ALBEMARLE COUNTY PLANNING
STAFF REPORT SUMMARY

Proposal: SP201900006 The Market at Boyd Tavern	**Staff:** Tori Kanellopoulos, Planner
Planning Commission Public Hearing: February 4, 2020	**Board of Supervisors Hearing:** Tentative date: April 1, 2020
Owner: South Creek Investments, Inc.	**Applicant:** Kelsey Schlein, Shimp Engineering, on behalf of South Creek Investments, Inc.
Acreage: 12.49 acres (3.28 acres in C-1 Zoning District)	**Special Use Permit for:** Request for automobile service station, convenience store, and restaurant (eating establishment) per Zoning Ordinance 18-22.2.2(16)(a)(b)(c)
TMP: 09400-00-00-03900 **Location:** Parcel located approximately 200 feet southwest from the intersection of State Route 616 (Black Cat Road) and Mechunk Road. Parcel has frontage along State Route 616. The northern portion of the parcel is adjacent to the I-64 interchange at Exit 129.	**By-right use:** This parcel is zoned both: RA Rural Area - agricultural, forestal, and fishery uses; residential density (0.5 unit/acre in development lots); and C-1 Commercial – retail sales and service; residential by special use permit (15 units/ acre). 3.28 acres are zoned C-1, and 9.21 acres are zoned RA.
Magisterial District: Scottsville	**Conditions:** Yes **EC:** Yes
Proposal: Proposal for new 4,000 square foot gross-floor-area-maximum auto service station with five fuel pumps under two canopies, convenience store and restaurant (food preparation and sales) on the approx. 3.28-acre portion of the site that is zoned C-1 Commercial and fronts on State Route 616 (Black Cat Road).	**Requested # of Dwelling Units:** No dwelling units proposed.
DA: **RA: X**	**Comp. Plan Designation:** Rural Area – preserve and protect agricultural, forestal, open space, and natural, historic and scenic resources; residential (0.5 unit/ acre in development lots).
Character of Property: Parcel is currently undeveloped and is partially wooded. The parcel fronts on SR 616 (Black Cat Road). There is an existing gravel travelway from SR 616 through a portion of the property.	**Use of Surrounding Properties:** The Mechunk Road single-family detached dwelling unit development is across SR 616 to the East. There are several other single-family houses across SR 616. I-64 is directly adjacent to the north, including the interchange with SR 616. The property adjacent to the south is undeveloped and wooded. The adjacent property to the west contains single-family and agricultural uses.

Factors Favorable:	Factors Unfavorable:
1. Tier III groundwater study indicates that there is sufficient supply of groundwater in this area to support the proposed use. 2. The application includes a concept plan and Architectural Standards that would create a development consistent with the Rural Area scale and design standards as described for rural uses, such as Country Stores. 3. The application is consistent with the criteria for the issuance of a special use permit.	1. If the Board of Supervisors disagrees with the staff interpretation of the meaning and intent of the Comprehensive Plan, this application may be considered inconsistent with the Comprehensive Plan. 2. The proposed use is not identified in the Comprehensive Plan as a recommended Rural Area use.
RECOMMENDATION: **Special Use Permit:** Staff recommends approval of SP201900006 with conditions.	

STAFF PERSON: Tori Kanellopoulos, Planner
PLANNING COMMISSION: February 4, 2020
BOARD OF SUPERVISORS: Tentative date: April 1, 2020

SP201900006 The Market at Boyd Tavern:

PETITION:
PROJECT: SP201900006 Boyd Tavern Market
MAGISTERIAL DISTRICT: Scottsville
TAX MAP/PARCEL: 09400-00-00-03900
LOCATION: Parcel located approximately 200 feet southwest from the intersection of State Route 616 (Black Cat Road) and Mechunk Road. Parcel has frontage along State Route 616. The northern portion of the parcel is adjacent to the I-64 interchange at Exit 129.
PROPOSAL: Proposal for new 4,000 square foot gross-floor-area-maximum auto service station with five fuel pumps under two canopies, convenience store and restaurant on the approx. 3.28-acre portion of the site that is zoned C-1 Commercial and fronts on State Route 616 (Black Cat Road).
PETITION: Automobile service station, convenience store, and restaurant per Zoning Ordinance 18-22.2.2(16)(a)(b)(c) on an approx. 3.28 acre portion of a parcel totaling 12.486 acres. No dwelling units are proposed.
ZONING: This parcel is zoned both: RA Rural Area - agricultural, forestal, and fishery uses; residential density (0.5 unit/acre in development lots); and C-1 Commercial – retail sales and service; residential by special use permit (15 units/ acre).
OVERLAY DISTRICT(S): Entrance Corridor; Steep Slopes - Critical
COMPREHENSIVE PLAN: Rural Area – preserve and protect agricultural, forestal, open space, and natural, historic and scenic resources; residential (0.5 unit/ acre in development lots).
POTENTIALLY IN MONTICELLO VIEWSHED: Yes

CHARACTER OF SURROUNDING AREA:
The property is currently undeveloped and is partially wooded. Surrounding properties include residential and agricultural uses. The Mechunk Road single-family development is across SR 616 (Black Cat Road) to the East. I-64 is directly adjacent to the north, including the interchange with SR 616 at Exit 129. The property adjacent to the south is undeveloped and wooded. The adjacent property to the west contains single-family and agricultural uses.

PLANNING AND ZONING HISTORY:

ZMA19700122: The 1970 rezoning action rezoned what is now TMP 94-38 and a portion of what is now TMP 94-39 to B-1 Business from A-1 Agricultural. These zoning districts no longer exist in the County but are comparable to C-1 Commercial and RA Rural Area. The proposed use at the time of this rezoning was 'automobile service station'.

ZMA19700146: This rezoning action added an additional approx. 0.6 acres to the C-1 zoned portion of the property that was rezoned with the ZMA1970-122 rezoning action. The same 'automobile service station' use was considered.

ZMA197900011, SP197900018, and SP197900019: The 1979 rezoning action rezoned an additional portion of the property to B-1 (approx. 0.56 acres). The two 1979 special use permits allowed an auction house within this district on this property.

County comprehensive rezoning in 1980: A portion of this property (TMP 94-39) and all of the property adjacent to it (TMP 94-38) were rezoned to C-1, Commercial in 1980 as part of the comprehensive rezoning of the County. Both properties, and others in the immediate area are within the Rural Area as designated by the Comprehensive Plan. The County has not initiated a rezoning since 1980 to rezone any properties that are outside of the Development Areas but are zoned with "urban" zoning designations. (Attachment B)

SDP20170009: An initial site plan for a proposed gas station and convenience store was conditionally approved on May 10, 2017. One condition was to obtain a special use permit for the proposed use.

SDP201800034 and SDP201800062: Two final site plans for the proposed gas station and convenience store were denied due to incompleteness, as no special use permit had been requested.

SDP201800086: An initial site plan for the proposed gas station and convenience store was conditionally approved on January 24, 2019. One condition was to obtain a special use permit for the proposed use.

DETAILS OF THE PROPOSAL:

Section 18-22.2.2(16)(a-c) requires auto service stations (gas stations), convenience stores, and restaurants (eating establishments; serving and preparing food, not necessarily a sit-down formal restaurant) that are not served by public water or an approved central water supply in the C-1 Commercial zoning district to obtain a special use permit. The proposal is for a gas station with a maximum of five (5) fuel pumps with a maximum 4,000 square foot (gross floor area) market that serves food and has food and beverages for sale (Attachments C and D). Hours of operation would be between 5 AM and 10 PM.

COMMUNITY MEETING:

The required community meeting was held on May 22, 2019, during a special meeting held by the Village of Rivanna Community Advisory Committee (VORCAC). The community meeting was attended by a significant number of residents. The following were the major concerns heard during the meeting:

- Groundwater: Many residents were concerned about potential water usage issues in the area, both existing and future. Residents stated that droughts and related depletion of wells has been an issue in this area.
- Traffic and noise: Many residents were also concerned with potential traffic and related noise impacts. Residents felt that SR 616 is already a busy and unsafe road, and that this use would add additional traffic conflicts and may attract larger trucks.

- Visual impacts: Some residents stated that hours of operation should be restricted, to limit lighting impacts and protect dark skies. Some residents pointed out that Bellair Market (also Tiger Fuel) only has six (6) fuel pumps, while this proposal had 12 on its first submittal *[note: the applicant has reduced the number to five (5) with the current submittal].*
- Character of the area: Some residents expressed that this proposed development does not seem consistent with the Rural Area as described in the Comprehensive Plan, and that they have been opposed to other proposed uses on this property.

Staff has also received both written and verbal comments from residents since the community meeting. Written comments were received in the form of emails, and verbal comments as either voice messages or phone call discussions. Staff has compiled all email comments and notes from voicemails and phone conversations. Comments from the public are included as Attachment H, and notes from the community meeting are included as Attachment G.

ANALYSIS OF THE SPECIAL USE PERMIT REQUEST:

Special Use Permits are evaluated under reasonable standards, based on zoning principles which includes the proposal's compliance with the Comprehensive Plan. Any impacts caused by the proposal may be addressed through conditions and those conditions must be reasonably related to the impacts and be roughly proportional to the impacts.

The appropriateness of the C-1 Commercial zoning designation on the property is not under consideration. The property was comprehensively rezoned by the County in 1980 and no action has been taken to amend or modify the zoning of the property.

Section 33.39(B) states that the Commission, in making its recommendation, shall consider the same factors found in Section 33.40 (B):

1. No substantial detriment. Whether the proposed special use will be a substantial detriment to adjacent parcels.

The site is reliant on well and septic systems, as public utilities are not available to the site. Residents near the proposed use expressed significant concern about water quantity and quality during the community meeting. Residents stated that they have experienced droughts in the past, resulting in issues with accessing water. The applicant submitted a Tier III groundwater study with this application. The study indicated that the proposed use would not result in a substantial detriment to adjacent properties and existing users of groundwater (Attachment F). The key findings of the study state that groundwater availability is favorable and that hydrogeological conditions are favorable to the proposed use. The study indicates that the soil types on the property are favorable for absorbing rainwater and for groundwater storage. The study states that "These numbers indicate that the proposed net use of groundwater is substantially less than naturally occurring recharge on the parcel". The Virginia Department of Health (VDH) has provided the following comment: "this office is unaware of any private well supply or quality issues in the general area of this proposed project."

Virginia State Code 12VAC5-590-690 provides daily water consumption rates for a variety of uses. Based on these rates, several by-right Rural Area Zoning District uses (including single-family residences and farm winery/brewery uses) and by-right and special use permit C-1 uses (including retail nurseries) would use more water than the proposed use. The applicant states that the proposed use would consume approximately 644 gallons per day, based on data from other Tiger Fuel locations. VDH approval is required prior to site plan approval for the proposed use. The applicant has also agreed to the condition of a water restriction device, to limit water usage to a maximum of 700 gallons per day.

The visual impact of lighting from the proposal has been identified as a potential impact by staff and area residents. Residents at the community meeting expressed concern with potential negative visual impacts of the proposed use, including lighting affecting dark skies and the number and appearance of fuel pumps. Since the community meeting, the applicant has revised the number of fuel pumps from 12 to five (5). Several conditions are intended to limit visual impacts, which include limitations on lighting, hours of operation, and the number and location of fuel pumps. Three (3) fuel pumps are relegated to the side of the building, while the other two (2) are relegated behind the building and must not be visible from the public right of way (SR 616). This is consistent with the County's regulations of Country Stores per (18-5.1.45), which restrict Country Stores Class B to six nozzles (the equivalent of three (3) pumps). Country Stores Class B are permitted by special use permit in the Rural Area zoning district.

The proposed architecture of the building and canopy is consistent with Country Stores and other Rural Area gas stations (Attachment E). The applicant has revised the design of the parking lot since the community meeting, so that no car headlights shine toward SR 616. A three-board fence and landscaping along SR 616 is also proposed by the applicant and included as a condition. The proposed grading would also site the parking lot several feet lower than SR 616. Additionally, Architectural Review Board (ARB) approval is required for a site plan for this use.

An increase in traffic and related noises is another potential impact and was a significant community concern. The property is located adjacent to the SR 616 and I-64 interchange. SR 616 (between Route 250 and I-64) has an AADT of 8,300. The applicant states that the proposed use would pull from existing traffic. The applicant also states that the design of the fuel canopy and travelways would limit larger trucks from using the gas station. VDOT approval is required for a site plan for this use and would include review and approval of entrance design and location. The applicant would need to comply with all VDOT regulations, including sight distances, turn lane, and ingress/egress requirements, during review and approval of a site plan. VDOT has no objection to the proposed Special Use Permit. Proposed conditions limiting hours of operation are consistent with other County regulations intended to limit noise, lighting, traffic, and other impacts on residential properties. For example, drive-throughs adjacent to residential properties must close by 10 PM (18-5.1.60).

Transportation Planning Staff has reviewed the application and has the following information:

- Applicant provided Estimated Traffic Generation based on ITE Trip Generation Manual:

			AM			PM		
Use Description	ITE	Qty	In	Out	Total	In	Out	Total
Gas/Convenience	945	4000 SF	171	165	336	195	196	391

- Based on rural location of this particular site and estimated ADT of Black Cat Road (8,300 vehicles/day) it is likely that this location will generate a lower level of traffic than the ITE estimate.
- A roadway segment such as Black Cat Road can be expected to see approximately 20% of its daily traffic occur during peak hour so approximately 1660 trips each peak hour.
- Pass by trips for convenience store/gas stations tend to be estimated (using ITE) at approximately 70%-90% of total estimated trips to the site or approximately 10% of the adjacent streets' peak hour traffic. Based on these calculations it can be assumed that very few new trips will be generated by this use and nearly all estimated trips to the site will be pass-by trips.
- Proposed right and left turn lanes will reduce potential for delay to traffic on Black Cat Road
- Review of historical crash data shows no identified safety issues in the area.

- Review of modeled regional congestion compiled through the C-A MPO Long Range Transportation Plan shows no identified congestion issues in the area. However, it is recognized that peak hour congestion in the vicinity of the interstate ramps and the US 250/Black Cat Road does exist.
- Overall, based on the information above, staff concludes that traffic impacts from the proposed development will be negligible to non-existent

Therefore, based on the above analysis, staff finds that the proposed use, with the proposed conditions, would not be a substantial detriment to adjacent properties.

2. Character of the nearby area is unchanged. Whether the character of the adjacent parcels and the nearby area will be changed by the proposed special use.
The 3.28 eastern-portion of this property has been zoned C-1, Commercial, since 1980, and has been zoned with the previous designation of B-1 Business since 1970. The County approved the rezoning in 1970 and the rezoning in 1979 (and two special use permits the same year) for commercial uses on the property. Attachment B shows the zoning of nearby property. This property is the only commercially-zoned property in the vicinity, with the next closest commercially-zoned property approximately two miles to the west on Route 250. This property is one of several that were comprehensively rezoned by the County in 1980, and its zoning has not changed since then.

The surrounding area consists of a rural subdivision development (Mechunk Acres), several single-family houses, several undeveloped parcels, farmland, and I-64 and its Exit 129 interchange. There have been Country Stores with fuel sales operating near this area in the past, including the Boyd Tavern Market, which is approximately half a mile southeast of this property. The conditions for the proposed use intend to reflect the scale and design of a Country Store, which is considered a rural-character use and is permitted by special use permit in the Rural Area zoning district. The proposal is consistent with the supplementary regulations for form and scale for Class B Country Stores. Additionally, the use is located adjacent to the I-64 interchange. While the Comprehensive Plan does not highlight this interchange as one for development, the existing zoning allows for commercial development. Therefore, staff finds that commercial development, as permitted by the zoning district, should reflect rural scale and design to the extent possible. Other conditions including landscaping, lighting restrictions, and hours of operation intend to hold the use to a more rural character.

3. Harmony. Whether the proposed special use will be in harmony with the purpose and intent of this chapter,
Section 18-22 of the Zoning Ordinance outlines the intent of the C-1 Commercial zoning district: *"C-1 districts are hereby created and may hereafter be established by amendment to the zoning map to permit selected retail sales, service and public use establishments which are primarily oriented to central business concentrations. It is intended that C-1 districts be established only within the urban area, communities and villages in the comprehensive plan."*

The proposed use is consistent with the uses described in the intent of the zoning district. It is not consistent with the intent that these districts be established only in the Development Area of the Comprehensive Plan. However, this property has been zoned C-1 since 1980 and was rezoned to B-1 (a previous commercial district) in 1970.

Section 18-1.5 of the Zoning Ordinance states that an intent of the Ordinance is to *"implement the policies, goals and objectives of the comprehensive plan."* Staff has used the scale and appearance of Country Stores to analyze the proposed use. The Country Store use permits gas, food, and retail sales. During the review of this application and at the community meeting, staff has received comments from the public which may be generalized as a comment that the

development is not appropriate due to its proximity to residential development and rural uses and because it is not located within the development area. Staff agrees that designating this property for commercial activity is not consistent with the adjacent residential area or the Comprehensive Plan. However, the property has been rezoned for commercial use since 1970, upheld in 1980. The use is consistent with the intent of the C-1 Zoning District. The scale and form of the use, along with the proposed conditions, are consistent with a Country Store use as permitted in the Rural Area Zoning District.

a. with the uses permitted by right in the district,
The intent of the C-1 zoning district, stated in section 18-22.1, is that C-1 districts "*be established only within the urban area, communities and villages in the comprehensive plan*." The designation of this property as C-1 commercial is not consistent with the locational intent of the district. However, the decision to zone this property commercially was made in 1970 and upheld in 1980, and no action has been taken by the County to amend the zoning. The proposed use is consistent with uses permitted in the C-1 zoning district. Given that this site is not served by public water, other C-1 uses (such as retail and commercial) would also require a special use permit, if consuming more than 400 gallons per acre per day. The development is consistent with the uses in the C-1 Commercial district.

b. with the regulations provided in Section 5 as applicable,
The proposed use will need to meet the regulations of 18-5.1.20 for fuel sales during site planning. Preliminary review shows the application plan meets the criteria, including no storage tank closer than 100 feet from any lot line.

c. and with the public health, safety, and general welfare.
Public health, safety, and welfare comments are provided above in the first factor section: "*No substantial detriment. Whether the proposed special use will be a substantial detriment to adjacent parcels.*" Based on this analysis and proposed conditions, staff's opinion is that the development is consistent with public health, safety, and general welfare.

4. Consistency with the Comprehensive Plan. Whether the proposed special use will be consistent with the Comprehensive Plan.
The zoning of this property, C-1 Commercial, is inconsistent with the Comprehensive Plan land use recommendation which directs development into the Development Areas. However, as has been previously stated, the decision to zone this property C-1 Commercial has been made and the County has initiated no action since 1980 to change the zoning designation.

Strategy 1a of Chapter 3 (Growth Management) reads in part: *"Only approve new development proposals in the Rural Area that are supported by Rural Area goals, objectives, and strategies."* The scale and design of this proposal has been analyzed for consistency with the Rural Area chapter of the Comprehensive Plan and with the scale and design of similar rural uses, especially Class B Country Stores. The following analysis focuses on the Rural Area Chapter and includes other relevant sections.

Chapter 7: Rural Area
The preferred land uses in the Rural Area are agricultural and forestry uses. Other uses should be supportive either of agricultural and forestal uses, or of existing residents in the Rural Area. New structures and uses in the Rural Area, when permitted, should be of appropriate scale and character for the Rural Area. The Comprehensive Plan and Zoning Ordinance do not have design standards specific to commercial uses (or, more specifically, gas stations and convenience stores) in the Rural Area. Staff has used Class B Country Stores (18-5.1.45) for partial guidance on the appropriateness of the proposed scale and building and site design.

Scale: The maximum building footprint for Class B Country Stores per 18-5.1.45 is 4,000 square feet, which is included for the proposed use as a condition. The Zoning Ordinance also limits Class B Country Stores to one fuel dispenser with six (6) nozzles. Staff finds that this is equivalent to three (3) fuel pumps (as fuel pumps generally have one nozzle on each side, equating to two total nozzles). Therefore, only three (3) fuel pumps are permitted to be visible to SR 616, and must be relegated to the side of the building.

Although this proposal is not located in a crossroads community, the scale of the proposal should be consistent with the scale called for in this section of the Comprehensive Plan and with existing comparable uses and developments in the County. Country stores are considered *"small-scale, supportive uses in designated crossroads communities"*. Supportive uses in the Rural Area are intended to provide services for residents in the immediate area. The proposed conditions for this use limit the use to a scale consistent with Class B Country Stores and with a scale intended to serve both nearby residents and existing traffic on this road. There is not another gas station, convenience store, or similar use in close proximity to this area.

Building and site design: Planning and ARB staff provided comments to the applicant on the design of the building (convenience store), indicating that the building should have the character of a country store, including a porch. The applicant has provided Architectural Standards for the proposed convenience store and the canopy over the fuel pumps. Mechanical equipment must also be screened from SR 616. There will be a three-board fence with a landscaping buffer to screen parking and contribute to a more rural character. ARB staff have provided the following comment on the proposed design of this use: *"The pitched roof, metal roof matching the color of the convenience store roof, the barn style accents, and the brick bases for the posts of the fuel pump canopy as shown on sheets 2 and 3 of the "Architectural Design Details Guidelines" are expected to have an appropriate appearance for the surrounding area."*

Natural resources: Objective 2 of this Chapter is: *"Protect and preserve natural resources, which include mountains, hills, valleys, rivers, streams, groundwater, and retain continuous and unfragmented land for agriculture, forestry, biodiversity, and natural resource protection."* Other than critical slopes, which are on a small portion of the property and are not affected by the proposed use, there are no known natural resources on the property. There are no mountain resources or stream buffers. As previously stated in this staff report, Health Department staff have no objection to the findings in the Tier III groundwater study, which found that the proposed use would not negatively affect groundwater for other properties. There are no agricultural/forest districts, conservation easements, or open space agreements affecting this property.

