along Governor John Sevier Highway is a defining characteristic of the corridor. Conserving this vegetated buffer during new construction will help protect the rural, scenic character of the corridor. Working with TDOT and utilities to conserve trees within the right-of-way that do not pose safety hazards should be addressed as well.

corridor overlay zone that would address the look and feel of new development without impacting base zone rights. An individual with commercial, office, residential or other zoned land could still develop their property under that zone, the overlay zone would provide additional standards that relate to how new development looks in the corridor. Overlay standards generally address design related items, such as landscaping, tree preservation, building orientation, parking location, signage style and size. The existing

zone districts in the Knox County Zoning Ordinance do not cohesively address design concerns as they relate to corridors or other geographic areas.

Landscape screening standards for commercial and industrial uses would protect the rural, scenic character of the corridor by camouflaging the stark nature of uses such outdoor storage of materials and equipment and storage buildings.



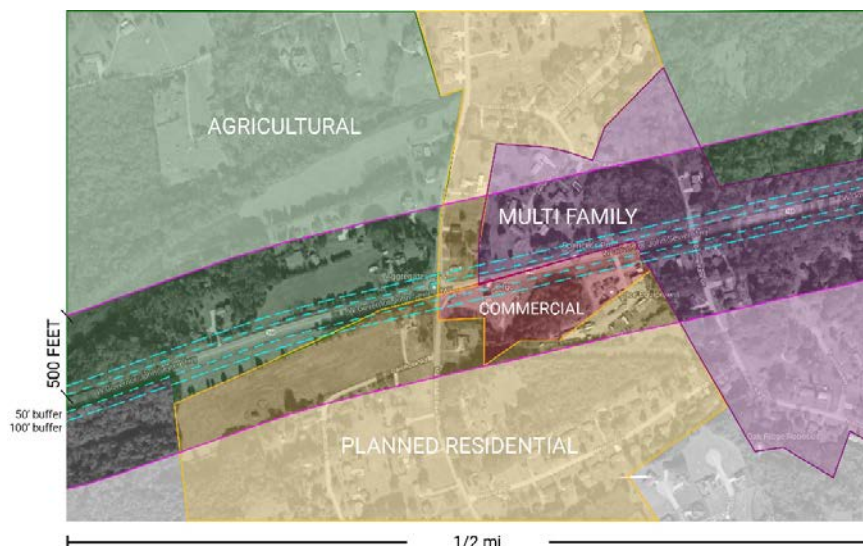
The following is an example of what a Governor John Sevier Highway Corridor Overlay could address, if adopted into the Knox County Zoning Ordinance.

The overlay zone could implement the following standards for new development in the corridor:

Addressing all non-agricultural new construction and land disturbing activities within 500' of the centerline of right-of-way of Governor John Sevier Highway.

An overlay zone could provide consistent standards in the corridor for:

1. A tree protection and replacement buffer for 50' from right-of-way of John Sevier Highway.



An illustration of a possible overlay area where standards could be applied for tree protection, landscaping, location of parking and screening for outdoor storage could be applied to protect the rural, scenic character of the John Sevier Highway Corridor.

Exhibit B

2. Landscape screening standards for outdoor storage and parking (in commercial, office, industrial zones and multi-family residential projects) and/or standards for the location of outdoor storage and display and parking to be located behind primary structures.