Rural Interstate Interchanges: This Chapter of the Comprehensive Plan includes the following for interstate interchanges: *"Interstate interchanges are included in this Section because they have the capacity to both reflect and detract from the rural nature of the County. For travelers on Interstate 64, views from the interstate may provide the only visitor experience and memory of the County... interstate interchanges in the Rural Area should not be used as tourist destinations or tourist "stops" along Interstate 64."* The proposal is located at the SR 616 interchange, at Exit 129 of I-64. ARB approval will be required for the view of this use from I-64. The conditions for the proposed use are intended to limit the use to a scale consistent with Country Stores and to a scale intended to serve both nearby residents and existing pass-by traffic. This is the only parcel zoned commercially at this interchange (along with adjacent TMP 94-38, part of the same rezonings and previous actions), and has been since 1970, as previously noted.

Chapter 5: Historic, Cultural, and Scenic Resources

Objective 5 of this Chapter is to "*Help protect Monticello's Viewshed."* This property is within the Monticello Viewshed. Liz Russell of the Thomas Jefferson Foundation has

provided the following comment on this proposal: “At over 6 miles away, surrounding tree canopy, and in the location just off I-64 I have no viewshed concerns at this parcel.”

Objective 11 of this Chapter is to *“Protect the dark sky of Albemarle County as one of the many natural, scenic, scientific, and cultural resources for the benefit of residents, visitors, and the larger scientific community.”* Condition 2 limits outdoor lighting to be on only during hours of operation, which Condition 4 limits to between 5 AM and 10 PM. Condition 2 also limits the maximum allowable foot candles and requires all lighting to be full cutoff. These conditions are intended to limit potential negative impacts to nearby residential and rural properties, and to protect dark skies.

DISCUSSION OF PROPOSED CONDITIONS

There is one condition that differs from the applicant’s proposal. The applicant is proposing that fuel sales be permitted 24 hours per day, which would likely necessitate some lighting overnight for the fuel pumps and generate some level of traffic during that period. The applicant finds the hours of operation for the store to be acceptable but is requesting that fuel sales and some lighting be permitted outside of hours of operation.

Staff’s recommended condition is the following (4): “The hours of operation must be between 5 AM and 10 PM.” A portion of condition (2) is also applicable: “all outdoor lighting shall be turned off outside of hours of operation.” The ending time of 10 PM is consistent with other rural uses and uses adjacent to residential and rural districts. County Code 18-5.1.57(e)(4) prohibits amplified music for farm brewery events (rural use) after 10 PM during weekdays and after 11 PM on weekends. Farm wineries have the same regulation (18-5.1.25(e)(4)). This is to limit potential negative impacts on nearby and neighboring residential and rural properties. Per 18-5.1.60, drive-through windows that are within 50-100 feet of a residential or rural district must be closed by 10 PM. Limiting hours and lighting to 10 PM is also consistent with Objective 11 in Chapter 5 of the Comprehensive Plan: *“Protect the dark sky of Albemarle County as one of the many natural, scenic, scientific, and cultural resources for the benefit of residents, visitors, and the larger scientific community.”*

Staff believes it is important to maintain a scale and design consistent with Rural Area uses, using Country Store Class B regulations for reference. Staff finds that the extended hours of operation are not consistent with these characteristics. Staff recommends no change to Conditions 2 and 4. Staff and the applicant will welcome Commission guidance regarding this issue.

SUMMARY:

Staff finds the following factors favorable to this request:

1. Tier III groundwater study indicates that there is sufficient supply of groundwater in this area to support the proposed use.
2. The application includes a concept plan and Architectural Standards that would create a development consistent with the Rural Area scale and design standards as described for rural uses, such as Country Stores.
3. The application is consistent with the criteria for the issuance of a special use permit.

Staff finds the following factor(s) unfavorable to this request:

1. If the Board of Supervisors disagrees with the staff interpretation of the meaning and intent of the Comprehensive Plan, this application may be considered inconsistent with the Comprehensive Plan.
2. The proposed use is not identified in the Comprehensive Plan as a recommended Rural Area use

RECOMMENDED ACTION for SP201900006:

Based on the findings described in this report and factors identified as favorable, **staff recommends approval of special use permit application SP201900006 with the following conditions** (below).

CONDITIONS:

1. Development of the use shall be in general accord with the Conceptual Plan titled "Special Use Permit Concept Plan: Boyd Tavern Market," prepared by Shimp Engineering, with the latest revision date of January 16, 2020, and narrative title "Project Narrative: Boyd Tavern Market", with the latest revision date of December 10, 2019, as determined by the Director of Planning and the Zoning Administrator. To be in general accord with the Conceptual Plan, development shall reflect the following major elements within the development essential to the design of the development and as described in the Narrative and the Conceptual Plan:
    a. Location of the proposed building.
    b. Location of parking area.
    c. The location and number of fuel pumps, with a maximum of five (5) fuel pumps, on-site, and a maximum of three (3) fuel pumps may be visible from the public right of way. Fuel pumps shall not be closer to the right of way than the primary structure.
    d. Location and type of proposed landscaping and fencing. The landscaping buffer must be a mixture of deciduous and evergreen plantings, to the satisfaction of the Planning Director.
    e. Proposed canopy and building architecture, as referenced in the "Architectural Design Details Guidelines" with the latest revision date of January 16, 2020. The maximum height of the gas canopy shall be 14'6" measured to the bottom of the fascia.
2. The following restrictions to lighting must apply: all fixtures must be full cutoff; lighting is limited to 20 foot-candles at the ground; all outdoor lighting shall be turned off outside of hours of operation; and the canopy fascia must not be illuminated.
3. The maximum gross floor area of the building is four thousand (4,000) square feet.
4. The hours of operation must be between 5 AM and 10 PM.
5. The applicant shall conduct an archaeological survey to show boundaries and extent of the burial area prior to any grading activities.
6. All mechanical equipment must be fully screened from the view of adjacent properties and adjacent public streets.
7. The applicant shall install and maintain a tamper-proof, flow restriction device limiting water flow to not more than seven hundred (700) gallons per day.

POSSIBLE PLANNING COMMISSION MOTION- SP201900006:

A. Should the Planning Commission **choose to recommend approval** of this special use permit:

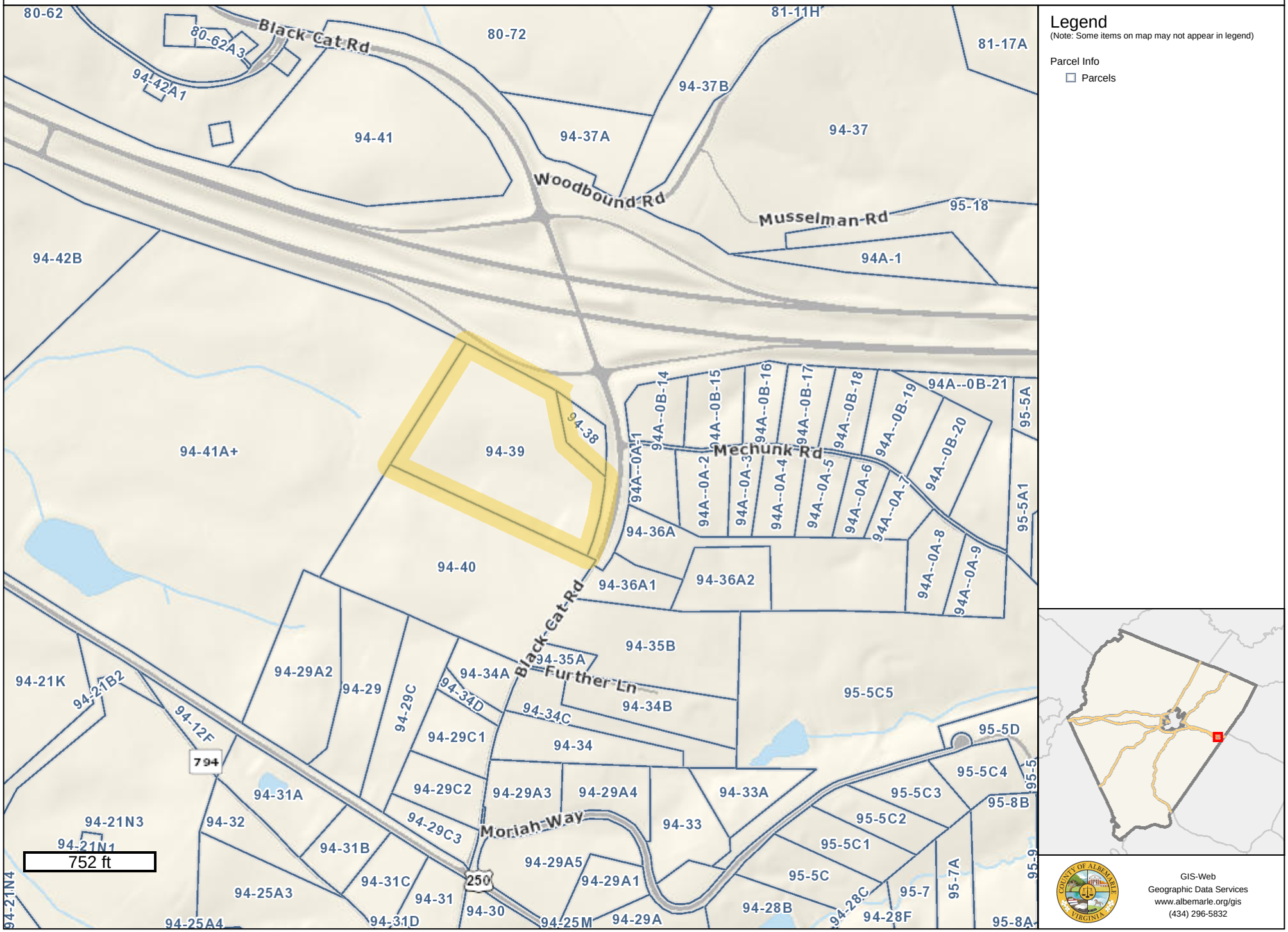
Move to recommend approval of SP201900006, The Market at Boyd Tavern, with conditions as stated in the staff report.

B. Should the Planning Commission **choose to recommend denial** of this special use permit:

Move to recommend denial of SP201900006, The Market at Boyd Tavern. *Should a commissioner motion to recommend denial, he or she should state the reason(s) for recommending denial.*

ATTACHMENTS

Attachment A – Vicinity Map
Attachment B – Map showing zoning of surrounding area
Attachment C – Project Narrative, dated December 10, 2019
Attachment D – Concept Plan, dated January 16, 2020
Attachment E – Architectural Design Details, dated January 16, 2020
Attachment F – Tier III Groundwater Study
Attachment G – Notes from Community Meeting on May 22, 2019
Attachment H – Comments Received from the Public



Legend

(Note: Some items on map may not appear in legend)

Parcel Info

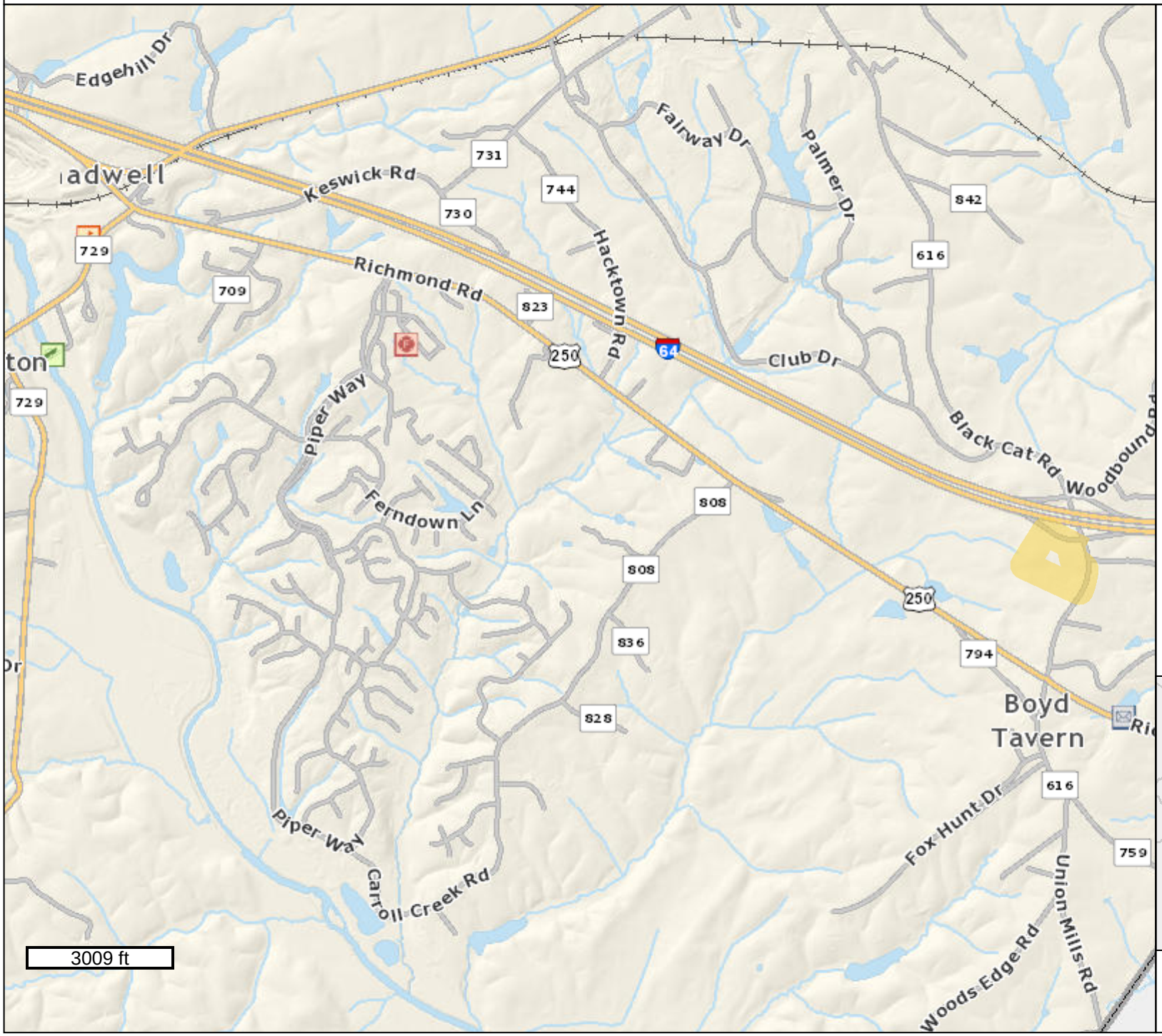
- ☐ Parcels

GIS-Web
Geographic Data Services
www.albemarle.org/gis
(434) 296-5832

Any determination of topography or contours, or any depiction of physical improvements, property lines or boundaries is for general information only and shall not be used for the design, modification, or construction of improvements to real property or for flood plain determination.

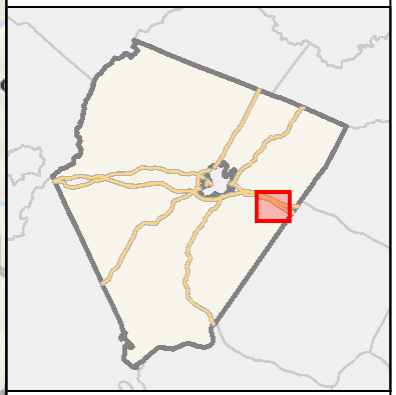
January 25, 2020

Map elements may scale larger than GIS data measured in the map or as provided on the data download page due to the projection used. Map Projection: WGS84 Web Mercator (Auxiliary Sphere) (EPSG 3857)



Legend

(Note: Some items on map may not appear in legend)

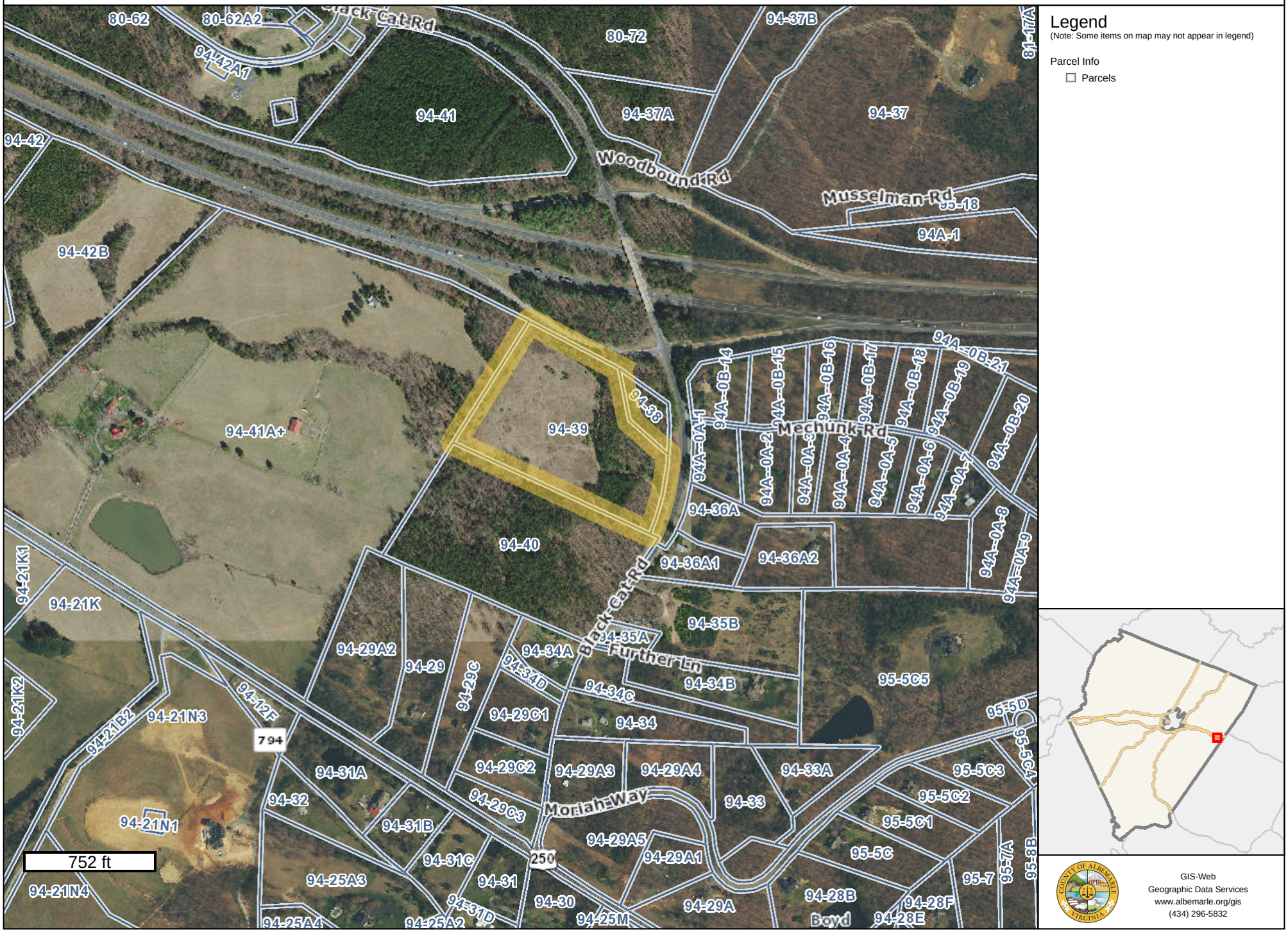


GIS-Web
Geographic Data Services
www.albemarle.org/gis
(434) 296-5832

Any determination of topography or contours, or any depiction of physical improvements, property lines or boundaries is for general information only and shall not be used for the design, modification, or construction of improvements to real property or for flood plain determination.

January 25, 2020

Map elements may scale larger than GIS data measured in the map or as provided on the data download page due to the projection used. Map Projection: WGS84 Web Mercator (Auxiliary Sphere) (EPSG 3857)



Legend

(Note: Some items on map may not appear in legend)

Parcel Info

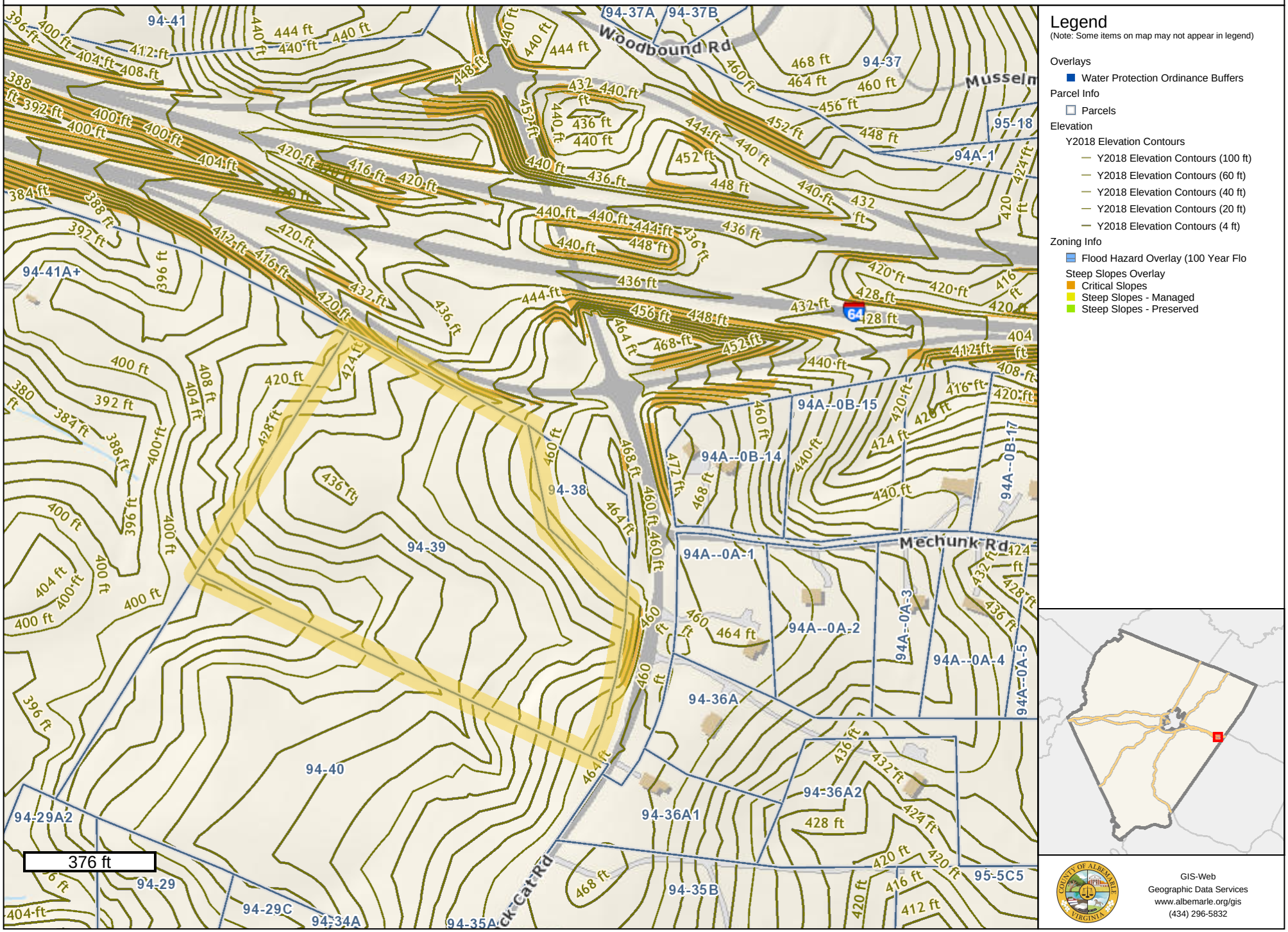
- ☐ Parcels

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Legend

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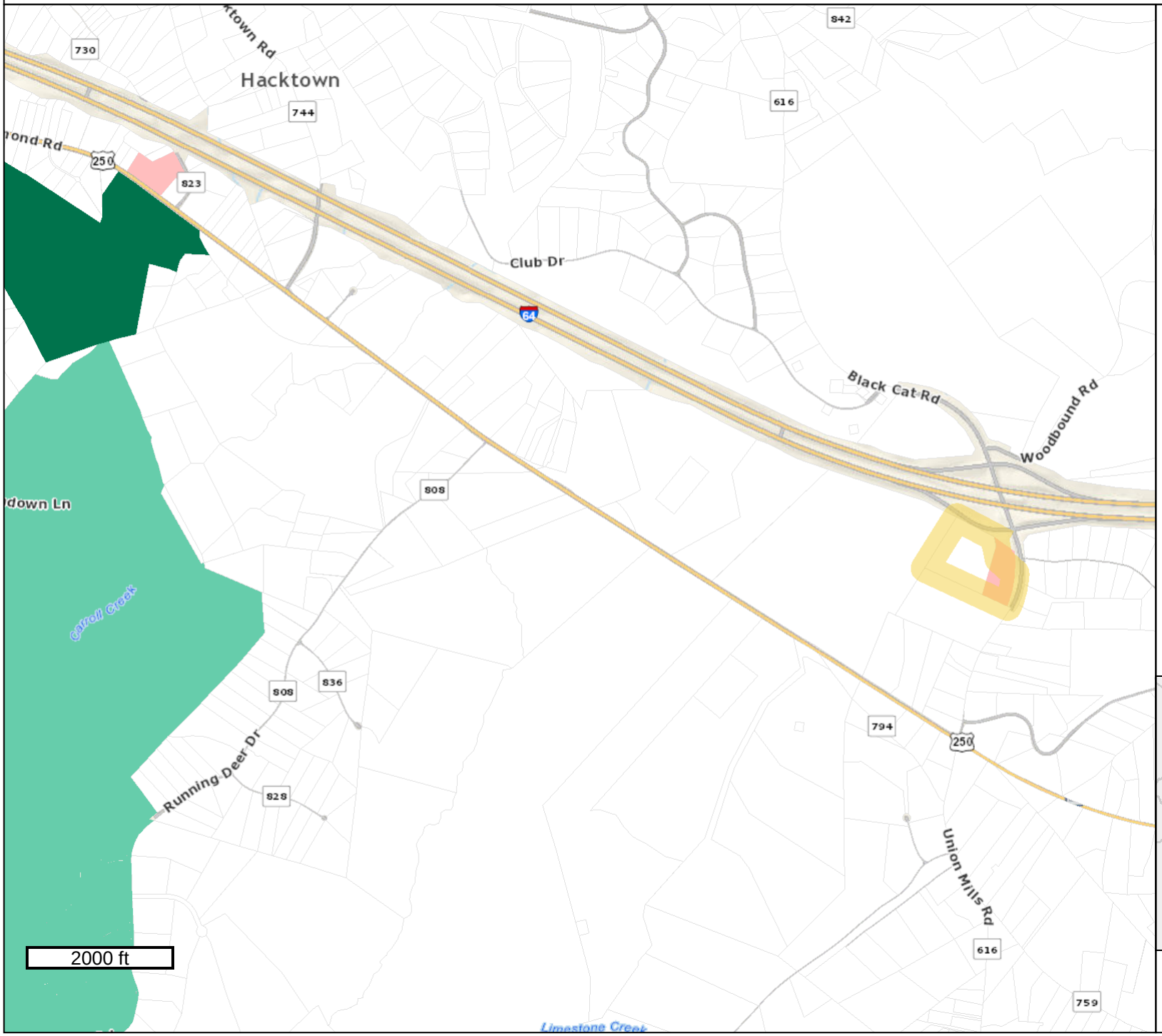
- Overlays
  - Water Protection Ordinance Buffers
- Parcel Info
  - Parcels
- Elevation
  - Y2018 Elevation Contours
    - Y2018 Elevation Contours (100 ft)
    - Y2018 Elevation Contours (60 ft)
    - Y2018 Elevation Contours (40 ft)
    - Y2018 Elevation Contours (20 ft)
    - Y2018 Elevation Contours (4 ft)
- Zoning Info
  - Flood Hazard Overlay (100 Year Flo
- Steep Slopes Overlay
  - Critical Slopes
  - Steep Slopes - Managed
  - Steep Slopes - Preserved

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January 25, 2020

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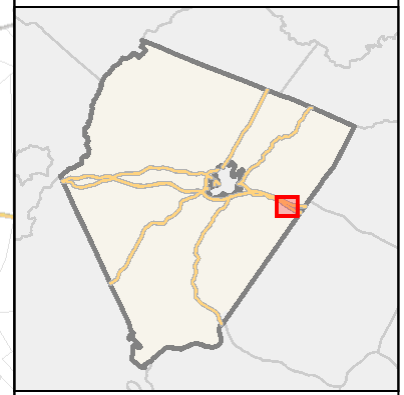
Legend

(Note: Some items on map may not appear in legend)

Zoning Info

Zoning Classifications

- Rural Areas
- Village Residential
- R1 Residential
- R2 Residential
- R4 Residential
- R6 Residential
- R10 Residential
- R15 Residential
- Planned Unit Development
- Planned Residential Development
- Neighborhood Model District
- Monticello Historic District
- C1 Commercial
- Commercial Office
- Highway Commercial
- Planned Development Shopping Ctr.
- Planned Development Mixed Comm.
- Downtown Crozet District
- Light Industry
- Heavy Industry
- Planned Development Industrial Par
- Town of Scottsville



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January 16, 2020

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SHIMP ENGINEERING, P.C.
Design Focused Engineering

Project Narrative Boyd Tavern Market | SP 2019-00006

Parcel Description: Tax Map 94 Parcel 39

Initial Submittal Date: May 20, 2019

Current Revision Date: December 10, 2019

Pre-Application Meeting Date: April 8, 2019

	ACREAGE	EXISTING ZONING	COMP PLAN DESIGNATION
TMP 94-39	12.49 Total Acreage 3.28 Commercially Zoned Portion	**Primary:** RA **Secondary:** C-1	Rural Area 4

Additional Zoning Considerations: Entrance Corridor (EC)

Location:
The property fronts on Black Cat Road and is directly adjacent to Interstate 64, just south of exit 129.

Project Proposal:
South Creek Investments, is the owner (the "owner") of tax map parcel 94-39 in Albemarle County, a 3.28 acre portion of which is zoned for commercial use and is the subject of this special use permit application (the "property"). Tiger Fuel Company, Inc. (the "applicant") is the lessor of the property and is applying for a special use permit to allow for a convenience store on property not served by public water or a central water supply system.

Tiger Fuel is an established local business in Central Virginia, offering petroleum products, as well as a variety of fresh market goods and deli options in their stores. Tiger Fuel was founded in Central Virginia in 1982 and over the past 38 years has grown to employ 270 people. Tiger Fuel has transformed the convenience store experience for local customers by offering freshly prepared deli sandwiches, hot meals, and an abundance of healthy fresh food options in their markets. A Tiger Fuel establishment is local by design, as a typical Tiger Fuel Market is of a scale that is complementary of existing neighborhood fabric, maintaining store footprints of less than 4,000 square feet in most locations, and by incorporating architectural elements that draw on inspiration from the local architectural landscape, incorporating muted colors and classic country store features like a wrap-around porch.

For this proposed Market location in particular, extra attention has been given to the design detail and an "Architectural Design Details Guidelines" package has been included with this special use permit request to provide design guidance for the proposed convenience store use. This package includes design elements such as a gas pump canopy with a pitched roof and design details that resemble a pole barn, a structure typical of the Rural Areas. Additionally, this package

includes proposed elevations that include a wrap-around porch, adequate façade transparency, and a façade that is oriented towards Black Cat Road. The site is designed to relegate the gas canopy to the side of the market building to allow for the market to be the prominent structure on the site. In the past few years, Tiger Fuel has made a conscious effort to incorporate green elements into the design of their facilities and this proposed facility will continue that conscious design effort by incorporating solar panels and EV chargers into the facility.

A Tiger Fuel Market at this location would serve a portion of the county that is heavily traveled but largely underserved with appropriate services for the area. Traditional rural crossroads communities often formed at the intersection of heavily traveled roadways and offered service businesses that catered to travelers and nearby residents. Located at the intersection of Black Cat Road and Interstate 64, this property has the infrastructural improvements that are representative of a traditional crossroads community and has the existing background traffic of 8,300[1] daily trips to support a service business in this area.

The Market is proposed to be a maximum of 4,000 square feet and will feature five gasoline pumps. A Tiger Fuel Market at this location would serve a variety of customers largely due to the strategic location of the property along a main commuter route for those east of Charlottesville. In addition to commuters, nearby residents, and travelers, a petroleum products retailer in this location would also serve those who partake in daily agrarian and property maintenance activities in the Rural Areas and require fuel to operate their equipment whether it is a farm truck, a delivery truck, lawn mower, tractor, or any other farm equipment powered by petroleum.

The Tiger Fuel Market will be a convenient service for nearby residents and commuters from east of town to grab a cup of coffee on the way to work or to pick up a freshly prepared to-go dinner and convenience items on the way home. A Tiger Fuel Market is a convenient service for the community and although limited in scope, provides the facilities, such as interior and porch seating, for people to gather in a space outside of their home.

Factors to be Considered for Special Use Permits:

No Substantial Detriment:

Traffic

The property is located between parallel road networks, Interstate 64 and Route 250, at the I-64 Exit 129 eastbound ramp. Interstate 64 and Route 250 are major travel routes and serve as main commuter routes to and from Charlottesville. This development is not likely to generate a significant amount of new traffic on Black Cat Road, but rather will pull in existing pass-by trips to provide service to those who would use these routes regardless of this development. Nearby residents may create new trips to pick up items from the convenience store, but these trips are expected to be minimal compared to the existing background traffic. In 2018, the .64 mile segment of Black Cat Road between Route 250 and Interstate 64 experienced AADT of 8300. Under VDOT's functional classification, Black Cat Road is considered to be a major collector, which are longer in length, establish higher speed limits, have higher annual average traffic volumes, and more travel lanes[2] than minor collectors. Major collectors can also be main connections to nearby towns and cities or with arterial routes, which are significant to supporting intra-county travel. Black Cat Road's functional classification as well as its AADT indicates that a significant portion of traffic already accesses I-64 from points south on Black Cat Road, and it is expected for this convenience store/gas station use to capture some of those existing trips, and therefore not contribute substantially to the detriment of existing traffic patterns. Site access and entrances will comply with VDOT standards. A left turn taper and right turn lane will facilitate maneuvers into and out of the site and allow for traffic to flow by the site unobstructed.

[1] https://www.virginiadot.org/info/resources/Traffic_2018/AADT_002_Albemarle_2018.pdf
[2] https://www.virginiadot.org/Functional_Classification_Comprehensive_Guide.pdf

Hours of Operation
The hours of operation will be from 5 a.m to 11 p.m.

Lighting
The convenience store/gas station use will comply with Section 4.17 of the Albemarle County Zoning Ordinance to ensure that no substantial detriment to neighboring properties from lighting will occur.

Building Design
As aforementioned the design of a Tiger Fuel Market is local by design, and the design of this particular Market has been given extra attention to ensure the design of structures on the property are complementary of the existing architectural landscape and account for design elements that are prominent in the rural areas. For example, the gas canopy is designed to feature elements that are similar to a pole barn, a structure that is a staple on many farms in the rural areas. The building and site design has been discussed with County Staff on several occasions and based on these conversations revisions to the site and building design have been incorporated into this Special Use Permit Application. To reiterate, the building design will incorporate green elements like solar panels which will reduce the Market's dependency on electricity. The façade of the Market will engage Black Cat Road and this façade will feature a minimum of 17% transparency. The site design establishes a program that relegates the gas canopy to the site of the market structure and internally orients on-site parking so that headlights from parked cars do not direct light onto neighboring properties.

Water Use
The following table has been prepared to share comparative water usage data for the proposed convenience store use compared to various other by-right uses on the property.

By-Right Uses	**Daily Water Usage Rates**
Single-family detached (4-person household, 4 houses on ~9.2 acres)	1600 gpd (100 gpd/person)[3]
Retail Nurseries & Greenhouses (5-3,000 sq. ft. greenhouses with 2,400 sq. ft. of benches within)	3,600~4,800 gpd[4]
Indoor Theaters (250 seats)	1,250 gpd (5 gpd/seat)[1]
Laundromat (10 washers)	5,000 gpd (500 gpd/machine) [1]
Winery (4-acre lot, vineyard/orchard irrigation estimates only)	4,353 gpd[5]
Special Use Permit – Convenience Store Use	**Daily Water Usage Rates**
Tiger Fuel @ Boyd Tavern	644 gpd[6]

The proposed Tiger Fuel Market is anticipated to use an average of 644 gallons of water per day. This number was derived from Tiger Fuel's Ruckersville location. The Market at Ruckersville is Tiger Fuel's newest location and provides a good comparison for water usage since the Boyd Tavern location would incorporate much of the same modern low-flow fixtures that are installed at the Ruckersville location. The Ruckersville location does feature a car wash however, a car wash is not proposed at the Boyd Tavern location and so the water usage data provided for the Ruckersville location is

[3] https://law.lis.virginia.gov/admincode/title12/agency5/chapter590/section690/
[4] https://ag.umass.edu/greenhouse-floriculture/fact-sheets/sizing-greenhouse-water-system
[5] https://www.lakecountyca.gov/Assets/Departments/CDD/Wild+Diamond+Vineyards/FEIR+AppendixD-C.pdf
[6] Ruckersville Tiger Fuel Market Readings 8.10.2019 – 11.19.2019 (see attachment A)

exclusive to the Market to provide a more accurate representative comparison. Previously, water consumption data was provided with the initial site development plan and these numbers were taken from water usage data from the Mill Creek and Bellair market locations. Since the Ruckersville location is now in operation and has compiled several months of water usage data, we have included that to estimate the average daily water usage for the Boyd Tavern Location. It should be noted that the Ruckersville location at the intersection of Route 29 and Route 33 sees a significantly greater amount of traffic than the Boyd Tavern Location; according to VDOT AADT data, there are 29,000 vehicle trips per day on Route 29 from the Albemarle County line to US-33 Spotswood Trail and there are 19,000 trips on US-33 from Amicus Road to the intersection with Route 29, and so although the Boyd Tavern location will include the same or similar fixtures to the Ruckersville location, the average daily water usage may be less since there is less traffic at the Boyd Tavern location.

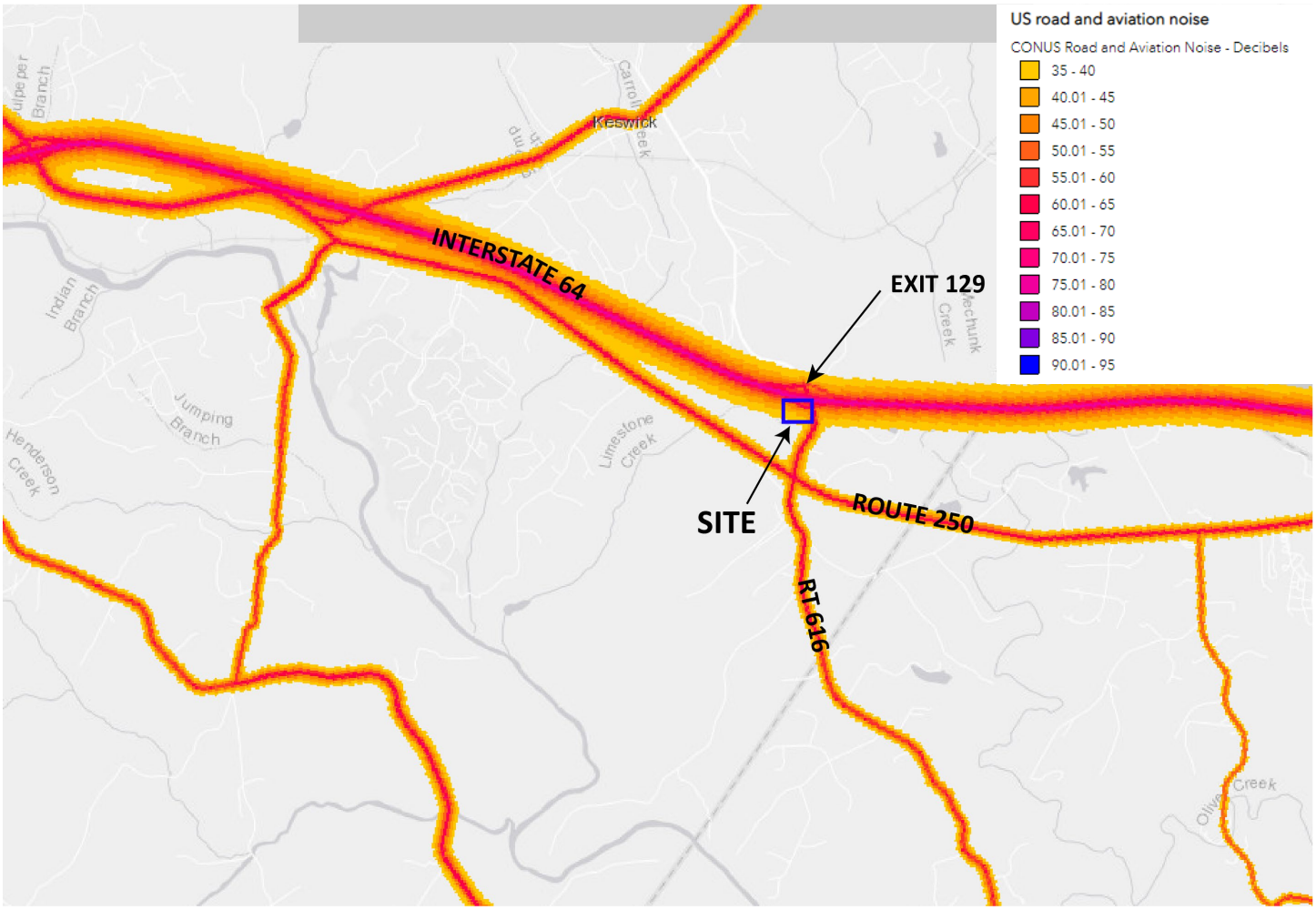
A number of by-right uses possible on the property have significantly higher rates of daily water demand, compared to the convenience store use of a Tiger Fuel Market. The property has split zoning between Rural Areas and C-1 Commercial. The RA portion of the site is approximately 9.2 acres, and with four development rights, could be developed with four single family homes. Four single-family detached homes, with four people per household, would approximate 1,600 gallons of water usage per day. The C-1 portion of the site allows for by-right uses such as offices, child day centers, indoor theaters, retail nurseries and greenhouses, and laundromats. Several of these by-right uses have been included in the above water usage table for comparative purposes. A retail nursery or greenhouse uses about 0.3-0.4 gallons per day per square foot. Within 3.28 acres, about five 3,000 sq. ft. greenhouses with parking could comfortably fit on-site, which estimates about 3,600-4,800 gpd. Similarly, a winery on a 4-acre lot uses over 4,000 gpd, when only analyzing vineyard and orchard irrigation estimates; this does not take into account processes of pressing, fermentation, tasting facilities, employee use, etc. The winery data was taken from an environmental impact report submitted to Lake County, California, which provided existing vineyard and orchard water demand per acre. An indoor theater with 250 seats would use about 1,250 gpd and a small laundromat with 10 washers would use 5,000 gpd. These by-right uses comparatively have greater water demands than the proposed Tiger Fuel Market.