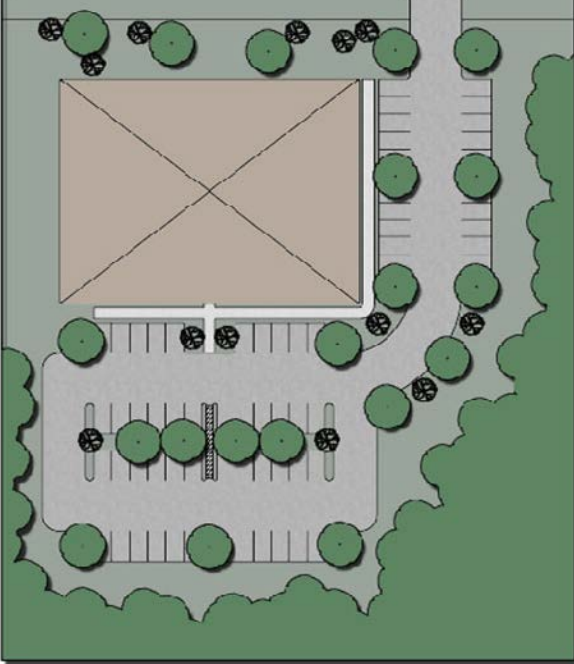
Commercial and office uses that utilize outdoor storage and display of items detract from the scenic nature of the corridor. Vegetation screening would soften the impact these types of uses in the corridor. And/or providing a standard for outdoor storage and display to be located to the rear of the primary structure would also protect the corridor



3. Non-residential design standards addressing;
 - a. Orientation of building (e.g. if lot has frontage on Gov. John Sevier Hwy, primary structures shall front on the highway)
 - b. Location of parking (e.g. to rear or side of primary structures)
 - c. Façade materials (e.g. varied fenestration required)

Exhibit B

Non-residential design standards in an overlay district can help protect the rural, scenic character of the corridor. Location of parking, landscaping and tree protection can help soften the stark nature of some office, commercial and industrial uses.



4. Signage to reflect rural-scenic character of corridor addressing:
 - a. Size
 - b. Height (e.g. no pole signs)
 - c. Illumination (e.g. no internal illumination)
 - d. Materials (e.g. no glossy or reflective plastic molded signs)



A theme of smaller size signs, non-glossy, and non- interior illuminated signage in corridor will help maintain in the long term the rural character of the highway.



Exhibit B



Large, illuminated and glossy or reflective signage detracts from the rural characteristic of the corridor.

Implementation of the corridor overlay zone could occur through the Use-on-Review process through Knoxville-Knox County Planning or via Knox County Codes Administration and Enforcement, this would be determined during the drafting and adoption process of an overlay.

- If the study is adopted, Knox County Planning will provide support for the public engagement, drafting and the adoption process of the Governor John Sevier Highway Corridor Overlay.

STEPS NEEDED FOR IMPLEMENTATION OF CORRIDOR OVERLAY ZONE DISTRICT

1. Draft proposed recommendations with Stakeholder Committee
 - a. Timeline: +/- 2 months (CONT'D on next page)
2. Hold community meetings to review draft
 - a. Timeline: +/- 2 months
3. Educate Appointed and Elected Officials
 - a. Workshops with Knoxville-Knox County Planning and County Commission to discuss proposal
4. Begin Legislative Process: Propose formal resolution to the Knoxville-Knox County Planning Commission to ask for a recommendation on the John Sevier Scenic Highway Corridor Overlay Zone.
 - a. Timeline: +/- 2 months
5. If recommended by Knoxville-Knox County Planning, prepare resolution for adoption by Knox County Commission into the Knox County Zoning Ordinance, with a general rezoning for the overlay zone along the highway extending 500 feet out from the centerline on both sides of the highway the entire length from Alcoa Highway to Asheville Highway (only for the areas outside of the city limits of Knoxville within Knox County).
 - a. Timeline: +/- 2 months

TIMELINE FOR IMPLEMENTATION/ADOPTION OF CORRIDOR OVERLAY: 8-9 MONTHS

The third priority relates directly to community involvement in maintaining the scenic beauty and rural character of the highway. It was noted during the stakeholder committee meetings that enforcement of existing codes and regulations in Knox County is largely complaint driven. Other parts of Knox County, such as the Powell Community, have created active community groups of business and property owners, local government staff, elected officials, school representatives, and others interested in working on community building projects in the downtown Powell area. This group has worked to implement several beautification projects in the downtown and park and blueway projects along Beaver Creek. While many