Sounds & Smells

Sounds on-site will likely be attributable to guests accessing and exiting the site. Hours of operation will limit excess noises to the surrounding area. Due to the site's proximity to Interstate 64 there is existing background noise on the property from vehicles traveling on Black Cat Road and Interstate 64. The US Department of Transportation's National Transportation Noise Map shows that the noise level covering most of the site looks to be between 45-65 decibels and that the portions of the site directly adjacent to the interstate experience noise that is closer to 70-75 decibels (Figure 1). For comparative purposes, an urban residence typically experiences noise of 50 decibels, normal conversation is approximately 60 decibels, and busy traffic is approximately 70 decibels.

Any smells that would be objectionable to a patron of the convenience store/gas station will also be objectionable to a neighbor. It is well in the interest of the business for smells to be closely monitored and controlled, ensuring that neighbors will be protected from unpleasant smells as well.

Figure 1. USDOT National Transportation Noise Map



Character of Nearby Area is Unchanged:
Careful attention has been given to the design of the structures on the site and the design of the site itself; design details such as a gas canopy representative of a pole barn with a pitched roof and a market structure that establishes a site hierarchy where the market is the prominent structure on the site by relegating the canopy to the side of the market building and incorporating ample façade transparency on the market building façade adjacent to Black Cat Road. There is already background traffic in this area to support this local business and it is not expected for this use to be a destination and attract additional vehicular trips to the area. Compliance with lighting and noise regulations will further provide assurance that the character of the area will be maintained.

Historically, the character of the rural areas was comprised of a variety of complementary service uses that supported the agrarian economy and the people who lived in the rural areas. A Tiger Fuel Market in this location would serve the surrounding community and would be reminiscent of historic land use patterns where country stores were often built at the intersection of major routes.

Harmony:
The concept plan has been refined through continued discussions with County Staff to create a development that will complement the existing fabric and will establish site program that will facilitate successful business functions. The proposed architecture of the market seeks to evoke a country store feel that is harmonious with the surrounding rural landscape. The property will adhere to Entrance Corridor guidelines, including a landscape design that screens parking areas and establishes an attractive street frontage adjacent to Black Cat Road. The visibility of the site from Black Cat

Road has been discussed with Staff on several occasions and from these conversations, we have established a street frontage that will not only feature a detailed landscape design but will also feature a three board fence to evoke a rural feel of the site when viewed from Black Cat Road.

Consistency with the Comprehensive Plan:
A Tiger Fuel Market at this location is consistent with the Comprehensive Plan in the following ways:
Chapter 6 Economic Development

- *Strategy 4c: Explore opportunities to assist with redevelopment of underutilized commercial and industrial zoned properties.* There are limited commercially zoned properties in the Rural Areas and these properties offer the opportunity to serve nearby residents. A Tiger Fuel Market on this property would generate real estate taxes on a significantly improved commercial property, as opposed to the tax generation from the site today, and Tiger Fuel would generate business taxes from this location.
- *Strategy 3i: Acknowledge and support the work of companies that help achieve sustainability goals for the County.* Tiger Fuel is committed to supporting the County's sustainability goals and will incorporate green elements into their design at this location, including solar panels and EV chargers. Tiger Fuel is a member of the Green Business Alliance through C3 (Charlottesville Climate Collaborative) and is committed to supporting the shared climate action commitment shared by the business members of this alliance who are committed to "managing their energy use, reducing costs, mitigating risk, and reducing their climate impact."[7]
- *Strategy 1e: Encourage all businesses to adopt environmentally sustainable business practices.* Tiger Fuel's role in the Green Business Alliance and their use of solar panels and low flow fixtures at their other business locations exemplifies the company's consistency with Strategy 1e.

Chapter 7 Rural Areas
Although this property was not part of the 2003 Survey of Historic Crossroads Communities, there are consistencies with the proposed Tiger Fuel Market on this property and Objective 5 outlined for crossroads communities. Objective 5 includes subsequent text that explains the evaluation and understanding of the benefits of limited commercial uses in crossroads communities have not yet been fully vetted and require further study.

- *Objective 5: Recognize and support crossroads communities, which serve as rural-scale community meeting places and provide opportunities for residents to take part in community life.* A Tiger Fuel Market in this location could serve as a gathering place for nearby residents to meet over a cup of coffee or lunch and a market here would provide convenient access for nearby residents to household convenience items.

Neighborhood Impacts:

Impacts on Public Facilities and Infrastructure:
It is anticipated most of the traffic affiliated with the development will be pass-by trips. The parcel is located along one of the major commuter routes to Charlottesville for those traveling from eastern Albemarle and Fluvanna Counties. This use on this property is not a destination and it is anticipated many customers will already be on the road and will not be generating new trips solely for a visit to the convenience store. A few nearby residents may generate new trips, traveling out solely to purchase goods from the store, but these 'new' trips will be far fewer than the pass-by trips, therefore the use will be suitable for existing roads. The site development will comply with VDOT regulations and will feature entrance and turn lane improvements to facilitate vehicular movements to and from the site.

Impacts on Environmental Features:
The stormwater management plan will comply with all applicable DEQ and Albemarle County WPO regulations.

[7] https://www.cvilleclimate.org/businesses-1

Lighting
All outdoor lighting will comply with Albemarle County regulations. Development on the property will be subject to ARB review and approval and lighting on the site will be further evaluated during ARB review.

Schools
There are no residences proposed on the property and therefore as a result of the proposed development, there will be no additional pupils enrolled in Albemarle County Public Schools.

ATTACHMENT A: Ruckersville Tiger Fuel Market Water Usage

DATE:	TIME:	READING	USAGE
8/17/2019	803	5077	583
8/18/2019	740	5660	580
8/19/2019	735	6240	544
8/20/2019	740	6784	533
8/21/2019	700	7317	583
8/22/2019	815	7900	620
8/23/2019	715	8520	800
8/24/2019	735	9320	760
8/25/2019	720	10080	730
8/26/2019	715	10810	510
8/27/2019	625	11320	690
8/28/2019	700	12010	630
8/29/2019	640	12640	570
8/30/2019	815	13210	770
8/31/2019	809	13980	730
9/1/2019	738	14710	690
9/2/2019	836	15400	860
9/3/2019	715	16260	610
9/4/2019	755	16870	520
9/5/2019	728	17390	580
9/6/2019	710	17970	680
9/7/2019	700	18650	630
9/8/2019	700	19280	570
9/9/2019	635	19850	620
9/10/2019	535	20470	570
9/11/2019	710	21040	530
9/12/2019	639	21570	530
9/13/2019	710	22100	730
9/14/2019	605	22830	700
9/15/2019	710	23530	630
9/16/2019	650	24160	630
9/17/2019	650	24790	560
9/18/2019	705	25350	520
9/19/2019	550	25870	750
9/20/2019	710	26620	640
9/21/2019	635	27260	700
9/22/2019	635	27960	610
9/23/2019	655	28570	610
9/24/2019	710	29180	800
9/25/2019	710	29980	1180
9/26/2019	705	31160	790
9/27/2019	715	31950	0
9/28/2019			0

9/29/2019	710	32660	650
9/30/2019	708	33310	550
10/1/2019	705	33860	630
10/2/2019	710	34490	850
10/3/2019	715	35340	620
10/4/2019	730	35960	660
10/5/2019	715	36620	700
10/6/2019	710	37320	610
10/7/2019	700	37930	690
10/8/2019	710	38620	630
10/9/2019	715	39250	600
10/10/2019	710	39850	510
10/11/2019	710	40360	720
10/12/2019	732	41080	830
10/13/2019	800	41910	750
10/14/2019	710	42660	610
10/15/2019	710	43270	670
10/16/2019	725	43940	570
10/17/2019	700	44510	520
10/18/2019	710	45030	700
10/19/2019	700	45730	800
10/20/2019	700	46530	700
10/21/2019	710	47230	620
10/22/2019	715	47850	620
10/23/2019	715	48470	620
10/24/2019	715	49090	550
10/25/2019	715	49640	710
10/26/2019	720	50350	690
10/27/2019	710	51040	630
10/28/2019	710	51670	710
10/29/2019	715	52380	610
10/30/2019	720	52990	810
10/31/2019	720	53800	500
11/1/2019	715	54300	720
11/2/2019	715	55020	690
11/3/2019	635	55710	600
11/4/2019	710	56310	530
11/5/2019	650	56840	570
11/6/2019	700	57410	600
11/7/2019	715	58010	540
11/8/2019	700	58550	660
11/9/2019	655	59210	700
11/10/2019	645	59910	610
11/11/2019	700	60520	550
11/12/2019	710	61070	560
11/13/2019	715	61630	580

11/14/2019	720	62210	500
11/15/2019	740	62710	570
11/16/2019	745	63280	600
11/17/2019	740	63880	630
11/18/2019	649	64510	500
11/19/2019	725	65010	
		DAILY AVG:	643.73

Zeros have been eliminated from daily average.

SHIMP ENGINEERING P.C.

PROJECT MANAGEMENT
CIVIL ENGINEERING
LAND PLANNING

May 7, 2018

Mr. Adam Moore, P.E.
Virginia Department of Transportation
701 VDOT Way
Charlottesville, VA 22911

Regarding: **Boyd Tavern**
Right and Left-Turn Warrant Analysis

Mr. Moore,

Please find enclosed a warrant analysis for the proposed Market at Boyd Tavern off of State Route 616 Black Cat Road between I-64 and U.S. 250 Richmond Road.

The following items are included with this report:

- VDOT Traffic Data
- ITE Trip Generation Summary
- Warrant Analysis Exhibit
- OTISS Trip Generation Reports

Our analysis shows that a full right turn lane and taper as well as a left turn lane are warranted for this project.

If you have any questions you may contact me at justin@shimp-engineering.com or by phone at 434-953-6116.

Best Regards,

Justin Shimp
Shimp Engineering, P.C.

The table below summarizes the 2016 VDOT traffic data for the 0.64 mile segment of Black Cat Road between I-64 and US 250 Richmond Road, which was used to calculate the peak hour volume (PHV) approaching for the warrant analysis.

Table 1. VDOT traffic data summary – Black Cat Road

AADT	8000
K factor	0.1447
D factor	0.8908
PHV (AADT*K*D)	1031

Below is the ITE trip generation summary table that was used in combination with the direction factor of Black Cat Road to determine the PHV right and left turns into the establishment. The OTISS graphs showing the source of this information are included as Figures 3 and 4.

Table 2. ITE trip generation summary table

			AM			PM		
Use Description	**ITE**	**Qty**	**in**	**out**	**Total**	**in**	**out**	**Total**
Gas/Convenience	945	3739 SF	122	118	240	145	145	290
Right Turn			13			129		
Left Turn			109			16		

The higher number of right and left turns into Boyd Tavern Market was used in the right and left turn lane warrant analysis, shown in Figures 1 and 2 below.

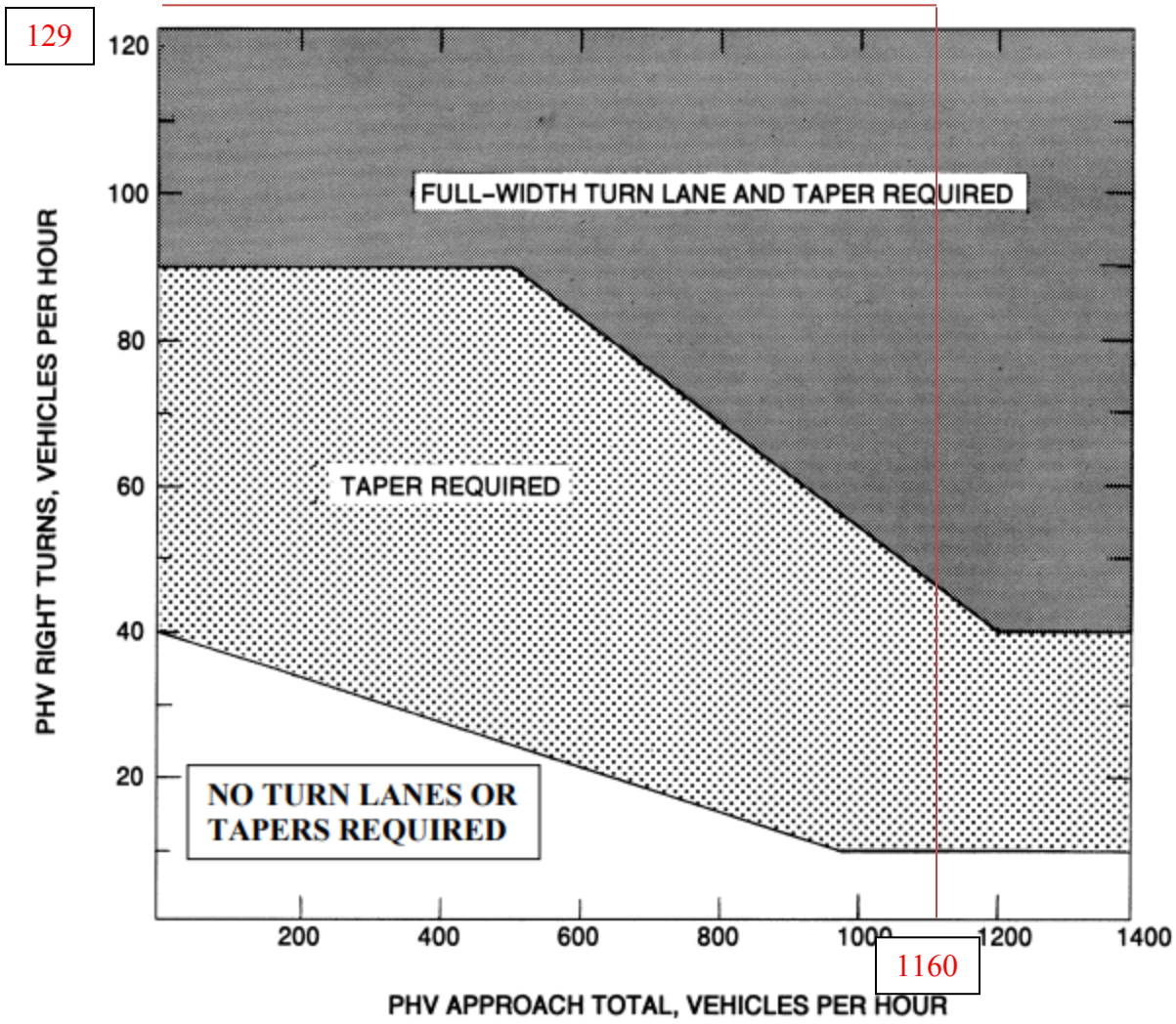


Figure 1. Warrant for right turn treatment (2-lane highway)

The figure above shows that a turn lane and taper is required for the site. The right turns were taken from Table 2, and the PHV approach total includes additional traffic that is to be generated by the site.

Warrants for Left Turn Storage Lanes on Two-Lane Highways

Advancing volume and opposing volumes (VPH), speed and percent left turns are used to determine whether a left turn storage lane is warranted on two-lane highways.

The warrants in table below are taken from the 2011 AASHTO Green Book, Chapter 9, Section 9.7.3, Page 9-132, Table 9-23. They were derived from Highway Research Report No. 211, Figures 2 through 19, for required storage length determinations.

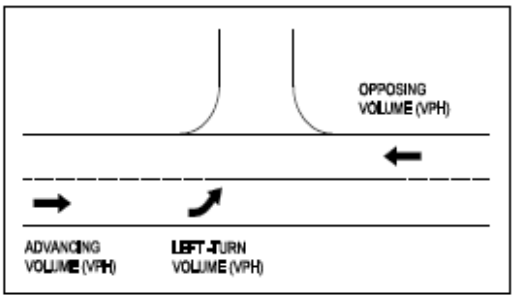
WARRANTS FOR LEFT TURN LANES ON TWO-LANE HIGHWAYS

VPH OPPOSING VOLUME	ADVANCING VOLUME			
	5% LEFT TURNS	10% LEFT TURNS	20% LEFT TURNS	30% LEFT TURNS
	40-MPH DESIGN SPEED*			
800	330	240	180	160
600	410	305	225	200
400	510	380	275	245
200	640	470	350	305
100	720	515	390	340
	50-MPH DESIGN SPEED*			
800	280	210	165	135
600	350	280	195	170
400	430	320	240	210
200	550	400	300	270
100	615	445	335	295
	60-MPH DESIGN SPEED*			
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240

TABLE 3-1

Source: Adapted from 2011 AASHTO Green Book, Chapter 9, Section 9.7.3, Page 9-132, Table 9-23

* USE DESIGN SPEED IF AVAILABLE, IF NOT USE LEGAL SPEED LIMIT.*



Example:

Two-lane highway with 40-MPH operating speed

Opposing Volume (VPH) - 600
Advancing Volume (VPH) - 440
Left-Turn Volume (VPH) - 44 or 10% of Advancing Volume

With opposing volume (VPH) of 600 and 10% of advancing volume (VPH) making left turns, and advancing volume (VPH) of 305 or more will warrant a left-turn lane.

When the Average Running Speed on an existing facility is available, the corresponding Design Speed may be obtained from Appendix A, Section A-1.

* Rev. 7/14

Figure 2. Warrant for left turn lane (2-lane highway)

The highest amount of left turns into Boyd Tavern is estimated in the morning, with 109 left turns out of a total 1,140 vehicles advancing. The opposing volume at that time is approximately 140 cars. Figure 2 above shows that for a 45 MPH road with 10% of advancing volume being left turns, the threshold of advancing vehicles is 400. Therefore, a left taper is warranted for Boyd Tavern.

The following two figures display the source of the estimated trips generated by Boyd Tavern Market.

Figure 3. OTISS trip generator A.M. peak hour

Gasoline/Service Station With Convenience Market (945)

AVERAGE VEHICLE TRIP ENDS VS:
1000 Sq. Feet Gross Floor Area

ON A:
Weekday
A.M. Peak Hour of Generator

DIRECTIONAL DISTRIBUTION:
51% entering, 49% exiting

Data Plot and Equation

All calculated values are based on the selected Private Data Set.

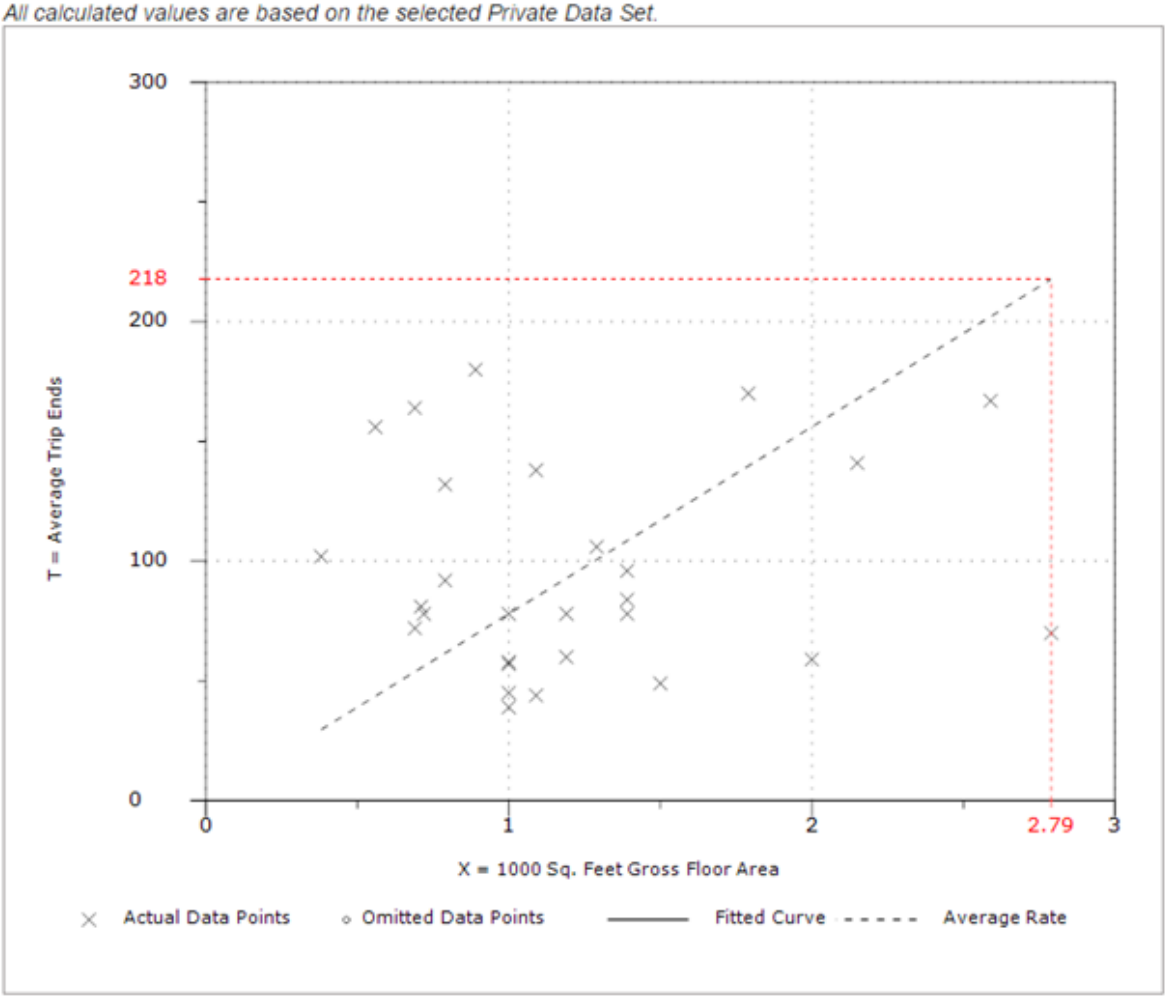


Figure 4. OTISS trip generator P.M. peak hour

Gasoline/Service Station With Convenience Market (945)

AVERAGE VEHICLE TRIP ENDS VS:
1000 Sq. Feet Gross Floor Area

ON A:
Weekday
P.M. Peak Hour of Generator

DIRECTIONAL DISTRIBUTION:
50% entering, 50% exiting

Data Plot and Equation

All calculated values are based on the selected Private Data Set.

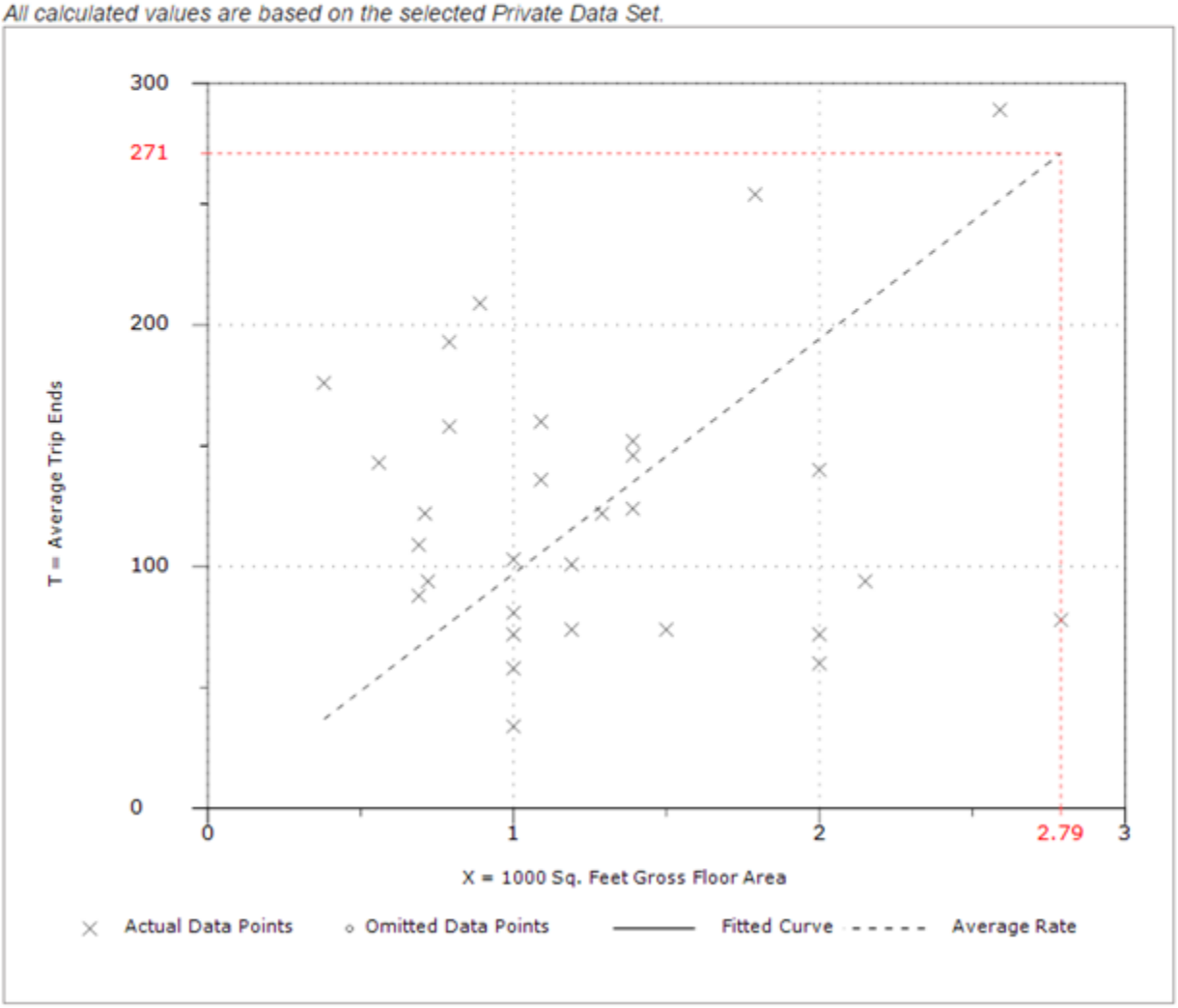




Image provided by Google Maps

SPECIAL USE PERMIT

CONCEPT PLAN

BOYD TAVERN MARKET

TMP 94-39

SP2019-0006

project number: 16.007

Submitted 20 May 2019
Revised 10 December 2019
REVISED 16 JANUARY 2020

Context Map

Sheet 1 of 6

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1 - Cover & Context Map
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4 - Concept Plan
5 - Conceptual Grading
6 - Landscape Plan

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BOYD TAVERN MARKET

SITE & SP DETAILS

OWNER/DEVELOPER

OWNER: South Creek Investments, Inc.
1100 Harris St.
Charlottesville, VA 22903

DEVELOPER: Tiger Fuel Company
200 Carlton Rd.
Charlottesville, VA 22902

TMP

94-39

SOURCE OF BOUNDARY & TOPOGRAPHY

Boundary survey information provided by:
Kirk Hughes & Associates
220 East High Street
Charlottesville, VA 22902
(434)296-6942

Topography provided by Albemarle County GIS

FLOODZONE

According to the FEMA Flood Insurance Rate Map, effective date February 4, 2005 (Community Panel 51003C04750), this property does not lie within a Zone AE 100-year flood plain.

WATER SUPPLY WATERSHED

Non-water supply watershed

WATER AND SANITARY SERVICES

Not served by public water or a central water system. All water and sanitary sewer services are to be provided by private well and septic.

USE

EXISTING: Vacant Land with Family Cemetery
COMPREHENSIVE PLAN: Rural Area
PROPOSED: Convenience Store w/ Storage and Sale of Petroleum Products

ZONING

EXISTING: Rural Area (Primary), Commercial - C1 (Secondary)
OVERLAYS: Entrance Corridor
PROPOSED: SP request for convenience store use not served by public water or a central water system

BUILDING AREA
Convenience store use not to exceed 4,000 sq. ft.

BUILDING HEIGHT

PROPOSED: 22’
MAXIMUM: 65’

Maximum canopy height: 14’6” to the bottom of the fascia

ACREAGE

Total parcel acreage: 12.486 AC
Portion Zoned for Commercial Use: 3.28 AC
Acreage Subject to SP: 3.28 AC

SIGNS

All signs shall conform with Section 4.15 as applicable.

ITE TRIP COUNT

			AM			PM		
Use Description	**ITE**	**Qty**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Gas/Convenience	945	4000 SF	171	165	336	195	196	391

SETBACKS

	Minimum	**Maximum**
Front	Building: 10’ from ROW Parking: 10’ from ROW	None (abuts principal arterial highway)
Side & Rear Adjacent to Residential, Rural Areas, or the Monticello Historic district boundary	Building: 50’ Parking: 20’	None
Buffer Zone Adjacent to Rural & Residential Areas (including clearing & grading)	20’	None
Petroleum Storage Tanks & Loading Facilities	100’ (Section 5.1.20)	None

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SPECIAL USE PERMIT
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BOYD TAVERN MARKET

EXISTING CONDITIONS

Sheet 3 of 6

RAMP "A"

INTERSTATE I-64
COMMONWEALTH OF VIRGINIA
STATE HIGHWAY PLAT BOOK 4, PAGES
83-84

"A" 100' MON.

S 56°37'56" E 662.48'
526.22'
EXISTING TREELINE

LIMITED ACCESS LINE FROM POINT "A" - "B"

IRON PIN

126.26'

100' MON.

S 54°07'02" E 122.53'

"B" 100' MON.

N 35°18'00" W 249.43'

N 29°30'35" W 249.07'

S 00°21'14" E 250.68'
232.58'

TAX MAP 0940-00-00-04140
N/F KAREN S. JOHNSON
DB 833-423
DB 695-600 PLAT
ZONE: RA
PRESENT USE: SINGLE FAMILY RESIDENTIAL

N 32°19'37" E 694.46'

TAX MAP 09400-00-00-03900
SOUTH CREEK INVESTMENTS, INC.
12.486 ACRES
DB 3195-402
PARCEL B
DB 483-343 PLAT

TAX MAP 09400-00-00-03800
SOUTH CREEK INVESTMENTS, INC.
1.1780 ACRES
DB 3195-402
PARCEL A
DB 483-343 PLAT
ZONE: C-1 COMMERCIAL
PRESENT USE: VACANT COMMERCIAL

WELL

STONE ING.

N 61°09'47" W 251.83'

100' DBL. MAPLE

N 70°01'12" W 460.12'

TAX MAP 0940-00-00-04000
KAREN S. JOHNSON
DB 4677-210
DB 4530-527
WB 99-615
WB 99-609
DB 340-407
DB 426-421 VDOT
DB 78-392, PLAT
ZONE: RA
PRESENT USE: VACANT RESIDENTIAL

Note: According to the Code of Virginia, Section 57-27.1, owners of private property on which a cemetery is located shall allow ingress and egress to the cemetery by (i) family members or descendants of deceased persons buried there; (ii) any cemetery plot owner; (iii) any person engaging in genealogy research, who has given reasonable notice to the owner of record or to the occupant of the property or both.

ZONED: RA
ZONED: C-1

20' PARKING SETBACK AND BUFFER (NO CONSTRUCTION ACTIVITIES, INCLUDING CLEARING OR GRADING, PERMITTED)

50' BUILDING SETBACK

UNDERGROUND FUEL STORAGE BUFFER ZONE 100' SETBACK

APPROXIMATE LIMITS OF THE JOHNSON CEMETERY DB 45-347

PIPE FND.

N 31°07'47" E 214.15'

cemetery

50' BUILDING SETBACK

20' PARKING SETBACK AND BUFFER (NO CONSTRUCTION ACTIVITIES, INCLUDING CLEARING OR GRADING, PERMITTED)

N 60°53'44" W 284.12'

Existing Evergreen & Deciduous Mix to be Removed

Existing Culvert and Entrance to be Removed

Existing Evergreen & Deciduous Mix to be Removed

Existing Mailbox to be Relocated

10' PARKING SETBACK

N 26°26'28" E 884.69'
415.07'

BLACK CAT ROAD
STATE ROUTE 616
VARIABLE WIDTH R/W
SPEED LIMIT 45 MPH
AADT 8000

75 0 75 150 225
Graphic Scale: 1"= 75'

TMP 94-39

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SPECIAL USE PERMIT
CONCEPT PLAN
SP2019-00006

BOYD TAVERN MARKET

CONCEPT PLAN

Sheet 4 of 6

cemetery

APPROXIMATE LIMITS OF THE JOHNSON CEMETERY DB 483-341

EXISTING EVERGREEN & DECIDUOUS MIX

ZONED: RA
ZONED: C-T

EXISTING VEGETATION TO REMAIN

EXISTING VEGETATION TO REMAIN

20' PARKING SETBACK AND BUFFER (NO CONSTRUCTION ACTIVITIES, INCLUDING CLEARING OR GRADING, PERMITTED)

50' BUILDING SETBACK

DUMPSTER PAD

UNDERGROUND FUEL STORAGE BUFFER ZONE 100' SETBACK

BIOFILTER

20' PARKING SETBACK AND BUFFER (NO CONSTRUCTION ACTIVITIES, INCLUDING CLEARING OR GRADING, PERMITTED)

50' BUILDING SETBACK

UNDERGROUND FUEL STORAGE BUFFER ZONE 100' SETBACK

448

452

456

460

9'X20' LOADING SPACE

EV CHARGING DOCK

EXISTING VEGETATION TO REMAIN

CRITICAL SLOPES

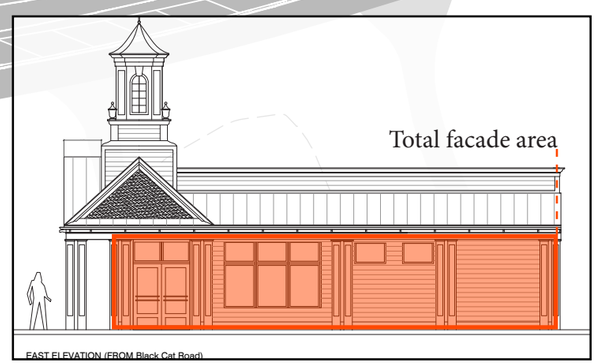
3-BOARD FENCE

10' PARKING SETBACK

CLEAR TREES WITHIN LIMITS OF RIGHT OF WAY AS REQUIRED FOR SIGHT DISTANCE

BLACK CAT ROAD
STATE ROUTE 616





50 0 50 100 150

Graphic Scale: 1"= 50'

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BOYD TAVERN MARKET

CONCEPTUAL GRADING

Sheet 5 of 6

cemetery

APPROXIMATE LIMITS OF THE JOHNSON CEMETERY DB 483–341

ZONED: RA
ZONED: C-1

EXISTING VEGETATION TO REMAIN

EXISTING EVERGREEN & DECIDUOUS MIX

20' PARKING SETBACK AND BUFFER (NO CONSTRUCTION ACTIVITIES, INCLUDING CLEARING OR GRADING, PERMITTED)

50' BUILDING SETBACK

EXISTING VEGETATION TO REMAIN

DUMPSTER PAD

UNDERGROUND FUEL STORAGE BUFFER ZONE 100' SETBACK

BIOFILTER

9'X20' LOADING SPACE

EV CHARGING DOCK

EXISTING VEGETATION TO REMAIN

CRITICAL SLOPES

3–BOARD FENCE

10' PARKING SETBACK

CLEAR TREES WITHIN LIMITS OF RIGHT OF WAY AS REQUIRED FOR SIGHT DISTANCE

BLACK CAT ROAD
STATE ROUTE 616

40 44 48 52 56 60 452 456 460

50 0 50 100 150
Graphic Scale: 1"= 50'

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BOYD TAVERN MARKET

LANDSCAPE PLAN

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	Large shade trees at +/- 35' on center
	Large parking area trees
	Interspersed ornamental trees
	Screening evergreen trees
	Biofilter vegetation
	24-36" screening shrubs

50 0 50 100 150

Graphic Scale: 1"= 50'

TMP 94-39

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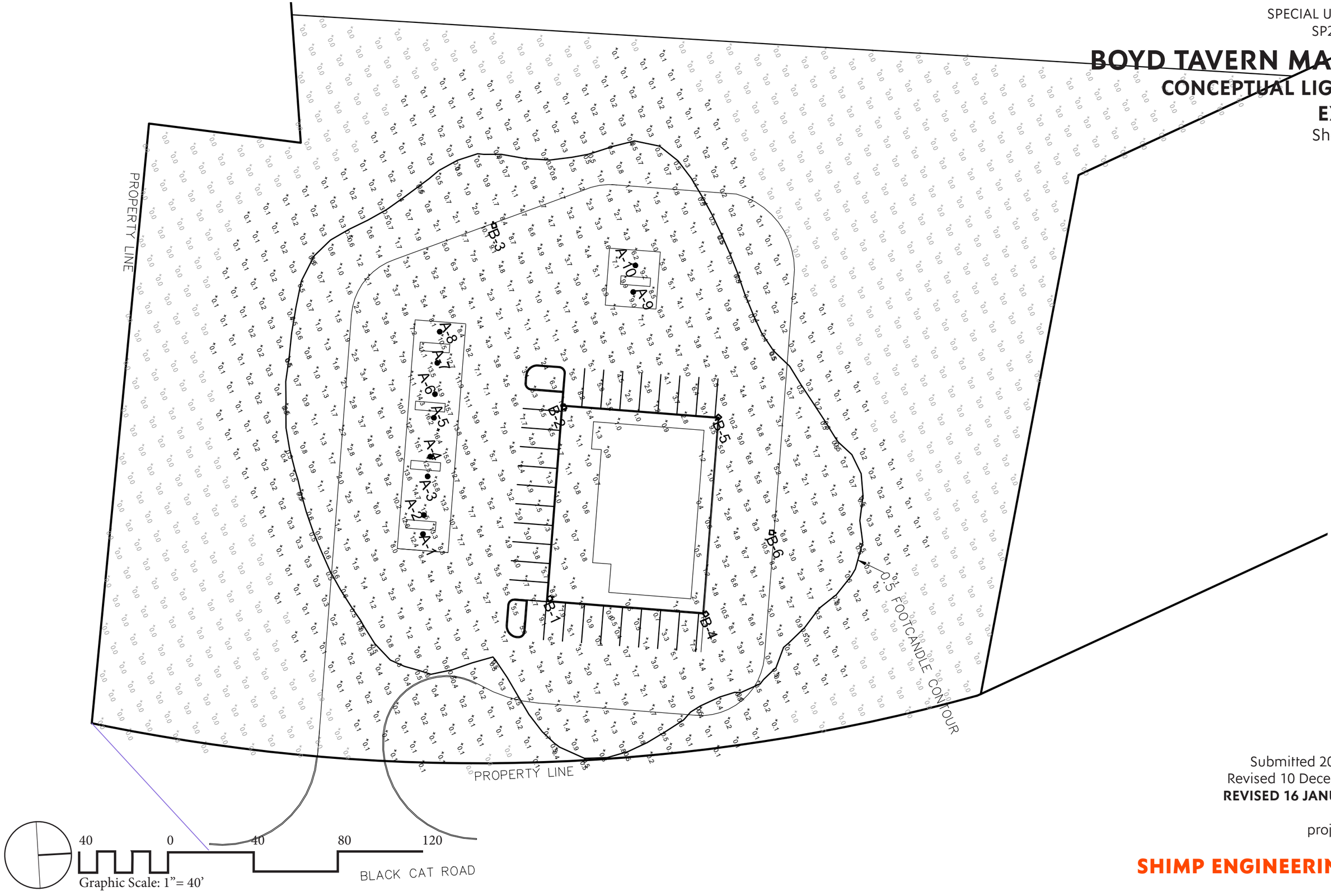
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SPECIAL USE PERMIT
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BOYD TAVERN MARKET

CONCEPTUAL LIGHTING EXHIBIT

Sheet 1 of 1



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SPECIAL USE PERMIT

ARCHITECTURAL DESIGN DETAILS GUIDELINES

SP201900006

BOYD TAVERN MARKET

TMP 94-39

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Context Map

Sheet 1 of 5



Image provided by Google Maps

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3 - Precedent Projects: Culpeper Shell
4 - Precedent Projects: Market at Mill Creek
5 - Market at Boyd Tavern Elevations

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ARCHITECTURAL DESIGN DETAILS GUIDELINES
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BOYD TAVERN MARKET

PRECEDENT PROJECTS:
CULPEPER SHELL

Sheet 2 of 5

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ARCHITECTURAL DESIGN DETAILS GUIDELINES
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BOYD TAVERN MARKET

PRECEDENT PROJECTS:
CULPEPER SHELL

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BOYD TAVERN MARKET

PRECEDENT PROJECTS:
MARKET AT MILL CREEK

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ARCHITECTURAL DESIGN DETAILS GUIDELINES
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BOYD TAVERN MARKET

ELEVATIONS

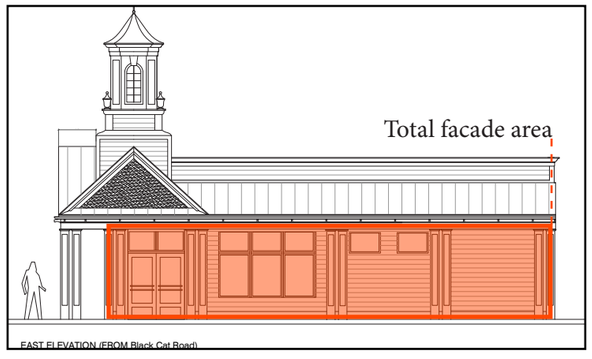
Sheet 5 of 5



SOUTH ELEVATION (Traveling north on Black Cat Road)



EAST ELEVATION (FROM Black Cat Road)



Window Transparency:
The convenience store shall have a facade with a porch facing Black Cat Road (State Road 616). This facade shall feature a minimum of 25% transparency. Please see diagram to the left for facade transparency calculation.