DEVELOPMENT REQUEST

DEVELOPMENT

- Development Plan
- Planned Development
- Use on Review / Special Use

SUBDIVISION

- Concept Plan
- Final Plat

ZONING

- Plan Amendment
- Rezoning

Applicant Name: Perry SMITH Development LLC Affiliation: Developer
 Date Filed: 5/26/2020 Meeting Date (if applicable): 7/9/2020 File Number(s): 7-SC-20-C / 7-C-20-UR

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

Name: David Harbin Company: Batson Himes
 Address: 4334 Papermill Dr. City: Knoxville State: TN Zip: 37909
 Phone: 588-6472 Email: harbin@bhn-p.com

CURRENT PROPERTY INFO

Owner Name (if different): JSP Development 40 Doug Hodge Owner Address: 2099 ~~00~~ Thunderhead Rd #204 Knoxville, TN 37920 Owner Phone: 755-8066
 Property Address: W. Gov. John Sevier Highway Parcel ID: 148 - Parcels 1 & 1.01
 General Location: Southside W. Gov. John Sevier Highway - west of Martin Hill Pike Tract Size: 48.67 acres
 Jurisdiction (specify district above): 9th City County Zoning District: PR - 25 du/acre
 Planning Sector: South County Sector Plan Land Use Classification: LDR Growth Policy Plan Designation: Planned Growth
 Existing Land Use: Ag/Forest/Vacant Septic (Y/N): N Sewer Provider: Knox Chapman Water Provider: Knox Chapman