TMP 94-39

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REVISED 16 JANUARY 2020

project: 16.007

SHIMP ENGINEERING, P.C.

Boyd Tavern Market
TMP 94-39
Tier 3 Groundwater Assessment
Groundwater Management Plan

Prepared for:

Shimp Engineering, P.C.
Charlottesville, VA

Draft submitted March 31, 2017
Modified in response to comments May 4, 2018

Nick H. Evans PhD CPG
Virginia Groundwater LLC
PO Box 1424
Charlottesville VA 22902

nick@virginiagroundwater.com

434-466-1280

Key Findings

Hydrogeologic setting: Located in gently rolling topography in eastern Albemarle County, the property is underlain by about 45 feet of soils and saprolite, and fractured mica schist and metagraywacke bedrock. The parcel is at the crest of a low divide between the Middle Rivanna and Mechunk drainages, about 1000 feet east of the Mountain Run fault zone.

Groundwater availability: Favorable.

Are hydrogeologic conditions favorable to proposed use? Yes.

Contamination threats on record within 2000 feet of parcel? None.

Additional contaminant threats observed in field reconnaissance? None.

Anticipated impacts of proposed use on existing users of groundwater:

None.

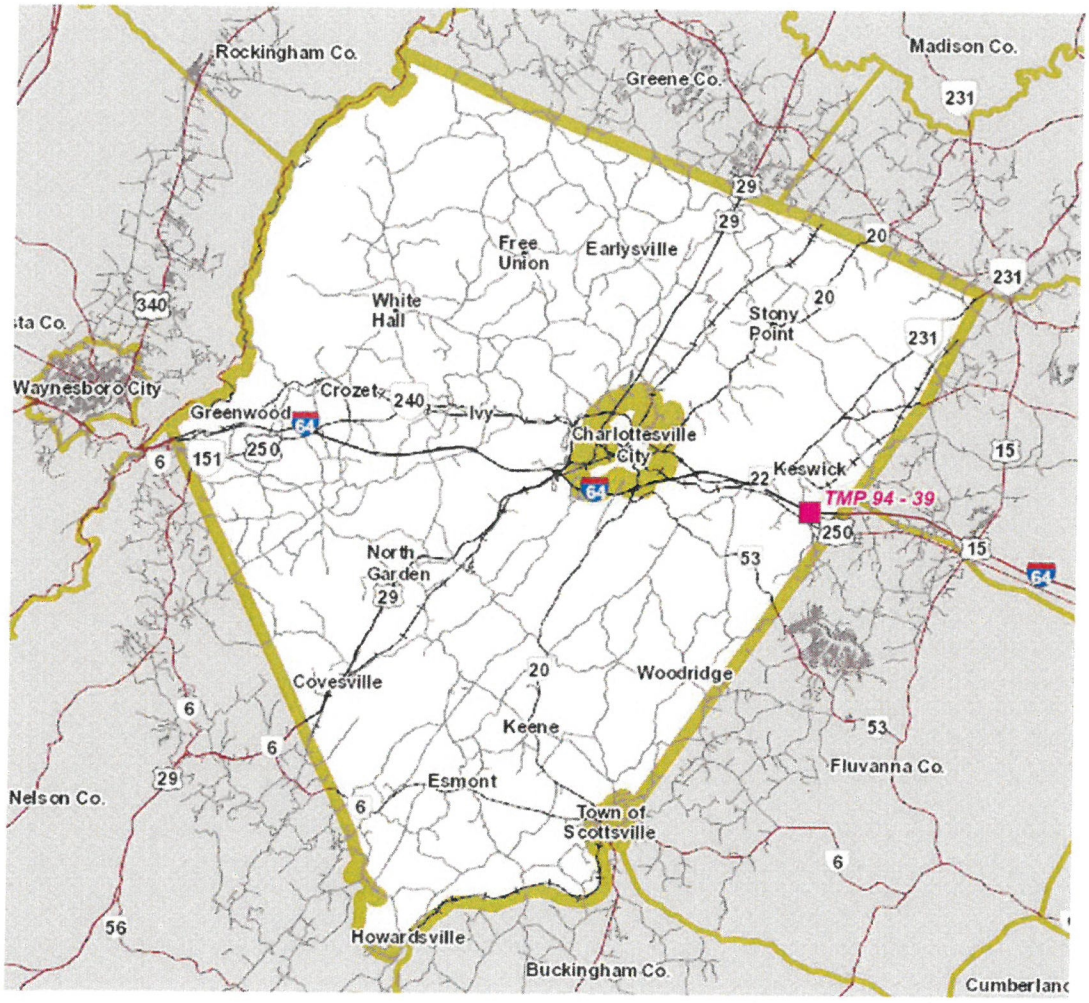
Groundwater management plan:

Implement runoff-neutral development to the extent possible.

Project Overview

The proposed development is a convenience store to be located on Black Cat Road (Rt. 616) immediately southwest of Interstate 64 interchange 129, in eastern Albemarle County (Figure 1).

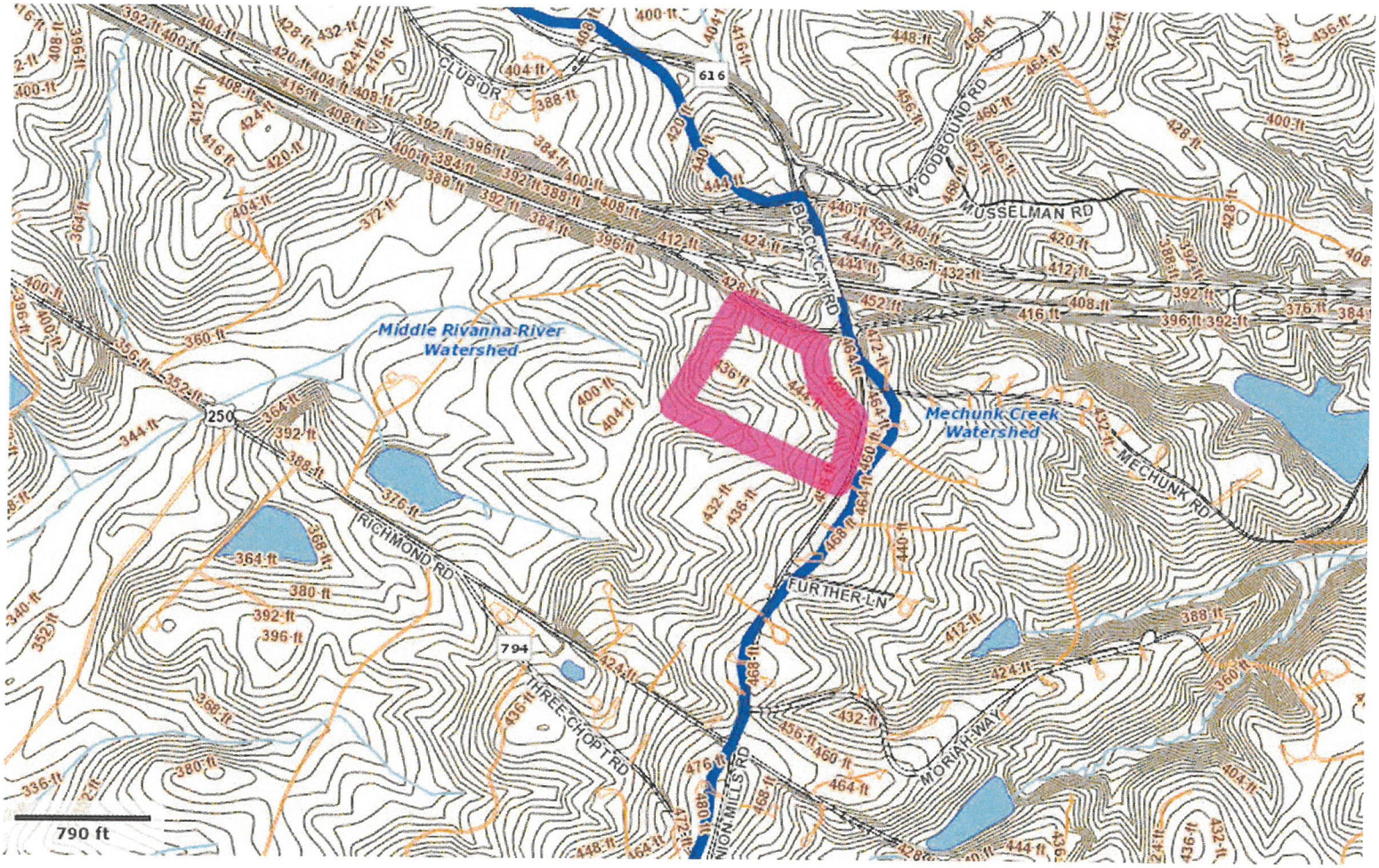
Figure 1



The parcel includes 12.486 acres located on a drainage divide between the Middle Rivanna River and Mechunk Creek drainages (Figure 2). The parcel slopes gently westward, with elevations ranging between about 420 and 460 feet above sea level. Existing land cover on the parcel is mixed forest in the eastern portion and open field in the remainder. Surrounding land use is a mix of small lot residential, farmland and forest. A site plan showing the proposed development layout and approximate land disturbance is attached to this report.

Projected average daily water consumption for the facility, based on historical records of water usage in a similar facility operated by the applicant, is 800 gallons. Wastewater will be disposed of through an on-site drainfield. There is no existing well on the parcel.

Figure 2: Watershed boundaries and topography, TMP 94-39

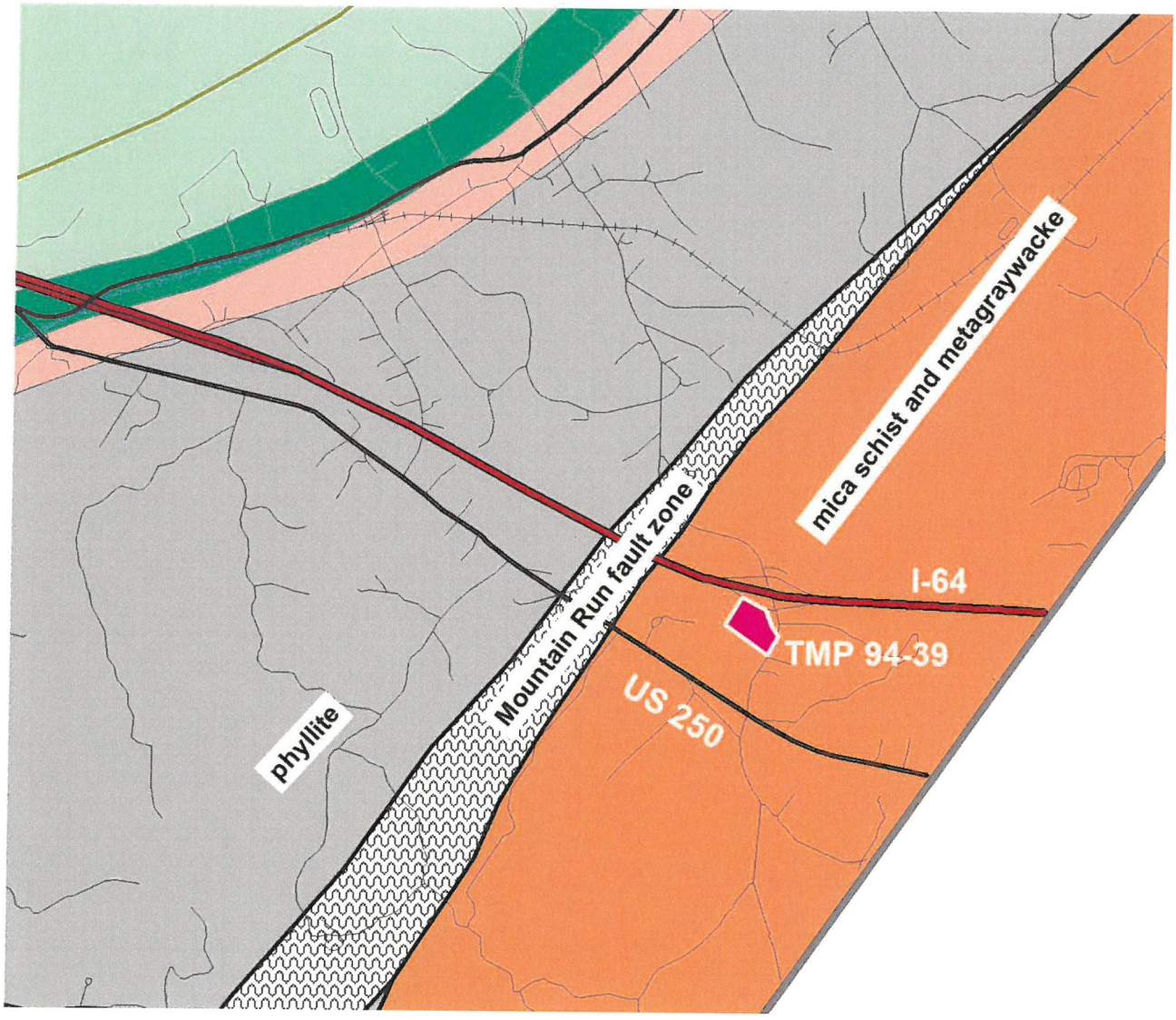


Hydrogeologic Assessment

Bedrock geology, fracture density and water well productivity

The parcel is located a few hundred feet east of a regional geologic structure known as the Mountain Run fault zone. This zone of fractured bedrock rock including limestone juxtaposes mica phyllite to the west against schist and metagraywacke to the east. Bedrock on the parcel includes schist and metagraywacke which are likely to be heavily fractured due to proximity to the fault (Figure 3). No bedrock exposures were observed on the parcel during field reconnaissance.

Figure 3 : Bedrock geology in the vicinity of TMP 94-39 (adapted from the 1993 Virginia Geologic Map)

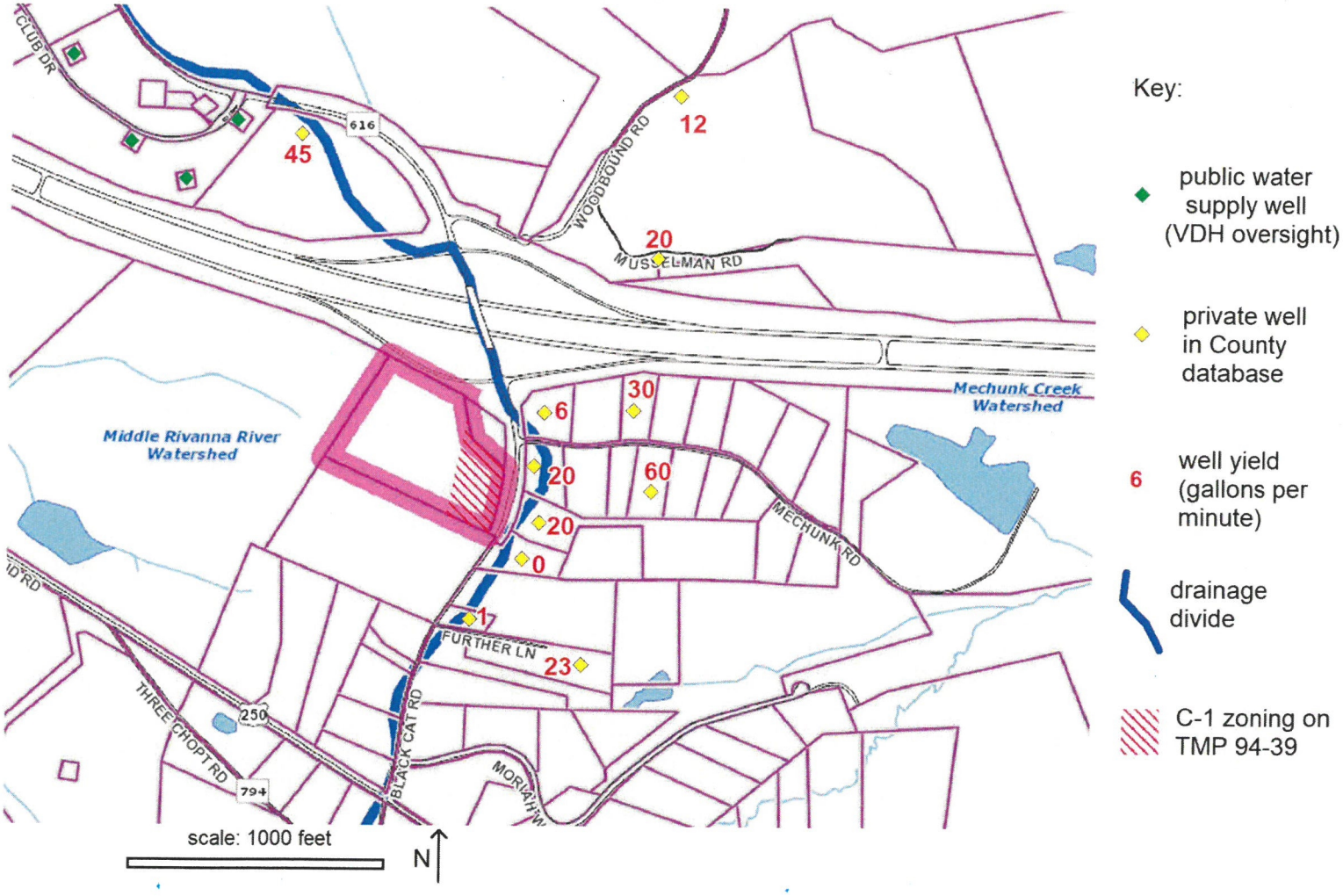


In the absence of good bedrock exposures with which to directly observe bedrock fractures, the yields of randomly-sited water wells can be used as a proxy for fracture density. Table 1 (below) summarizes data from 290 wells in the County database that were constructed in the same bedrock formation as underlies this property. The average yield of this group of wells is 7.7 GPM (gallons per minute), which is low to moderate relative to average yields from other geologic formations in the county. (Note that dry holes or "zero" GPM wells are under reported in the database).

Geologic map unit	yield (gallons per minute)	total well depth (feet)	casing length (feet)	count
CZpm (mica schist and metagraywacke)	average: 7.7 maximum: 75	average: 179 maximum: 630	average: 50.4 maximum: 322	290

There are 11 domestic wells in the database and 4 public water supply wells within 2000 feet of the property (Figure 4). The average yield of the 11 nearby domestic wells is 21.5 GPM. This is almost 3 times the overall county-wide average for wells drilled in this geologic formation. The greater yields are likely due to increased bedrock fracture density in proximity to the Mountain Run fault.

Figure 4: Existing water wells and known yields in the vicinity of TMP 94-39

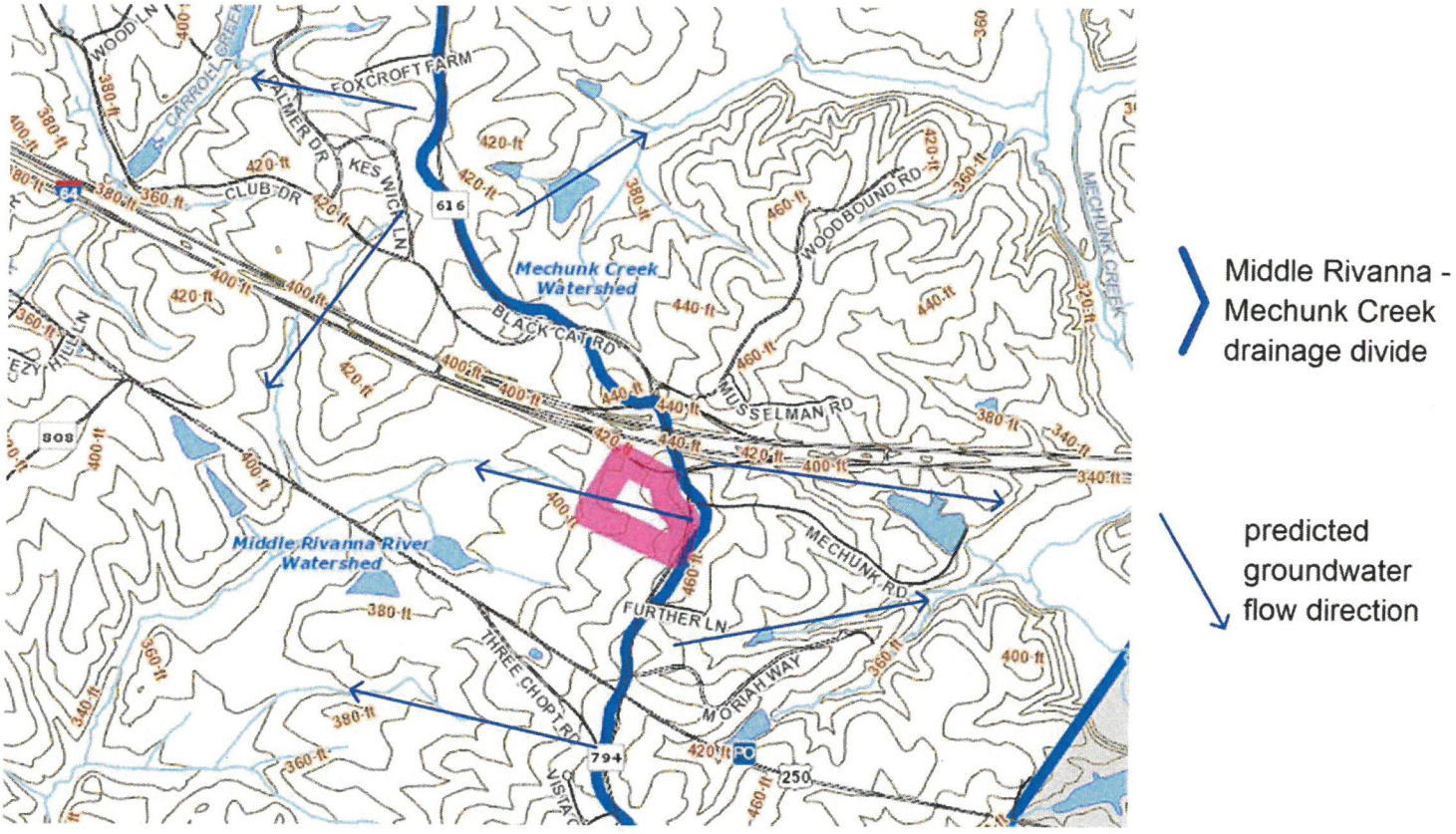


Groundwater recharge and flow paths

Groundwater recharge and flow in the Virginia Piedmont begins at the surface where rainwater soaks into soils, saprolite and weathered rock. The groundwater percolates downward to enter fractures in the underlying bedrock. At shallow levels, recharge and flow direction are influenced by both topography and the thickness and character of soils and saprolite.

The proposed site is positioned on the western flank of a local drainage divide, with the divide almost coinciding with the eastern margin of the parcel (Figure 5). Because there is no adjoining land topographically above the parcel, the parcel does not receive hydraulically-driven shallow recharge from off-site.

Figure 5: Drainage divide and predicted shallow groundwater flow paths in the vicinity of TMP 94-39



On the basis of surface topography, shallow-level groundwater flow on the parcel is predicted to be westward, toward discharge into Limestone Creek.

USDA soils mapping shows the parcel contains Nason and Tatum soils (Figure 6). These are classified as well-drained and moderately permeable, meaning they serve as a favorable sponge to soak up rainwater and feed it downward to recharge bedrock fractures.

Figure 6: USDA soils mapping (Nason 62B, 62C; Tatum, 80B)



Casing lengths are a good indicator of the thickness of the soil and saprolite "sponge". The average length of casing reported for the 11 nearby domestic wells in the County database is 43 feet. This represents a significant volume for potential groundwater storage on the parcel.

At deeper levels, below the soil-saprolite "sponge", groundwater in bedrock fracture networks on the parcel would potentially receive recharge from off-site, including possible connection with the highly productive fractured rock aquifer associated with the Mountain Run fault zone. Overall natural flow at deeper levels is likely southwestward, driven by a regional gradient toward discharge into the Rivanna River (2.5 miles southwest of the site).

Water budget estimate

It is instructive to review the proposed use of water relative to the amount of water available to the C-1 zoned portion of TMP 94-39 (3.28 acres; Figure 4) from natural recharge.

Annual regional precipitation: **44 inches**

Conservative estimate for the percentage of precipitation contributing to groundwater recharge, subtracting runoff and evapotranspiration: **15%**

Annual regional groundwater recharge: **6.6 inches**

Average regional daily groundwater recharge: .0181 inches = **.0015 feet**

Daily recharge per acre: .0015 feet X 43560 square feet per acre = **65.6 cubic feet recharge per acre**

Gallons recharge per day per acre: 65.6 cubic feet X 7.48 gallons per cubic foot = **491 gallons per day per acre**

Gallons per day recharge on C-1 zoned portion of parcel: 491 gallons per acre X 3.28 acres = **1610 gallons per day**

Gallons per day recharge to the parcel from off-site up-drainage lands: **0**

Predicted maximum daily groundwater withdrawal on site: **800 gallons.**

These numbers indicate that the proposed net use of groundwater is substantially less than naturally occurring recharge on the parcel. A significant portion of the groundwater withdrawn will be returned to the ground on site via the drainfield.

Potential for proposed use to affect existing users of groundwater

The proposed use of groundwater is unlikely to affect existing nearby domestic wells because 1) the proposed usage is substantially non-consumptive (most water pumped from the ground will be returned to the ground through an on-site drainfield); 2) the usage is very modest relative to available on-site recharge; and 3) the site is separated from nearby existing users of groundwater by a drainage divide.

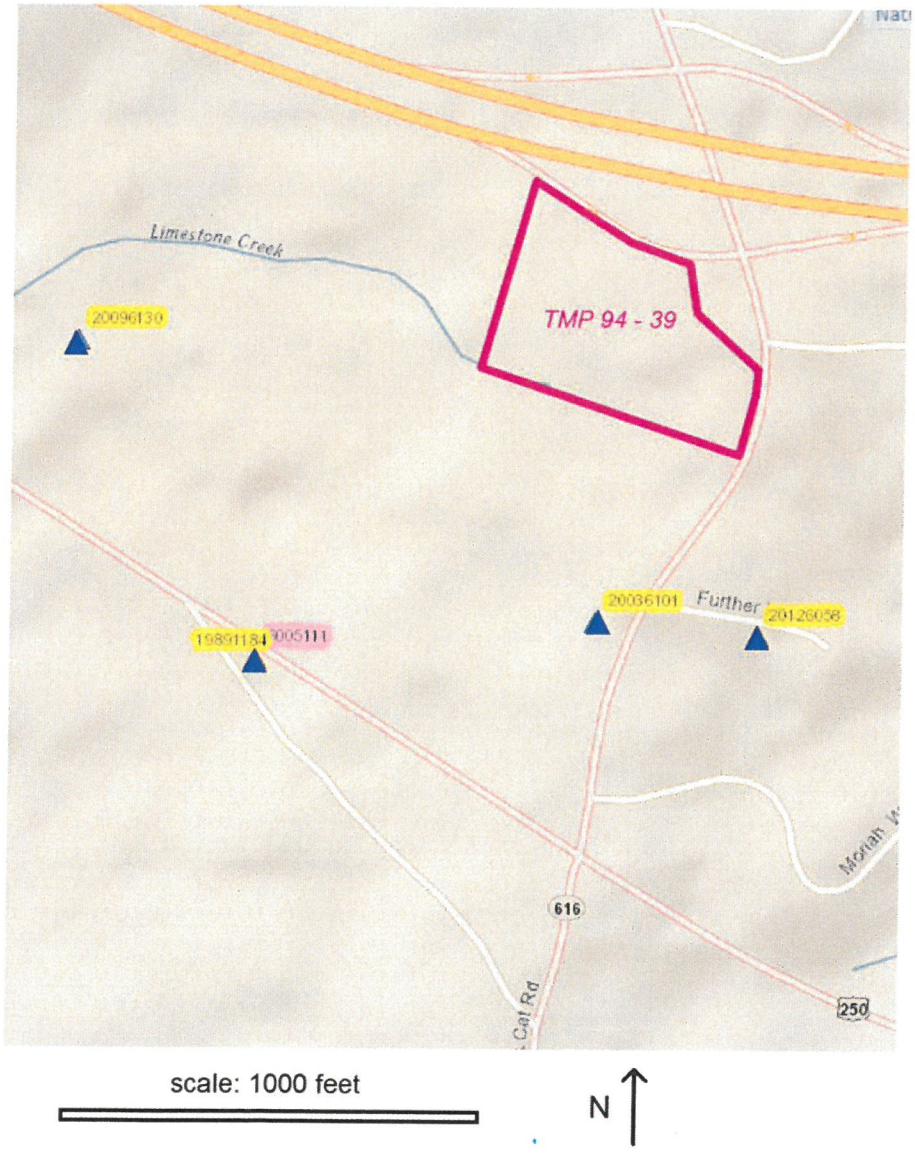
Significant quantities of groundwater are being withdrawn at the Keswick Hall community well field, about 1500 feet northwest of the site. It is very unlikely there will be interference between these wells and a future well on TMP 94-39 because 1) the proposed usage is very modest and substantially non-

consumptive; and 2) dominant recharge feeding the Keswick wells is predicted to be from the northeast, away from the parcel under study.

Contaminant threats

There are four documented petroleum releases on the current Virginia DEQ database within 2000 feet of the parcel (Figure 7). Each of these is listed as a "closed case", meaning remediation no further action is required. None poses a threat to TMP 94-39.

Figure 7: Contamination threats in the vicinity of TMP 94-39



Reserve wellfield

The C-1 zoned portion of the parcel is sufficiently large that there should be room to site a replacement well in the event of failure of the primary well.

Groundwater management plan

Implement runoff-neutral development to the extent possible.

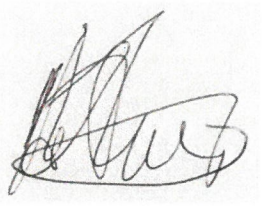
Attachment: Site Plan

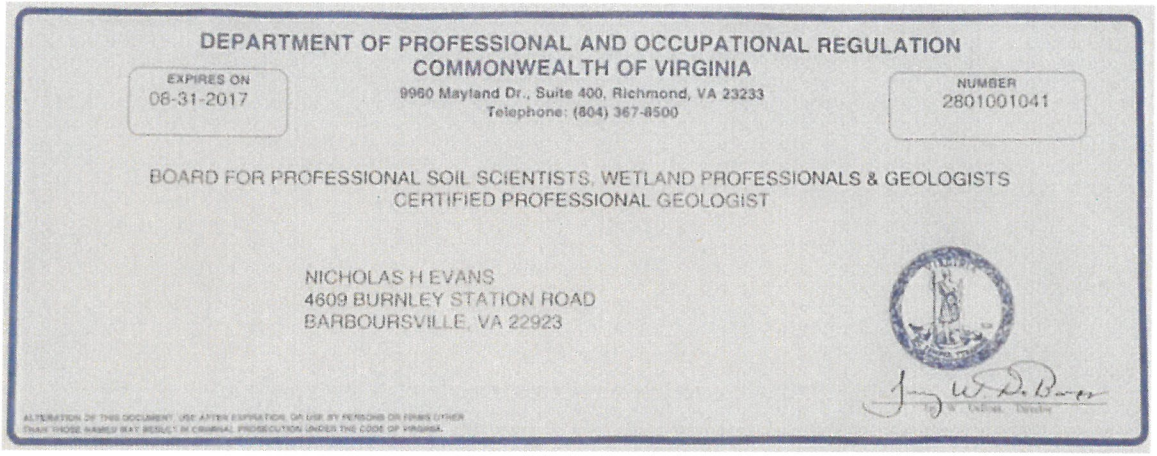
95-39 SP (2.6.17).PDF

Submitted by Nicholas H. Evans, CPG # 2801 001041

March 31, 2017

Updated in response to comments May 4, 2018





DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
08-31-2017

NUMBER
2801001041

BOARD FOR PROFESSIONAL SOIL SCIENTISTS, WETLAND PROFESSIONALS & GEOLOGISTS
CERTIFIED PROFESSIONAL GEOLOGIST

NICHOLAS H EVANS
4609 BURNLEY STATION ROAD
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05-22-19 VORCAC SPECIAL MEETING: SP201900006 BOYD TAVERN

- Special Meeting outside normal CAC meeting on May 22, 2019, to serve as the community meeting for SP2019-6 Boyd Tavern (lead reviewer = Tori Kanellopoulos)
  - East Rivanna Fire Station, 7 PM
- County Staff in attendance: Tori Kanellopoulos
- Applicant: Justin Shimp, Kelsey Schlein, Tiger Fuel representatives
- PC/Board: Pam Riley and Rick Randolph

SUMMARY OF APPLICANT'S PRESENTATION

- Convenience store not served by public water (SP Application)
- Tiger Fuel market; like Bellair or Mill Creek
- No desire to be 24 hour/7 days a week
- No service to large trucks
- Pay employees well and have good benefits
- Tiger Fuel has become central meeting spot in other locations
  - Get milk and bread and get a coffee and meet up
- Worked with AHIP in Keswick area (good neighbors)
- If you have an issue with something at Tiger Fuel – like people hanging out you find undesirable or a light you don't like – you get to talk to Tiger Fuel owner
- If no Tiger Fuel, you lose a local business and leave yourself open to an outside developer or a large development

MEETING NOTES (comments are from community members unless otherwise noted)

- CAC member concerned about being open 24 hours/day and how that affects water/sewer (applicant says won't be open 24/7)
- What will the hours be?
  - Tiger Fuel rep: Open to discussion. Most others are 6 AM – 10 PM.
  - Community: This is a rural area and enjoy rural viewshed. Concerned about lighting issues and hours.
  - Tiger Fuel rep: There have been advancements done for lighting and technology is better. Willing to work with community on it.
  - Justin: County has lighting ordinance.
- More info on what will look like?
  - Tiger Fuel rep: Provide contact info and will send pics and architectural drawings. There will be a deli, coolers with drinks, coffee bar, beer and wine
- Are any other Tiger Fuel locations not served by public water? There have been issues in this area with water.
  - Tiger Fuel: Locust Grove (Fredericksburg) not served by public water. Has had a professional study water: fault line down Black Cat Road; aquifer is plentiful and separate from the Mechunk side of the road. All water used goes back into that aquifer (unlike a brewery).
- Who owns?
  - Tiger Fuel: We have a ground lease.
- How does water go back into aquifer? Would like more info on geology and replenishing aquifer.
  - Tiger Fuel: Goes back in through drainfields.
  - Justin: Stormwater catchment as well. Drainfield has full recharge. Also recharge from rain. The use of Tiger Fuel is about two houses. Not a significant volume. Brewery would use far more water and would be by-right on the RA portion.

- What about droughts? Two years ago were in middle of severe drought. Then don't have rain replenishment. Many in community have had problems with wells. Not an adequate supply of water. This has a history of being a dry area.
- Even on other side of Black Cat Road, drainage not going to aquifer.
- How did you come up with gallons per day use?
  - Tiger Fuel: Based on other locations.
- Tiger Fuel: Business model is around serving local community, not on getting a bunch of interstate traffic. People will pull off at Zions Crossroads instead.
  - Community: People will pull off wherever they see a gas station. And the roads can't handle the traffic.
- Village of Rivanna and Boyd Market use city water.
  - Tiger Fuel: We can't get city water out there.
- Traffic is a huge issue. It's already very noisy and busy. The traffic has gotten much worse over time. It's an attractive area bringing people in. Like the market but not in this location. Developer has no control over traffic.
- People throw trash out the window on the local roads.
  - Tiger Fuel: We care more than other developers and we could help clean up. Other developers would not care as much.
- Concern people will bring drinks down the local roads and sit in their cars and drink and throw more trash out the windows.
- 12 fuel pumps is twice the size of the Bellair gas station. Big enough that expecting significant traffic – this doesn't seem like a little country store.
  - Tiger Fuel: Would consider scaling down number of pumps.
- Concerned about sightline. VDOT said would need to remove a lot of vegetation in order to have adequate sightline. Means would be a significant impact and attract many people.
  - Tiger Fuel: Would have screening per ARB requirements.
- Have Zion and Pantops – don't need this in this area.
- Many people like the company, but are concerned about it being located here specifically.
- What made you pick this particular location?
  - Tiger Fuel: Someone else had this site and wanted a much bigger gas station. Appealing to use because existing traffic on Black Cat Road. Only commercially – zoned parcel in the area which insulates from competition.
- What happens when you run out of water at that site? Also existing houses nearby have 2-3 wells.
  - Tiger Fuel: Existing well and aquifer and gallon/minute rate – don't use that much water and not concerned about running out. Willing to install restrictive device to limit how much water can pull out per day.
- What is the household equivalent?
  - Tiger Fuel: 2 homes. Been doing this for 30 years and know how much use. Willing use restrictive device to ensure. Newer stores have better technology.
  - Community: Households depend on household size. People in rural areas know they need to worry about their wells. Some slow like half a gallon a minute. People want more data on how this will work.
  - Justin: Better for the community to get the data after the County vets it and does an analysis.
- Seems like this is an ongoing process – data and applications keep being changed and going back to the County. This has already gone through the County multiple times and then being shot down and then coming back.
  - Justin: The ordinance got changed. Also, County Engineers would look into if this would deplete water supply and would tell Board if so, and Board would vote against it.

- Trying to change the character of the rural area. Will adversely affect property values out here. Not every exit was intended to be a development site. This isn't in the development areas, and isn't needed. County has no intention of bringing public water/sewer out here.
- Many of us were involved in Comp Plan years ago – designed to preserve the Rural Areas. This is a violation of what was promised us by the County. Changing rural nature of the area all the way from here to Zions Crossroads.
- Would prefer your store over something else coming in. Building is going to happen anyway.
- Who would enforce a water restricter? The County wouldn't enforce that.
    - Tiger Fuel: Already being used in Crozet. Can be deed-restricted.
- People go way too fast on Black Cat Road – 35 MPH would be safer than 45 MPH – has had a kid hit; dogs and horses killed. Businesses want these people and traffic. Can't stop large trucks from coming in.
    - Tiger Fuel: Large trucks wouldn't fit under canopy.

From: Pat Young <youngpc@comcast.net>
Sent: Tuesday, July 2, 2019 11:57 AM
To: Tori Kanellopoulos
Subject: RE: SP2019-6 Market at Boyd Tavern Review Comments

Tori, thank you for the updates. We all appreciate receiving them.

I did want to weigh in on this matter. I am totally, one hundred percent opposed to this gas station/market being located on 616, across from Mechunk Acres. I have lived on Mechunk Road for 31 years. I have never been afraid here. To my knowledge we have never had anything happen that meant the police needed to be called. If the gas station/market is located in the proposed location, that will all change. It will bring undesirables to the area at night; traffic on 616 will increase; tractor/trailer traffic will be a problem. This is definitely not the proper place for a gas station/market. We are rural, quiet, and SAFE now.

Please pass my comments along to the appropriate person.

Thank you,
Pat Young
4770 Mechunk Road

From: Jill Farrell <k9lcsw67@gmail.com>
Sent: Thursday, June 27, 2019 12:28 PM
To: Tori Kanellopoulos
Cc: Rob Farrell
Subject: Re: SP2019-6 Market at Boyd Tavern - Updates

Hello Tori-my name is Jill Farrell. I live on Mechunk Rd and am very oppossed to the proposed marketon Black Cat Road for the following reasons:

-The traffic on Black Cat Rd is already very heavy and it is often difficult to get out of our road. Increasing traffic will is likely to result in more congestion and delays.
-Traffic going to and leaving the market will require left turns into vey heavy traffic. The curves and lack of turn lanes will increase congestion and the likelihood of accidents.
-We love our night sky in this rural area. The lights required by this project will intrude upon that benefit of living in a rural area.
-The risk of over use/depletion and contamination of our water supply from fuel run off.
-This project has 12 fuel pumps-that is more than is needed to serve members of our community, and will attract even more nonlocal traffic from 1-64.

Please feel free to call me if needed at 434-962-3599.

Jill H Farrell

Sent from my iPhone

From: gregdun@ntelos.net
Sent: Wednesday, June 26, 2019 11:26 AM
To: Tori Kanellopoulos
Cc: gregdun@ntelos.net; Pam Riley; 'Richard Randolph'
Subject: FW: excerpt from 10 2 2006 ARB minutes and minutes from 10 3 2006 PC meeting
Attachments: 2006_10_03_Planning_Commission_Minutes.pdf

Good Morning Tori: A recent statement from the applicant for the proposed gas station on Black Cat Road that it did not seek to draw traffic off Interstate 64 struck me as stretching credulity past its breaking point. The applicant clear-cut most of the trees on the property in 2006 during an earlier application so that its proposed gas station could be seen clearly from the interstate. The ARB was "shocked and very disappointed" by that action. *See*, below. So much so, that it sent Chuck Lebo(then an ARB member) to the Planning Commission to highlight this activity. Minutes of the Planning Commission meeting are attached. (I encourage you to read the comments from the public on this proposed gas station in the attached minutes). Clearly, the applicant wants to increase traffic on our country road from the interstate and burden our resources from the increased numbers of people using them.

On this point, in the recent appeal of the County's zoning determination to the Board of Zoning Appeals (AP201700003), the County noted that the applicant's engineer based his water consumption projections on an assumption that traffic would not increase due to the market, but properly noted and stated "of course, the proposed market would exist precisely to generate customer traffic. In other words, the success of the appellant's business depends on its engineer being wrong."

I mention these things because I know you have had limited exposure to this matter and my neighbors and I have been exposed to it far too long.

If you have any questions, please do not hesitate to let me know.

Best Regards,

Greg

From: Karen S Johnson <karen_07@yahoo.com>
Sent: Monday, June 24, 2019 11:46 AM
To: Tori Kanellopoulos
Cc: gregdun@ntelos.net
Subject: Re: SP2019-6 Market at Boyd Tavern - Updates

Tori,

Thanks you so much for putting this email together. I appreciate your hard work which makes this process so much easier for me.

My property joins the site of the proposed Market At Boyd Tavern. Because of that, I have the following concerns.

1. My biggest concern is the road safety. Rt 616 is already congested during the normal commute times and it is difficult for local residents to exit and enter their driveways and/or local streets. The location of the proposed site presents some major safety challenges for entering and exiting. It is difficult to impossible to see oncoming traffic because of how the road is laid out.

2. Our area has a history of a shortage of water access during drought conditions. Many of the wells are barely able to keep up with individual household use. This facility would put added stress on a system that is already pushed to the limits.