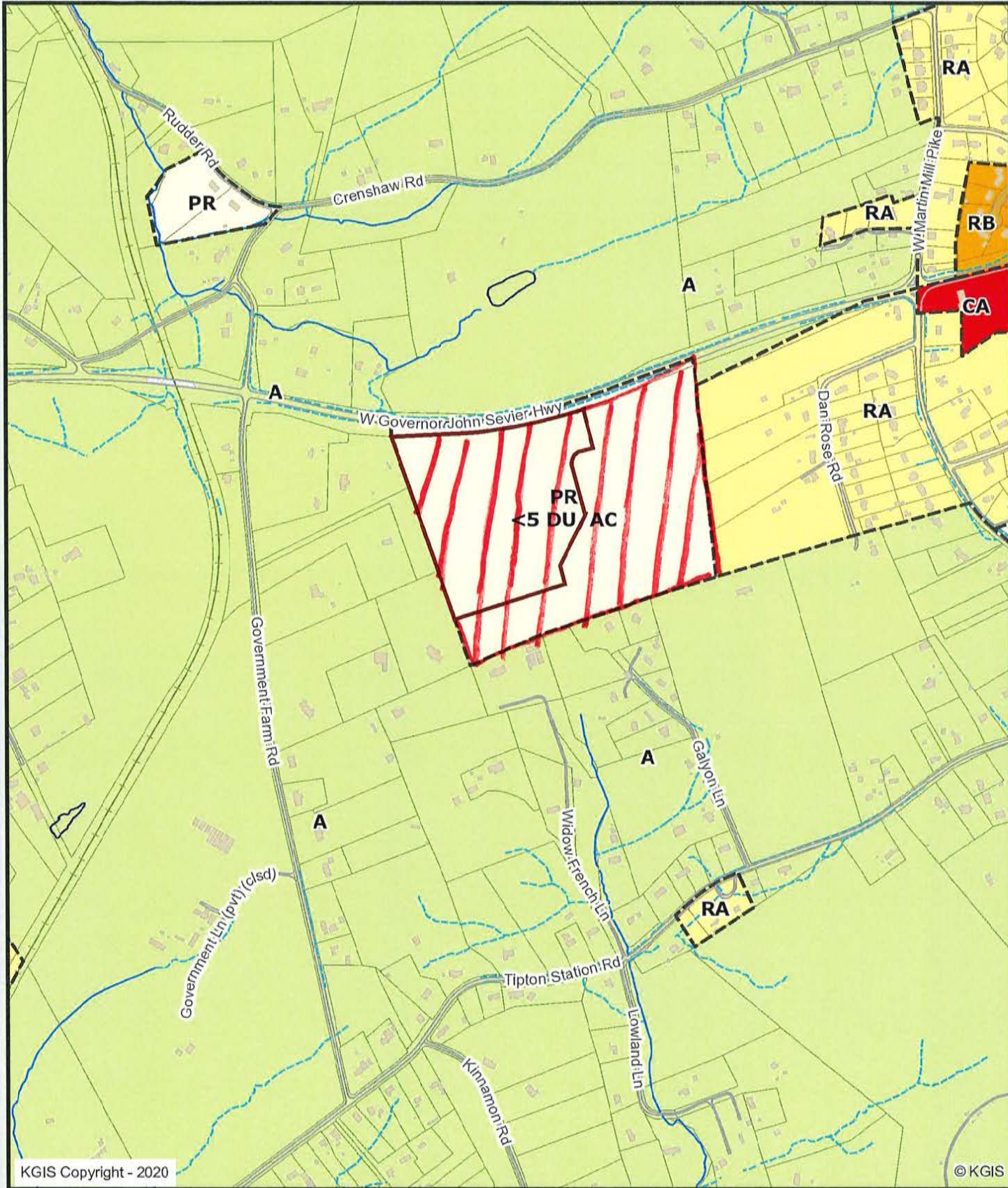
REQUEST

| | |
|--------------------|--|
| DEVELOPMENT | <input checked="" type="checkbox"/> Development Plan <input type="checkbox"/> Use on Review / Special Use <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Non-Residential <input type="checkbox"/> Home Occupation (specify): _____ <input type="checkbox"/> Other (specify): _____ |
| SUBDIVISION | <div style="border-bottom: 1px solid black; margin-bottom: 5px;">Smith Development - Gov. John Sevier Highway</div> <input checked="" type="checkbox"/> Proposed Subdivision Name Unit / Phase Number <input type="checkbox"/> Parcel Change <input type="checkbox"/> Combine Parcels <input type="checkbox"/> Divide Parcel Total Number of Lots Created: <u>677</u> <input type="checkbox"/> Other (specify): _____ <input type="checkbox"/> Attachments / Additional Requirements |
| ZONING | <input type="checkbox"/> Zoning Change: _____ <div style="margin-left: 40px;">Proposed Zoning</div> <input type="checkbox"/> Plan Amendment Change: _____ <div style="margin-left: 40px;">Proposed Plan Designation(s)</div> <div style="display: flex; justify-content: space-between;"> Proposed Density (units/acre) Previous Rezoning Requests </div> <input type="checkbox"/> Other (specify): _____ |

| | | | |
|-----------------------|--|---------------|---------------------------------|
| STAFF USE ONLY | PLAT TYPE | FEE 1: | TOTAL: <u>5810.00</u> |
| | <input type="checkbox"/> Staff Review <input type="checkbox"/> Planning Commission | FEE 2: | |
| | ATTACHMENTS | FEE 3: | |
| | <input type="checkbox"/> Property Owners / Option Holders <input type="checkbox"/> Variance Request ADDITIONAL REQUIREMENTS <input type="checkbox"/> Design Plan Certification (<i>Final Plat only</i>) <input type="checkbox"/> Use on Review / Special Use (<i>Concept Plan only</i>) <input type="checkbox"/> Traffic Impact Study | | |

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

| | | |
|---------------------|-------------------------|------------------|
| <u>[Signature]</u> | <u>David Harbin</u> | <u>5.26.20</u> |
| Applicant Signature | Please Print | Date |
| <u>865-588-6472</u> | <u>harbin@bhn-p.com</u> | |
| Phone Number | Email | |
| <u>[Signature]</u> | <u>Sherry Michienzi</u> | <u>5/26/2020</u> |
| Staff Signature | Please Print | Date |



Letter Portrait

Knoxville - Knox County - KUB Geographic Information System



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