3. I am on the downhill side of the location and any "runoff" issues from petroleum products would affect me directly.

4. I value my access to the night time sky. Light pollution will be a significant issue for me because of my proximity to the location. We have put our property into a conservation easement to help preserve the rural character of the community. This addition will impact that character significantly and, I feel, it is unfair to those of us who have worked so hard to preserve it.

5. The community does not want to encourage traffic from off of the Interstate. It is difficult enough when there are accidents on I-64 and traffic must be re-routed to Rt 250. I truly believe that this is a "quality of life" issue and would ask that all involved please consider how they would feel if it were their community.

Thank you for allowing me to so easily express my concerns and know that they will be represented. I appreciate what you do for our community.

Best Regards,

Karen S Johnson
4460 Richmond Road
Keswick, VA 22947
(717) 319-2353

From: gregdun@ntelos.net
Sent: Friday, June 21, 2019 10:17 AM
To: Tori Kanellopoulos
Cc: gregdun@ntelos.net; Pam Riley
Subject: proposed gas station on Black Cat Road
Attachments: Tiger Fuel-Lease.pdf

Good Morning Tori: It was nice speaking with you yesterday. Pursuant to your request, attached please find a copy of the "Ground Lease" for the property on Black Cat Road(without exhibits). As you can see, this document provides that "Southcreek Investments, LLC" is the owner of the subject parcel. I have not performed a title search and have no independent knowledge of the chain of title at this time.

Paragraph 2 states that this lease "shall commence on the first day of the Commencement Month as defined in paragraph 5.B below." Paragraph 5.B states in bold letters "**this Lease shall commence the first day of the sixth month (herein "Commencement Month") following final site plan approval by all appropriate governmental and utility authorities…"** Thus, it would seem that this "lease" has not yet commenced and no one is paying any rent for this land pursuant to any lease. If you have any questions, or if I can be of further assistance to you, please do not hesitate to give me a call.

Best Regards,

Greg

Gregory S. Duncan, Esquire
222 Court Square
Charlottesville, Virginia 22902
(434) 979 8556

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From: gregdun@ntelos.net
Sent: Thursday, May 23, 2019 4:53 PM
To: Tori Kanellopoulos
Cc: gregdun@ntelos.net; Pam Riley
Subject: RE: Community Meeting for Special Use Permit for Boyd Tavern Application
Attachments: Shimp-Letter.pdf

Good Afternoon Tori,

Thank you for the link to the initial documents related to this application. Sorry I did not get the chance to speak with you after last evening's community meeting. One of the first things I would like to mention is the amount of water to be used by this ill-conceived project. The applicant stated that it estimated it would use approximately 800 gallons of water per day. That is exponentially more than our area can stand for any extended length of time. Worse, however, is the fact that the applicant directly contradicts this estimate. On July 21, 2017, in an earlier discussion with the County about this project, the applicant's engineer stated in a letter to Francis MacCall that "**the best available guidelines for estimating water usage come from the Department of Health and EPA.**" A copy of this letter is attached. *Id*., p. 1. This letter stated that the proposed gas station would have 14 seats for people to eat. *Id.* at p. 2. The Regulations are attached to the letter. While the applicant desires that its development be judged under the "Restaurants, per seat" category, clearly, the more appropriate category is "Interstate or through highway restaurants, per seat." *See*, attachment at p. 5. Under this state regulation, the proposed gas station/restaurant will consume 2,520 gallons of water per day, before the water used by the applicant's employees is added in. (14 X 180=2,520). This is the result dictated by "**the best available guidelines**."

Kindly give this to Mr. Padalino when he returns from vacation. If you have any questions, please do not hesitate to let me know.

Best Regards,

Greg

A Perspective on the Proposed Boyd Tavern Market



Sheetz Station at Zions Crossroads Showing Same Number of Pumps as Planned for the Boyd Tavern Market
Is this the Future of Boyd Tavern?

By Dr. Hays Blaine Lantz, Jr.
4640 Vista Ct.
Troy, Virginia
540-624-9109
hayslantz@gmail.com

June, 2019
Revised January, 2020

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Please note: Parts of this document were drafted in response to the original Special Use Permit and appear in regular type. *Type which appears in italics builds upon my original SUP response and is largely based upon the revised SUP.*

Abstract

The Boyd Tavern Market proposed by Tiger Fuel is a combination gasoline/convenience store/fast food restaurant consisting of a one-story building of 3,739 square feet, along with twelve gasoline pumps, and additional areas for eating outdoors and parking. This venture has created much concern and consternation among residents of the Boyd Tavern community, as it would significantly and forever alter the rural environment of the community by bringing much increased volume of traffic, particularly off Interstate 64 at the 129-mile marker, along with noise and light pollution. Traffic would be routed off I-64 onto Black Cat Road, a narrow two-lane country road that already serves as a heavily traveled commuter route for people living in the far eastern part of Albemarle County and adjoining Fluvanna County. It is well documented historically and scientifically this hydrogeologic area of Albemarle County has issues of groundwater resources as it has produced many dry wells or wells of low water yields, which have been a challenge for residents of the Boyd Tavern community. The Bellair and Mill Creek Markets used by Tiger Fuel for comparative and predictive purposes for traffic patterns and water usage do not serve as comparable situations as neither is an interstate market, and both are located miles from I-64. The Boyd Tavern Market would be only 0.1 miles from the interstate, and therefore is clearly an interstate market. Currently, a Special Use Permit (SUP) application, dated May 20, 2019, has been submitted for review by Albemarle County staff planners.

Additional Response to Revised SUP Revision Dated December 10, 2019

Observations/Inferences: The revised SUP states the building will be less than 4,000 square feet with five gasoline pumps and 10 nozzles. There has been a reduction of one gasoline pump from the original application. The justification for this minimal reduction in the number of pumps (i.e. stations with less than three pumps go out of business) is based upon speculation and little more, with no statistical or objective correlation.

The overall footprint of the building and site have changed little. The location of pumps, parking, lighting, and the building itself have been revised, but the overall original design is still there. For example, there are no reductions in the size of dining areas, food preparation and serving areas, number of tables, allotted parking spaces, or in the number of restrooms and associated plumbing fixtures. Traffic flow will largely be unaltered to and from the two-lane Black Cat Road and water consumption will unlikely be reduced from the original, but still largely unsubstantiated and elusive estimate of 800 gpd. The applicants are now projecting daily water usage of 644 gallons. This number keeps changing with no substantial data/evidence to support any such projection. The increased volume of traffic with resultant noise, lighting, security, trash, etc. are still largely unaddressed. Route 250 and Black Cat Road are already gridlocked during commuting hours.

The two sites (Mill Creek and Belair), which had been used before for comparative purposes in the original SUP, are not been included in the revised SUP. Why? Perhaps the applicant was well aware neither was an appropriate and/or comparable interstate location and thus had received much criticism for these choices; or could it simply be the data from the new site at Ruckersville are more favorable?

Nevertheless, the Market at Ruckersville, which has been open for less than six months and is served by dual lane highways, is now the new site used for water consumption and traffic comparisons. ***It should be noted these current comparative data for water usage are for four months only and do not include the heavily traveled summer months.***

In the project narrative, there are two largely unsubstantiated and misleading quotes. The first of which, "A Tiger Fuel Market at this location would serve a portion of the county that is heavily traveled but largely underserved with appropriate services for the area." Another quote is, "It also should be noted that many of the stations provided as examples with two or three gasoline dispensers continue to go out of business and undergo change of ownership." Neither of these is backed with any objective analyses or data and are a matter of opinion.

To justify the five pumps proposed for the Boyd Tavern Market, two stations are cited in the revised SUP as being in the rural areas of the county and having four and five gasoline pumps – the Exxon at Louisa Road and route 250 three miles east of Charlottesville, and the BP off exit 107 in the Crozet area. Anyone travelling these two locations would not think of them as being rural, as both are heavily traveled by all types of vehicles, including 18-wheel tractor trailers, and are served by dual lane and/or multiple lane highways. The rush hour congestion at the intersection of routes 22 (Louisa Road) and 250 at the Exxon are well documented. Just ask the residents of Glenmore! To use these two sites as examples of rural stations is indeed a stretch. If these are great examples of rural stations with the number of pumps projected for the Boyd Tavern Market, then why are not their water usage data used as well, instead of a newly established market in Ruckersville?

Questions: Why is the 5th Street Market, which is owned and operated by Tiger Fuel, still not used for comparison data, as it is clearly an interstate -based location with years of usage data? Why is the proposed Boyd Tavern Market still not classified as an interstate- based station? Why is the Sheetz Station at Zions Crossroads still not used as a comparable situation, as it is comparable in footprint and support facilities? How can this part of Albemarle County be underserved when there are six gasoline and/or fast food establishments within 5-6 miles either way of the proposed market? If this part of the County is already heavily traveled with commuter traffic, why add to the congestion? If local traffic consists of an average of 8300 vehicles each day, where are the numbers for how much more I-64 traffic will add to this congestion? Where are the statistical correlations or other objective analyses that stations with only two or three gasoline dispensers continue to go out of business? Are there not just as many other plausible variables which could account for and correlate to businesses changing ownership, other than the number of gasoline pumps?

Introduction

From the time I first learned of the proposed Boyd Tavern Market by Tiger Fuel, I have become quite interested in the project as I live about 0.5 miles from the market site, just off Union Mills Road in Keswick Farms, and drive by the site almost daily. I have attended a number of meetings dating back to 2017 and have read everything I could find related to this endeavor. My background is in

biology/environmental science with degrees from James Madison University and a doctorate from the University of Virginia. I do not pretend to be a hydrogeologist, but I do understand basic relationships and interactions of soil types, fault zones, water filtration/movement, surface water, ground water, aquifers, water quality, and general hydrology as they relate to environmental science and biodiversity. I have asked questions at meetings, emailed Shimp Engineering, and have sought to gain a better understanding of the project. I either get no answer, or generalized, nebulous, and evasive answers, which is frustrating when I would like details. I do not believe the applicant has been forthcoming with information, as was most evident during the recent community meeting on May 22, 2019, which was conducted at the East Rivanna Community Firehouse. After a brief talk by the President of Tiger Fuel extolling the virtues of the company, two visuals were shown with little to no explanation and then it was opened to questions. I had emailed Shimp Engineering (Kelsey Schlein) about one week prior to the Community meeting with a series of questions and received a reply about twenty-five minutes before the meeting convened, which gave me no time to digest her response and/or formulate additional comments and questions. Later in the week I followed up with additional email questions to Ms. Schlein, which centered mostly on the comparative data Tiger Fuel used from the Mill Creek and Bellair Markets and not the 5th Street Market; these data were used to calculate projected water usage at the Boyd Tavern Market. To date I have received no acknowledgment or response to this last email.

As a greatly concerned citizen and potential neighbor to this project, I wanted to register my observations and inferences, as well as related analyses and syntheses for **opposing this project**. I am in no way opposed to business and industry, and am not anti-growth, as my family members and I have worked in construction, banking, medicine, education, retail, finance, and entrepreneurship. In fact, my propane is supplied by Tiger Fuel. **The biggest problem I have with this Boyd Tavern Market is simply location. I cannot think of a worse location for an interstate market than this site for the reasons I will detail below.** I have no problem with another site that is better suited for the volume of traffic and drain on groundwater resources this project will bring.

Comparative Situations

Tiger Fuel representatives have often touted their experience with interstate-based gasoline/convenience store/fast food restaurants. Yet, none of the locations cited by them for their comparative and predictive data are located near an interstate, nor on a two-lane highway that already serves as a heavily traveled commuter route. The Bellair Market (2 miles from interstate I-64) and Mill Creek Market (3 miles from interstate I-64), which are often cited by them as interstate markets, are served by multilane highways, and are considerable distances off the interstate. In addition, there is no signage that would direct interstate travelers to either of these markets. In fact, if you did not know of the location of these two Markets, they would be difficult to find. I have visited both markets on a number of occasions over the past several years and the volume of traffic is nothing like what I see at interstate stations, such as their 5th Street Market or the Sheetz station at Zion Crossroads. The majority of customers I encounter at both Bellair and Mill Creek consist of local residents. However, online reviews of their 5th Street Market reveal things such as “the station is easy to get to from the interstate” and “it is usually a very busy station.” Why is this location not used for comparative purposes? In my

opinion, neither the Mill Creek nor Bellair Market location serves as a positive or equivalent correlation. **Therefore, data extrapolated from these two Markets do not serve as a reliable or creditable foundation for interstate market/convenience store/fast food restaurant comparisons.**

Additional Response to Revised SUP Revision Dated December 10, 2019

Observations: The Market at Ruckersville is now the site used for water consumption comparisons. It is a new location with little history of usage. Four months of water usage reveal a mean of 644 GPD, with no details of where on the premises (i.e. restrooms, dining, food preparation, etc.) this water was consumed. These current comparative data for this new site consist of four months only and do not include the heavily traveled summer months, nor is this an interstate-based location. In conversations with employees of both the 5th Street Market and the Sheetz station at Zions Crossroads, they readily acknowledge that much of their traffic and business consists of interstate travelers, often comprised of families who are heavy consumers of water in restroom facilities, food preparation, and drinking fountains. Little to no mention of the impact that interstate traffic will have on the Boyd Tavern Market appears in the revised SUP proposal.

Questions: Why is the 5th Street Market still not used for comparison data, as it is clearly an interstate -based location, as is the proposed Boyd Tavern Market? Why is not the Sheetz station at Zions Crossroads a comparable situation?

Location, Location, Location

The proposed Boyd Tavern Market would be the only commercial enterprise of note at mile marker 129 off I-64 exit, and is only 0.1 miles off the interstate exit. This exit routes traffic onto Black Cat Road, which is a narrow two-lane highway that already serves a large number of commuters and local traffic each day. Additionally, a review of the site plan reveals the entrance to the Boyd Tavern Market would be on a blind curve. The traffic light at the intersection of routes 250 and Black Cat Road/Union Mills Road is often backed up 20-30 vehicles deep during the morning commuter traffic (7-9:00 am) and often extends back past the entrance to Keswick Farms. During the evening commute (4-6:00 pm) the traffic is often equally backed up in the opposite direction off the interstate exit. Noise levels along Union Mills Road and Black Cat Road are greatly elevated during the commuter rush hours. However, if one were to travel this route in the middle of the day they might be deceived as the volume of traffic then does not begin to mirror rush hour traffic. I travel this intersection often as it is my access to I-64 and route 250. So, this is an actual observation and not an inference. The president of Tiger Fuel stated during the May 22, 2019 community meeting the market would not service large diesel trucks, recreational vehicles, trailers, and other similar vehicles. How does he propose to stop them? Once on the two-lane Black Cat Road with a blind curve entrance/exit, where will these large vehicles turn around? A comparably situated interstate station/market (Sheetz) at the Zion Crossroads exit, with a comparable number of twelve gasoline pumps, is highly congested throughout most days with such vehicles. For example, on Tuesday June 4, 2019, I witnessed six large RV's and trailers at the gasoline pumps at Sheetz (more details on this later). How these large vehicles would navigate and turn on an already busy two-lane highway is going to be a significant challenge. The Sheetz station is

serviced by a multilane highway (four lanes). **Traffic congestion on Black Cat Road and Union Mills will be a major issue.** I have attached recent video of the Sheetz station at Zion Crossroads, which I believe to be a comparable situation, that clearly demonstrates and reinforces this traffic congestion issue.

Additional Response to Revised SUP Revision Dated December 10, 2019

Inference: Signage placed on Interstate 64 would clearly indicate the location of both an eating and gasoline facility at mile marker 129.

Questions: How will Tiger Fuel control the flow of traffic from the interstate, which will certainly contain large 18-wheel tractor trailers, RV's, travel trailers with tow-vehicles, box trucks, farm equipment and other similar vehicles? How much will traffic be impacted with such vehicles attempting to turn left out of the Market to get back to I-64? Does Tiger Fuel plan to propose the installation of a traffic light at this site, which will only add to traffic congestion?

The Boyd Tavern Community

The Boyd Tavern Market would reside in a residential community, with surrounding homes on multiple sides. This is freely acknowledged by Tiger Fuel in their May 20, 2019 Shimp Engineering application document in which they also call the proposed Market a "community gathering place." As I am sure Tiger Fuel knows at this juncture, the Boyd Tavern community does not perceive this as a community gathering place, but rather sees it as a community disrupter. Mr. Greg Duncan, Esquire has over one hundred local signatures on a petition requesting this project be denied. The impact of interstate traffic on this "community gathering place" is in no way acknowledged or explained by Tiger Fuel. Obviously, the location of this Boyd Tavern Market is designed as a draw for interstate traffic. Greatly increased volume of traffic along with associated noise and light pollution will be introduced into this quiet neighborhood for much of the day and night. When asked at the May 22, 2019 Community Meeting whether Tiger Fuel would consider closing this market at dark, the answer was a resounding NO. Hours would extend to at least ten o'clock pm, according to the president of Tiger Fuel. The Tiger Fuel Markets at 5th Street and Mill Creek are open 24 hours, and Bellair is open until 11:00 pm. These adjacent families will never know any peace or quiet again, and I cannot imagine anyone wanting to purchase these properties in the future. So, these home/property values will necessarily be devalued because of the Boyd Tavern Market. The Markets at Bellair, Mill Creek, and 5th Street Station are all located in commercial zones with many other businesses nearby, with residential housing being some distance removed. If one wants to change quickly the rural environment of the Boyd Tavern community, then this Market will accomplish that. **The communities of Boyd Tavern and other Tiger Fuel Market locations are NOT comparable.**

Additional Response to Revised SUP Revision Dated December 10, 2019

Observation: Tiger Fuel has proposed the hours of operation to be 5:00 am to 11:00 pm (18 hours daily for seven days per week). Intermittent noise levels of 80-90 decibels and beyond can be

anticipated, along with much increased lighting. None of the sites used for comparisons are located in residential communities.

Inference: Signage placed on Interstate 64 would clearly indicate the location of both an eating and gasoline facility at mile marker 129.

Questions: When will nearby homeowners ever escape the increased noise and lighting issues just from increased traffic alone? How will the increased volume of traffic be handled without causing hazardous situations?

Availability of Water Resources

The issue of water consumption in a historically water-challenged geographic/hydrogeologic area is a serious concern. **The 800 gallons maximum daily consumption rate as proposed by Tiger Fuel appears to be based upon a questionable methodology and data set; to be unsubstantiated and even contradicted by their own existing correspondence and data; is in direct contradiction to other reputable sources; and is never adequately addressed other than "we have experience in this area and water consumption will be about 800 gallons per day**." Exactly what kind of number is the 800 gallons per day? How was it calculated? Is it a mean (an average)? If so what is the time period, and what is the variance or standard deviation as water consumption in such an enterprise must vary widely throughout the year? How does this compare to the 5th Street Market location? Or Sheetz at Zion Crossroads?

The graph of water usage on page 2 of the Shimp Engineering letter dated July 21, 2017 to Mr. MacCall is at best nebulous and seems to show water consumption rarely ever drops to 800 gallons per day during any month at Bellair or Mill Creek. Most days are 900 gallons and more. In fact, in the letter Justin Shimp states, "To examine the accuracy of the 900 gpd for Boyd Tavern Market, we have reviewed usage data for the Mill Creek and the Market at Bellair." The next paragraph contains, "Since the toilet replacements, water usage has stayed below 1,000 gpd for Mill Creek, versus the 1,100 gpd predicted by the standard calculations, and has only surpassed 1,000 gpd six times at Bellair, with a maximum of 1,107 gpd, significantly under the 1,350 gpd estimated." These data are from the years 2013-2016. Where did the 800 gpd metric then come from? What would more current data on water usage show? And why are these current data not presented? Why is the 5th Street Market data never used for comparisons and correlations, as it is clearly an interstate location (0.15 miles from interstate)? Why is the Sheetz station at Zion Crossroads never used as a correlation? It is similarly located just one exit east off the interstate, is comparable in its footprint, and is configured with a similar number of pumps, restroom facilities, seating capacity, convenience store, and restaurant.

Additional Response to Revised SUP Revision Dated December 10, 2019

Inferences: It is more than obvious that data from the Market at Ruckersville were used for the new comparison as these data are more favorable for Tiger Fuel. Signage placed on Interstate 64 would

clearly indicate the location of both an eating and gasoline facility at mile marker 129 and attract a greatly increased volume of traffic.

Questions: How are the data from the Market in Ruckersville applicable and/or reliable for projecting water usage at an interstate-based site? Why are these statistically unsupported and uncorrelated data used? What exactly is the anticipated water usage, as this number seems to be elusive and nebulous at best? When will nearby homeowners ever escape the increased noise and lighting issues just from increased traffic alone?

Shimp Engineering Letter of July 21, 2017

Additionally, the Shimp Engineering letter to Mr. Francis MacCall dated July 21, 2017, stated, "The best available guidelines for estimating water usage come from the Virginia Department of Health and the EPA." A Virginia Department of Health guidelines chart was attached to the letter (12 VAC 5-590, Waterworks Regulations). The chart showed that an Interstate or through highway restaurant water usage would be based upon the number of seats provided for patrons for dining. The proposed Boyd Tavern Market would have fourteen seats. Each seat would be allotted 180 gallons of water usage daily, based upon the Virginia Department of Health guidelines. This would result in 2520 gallons (14 seats X 180 gallons = 2520) of water being used daily just for this purpose alone. This greatly exceeds and contradicts the projections from Tiger Fuel by at least a factor of 3. Additionally, the July 21, 2017 letter contained the statemen, "The applicant shall install and maintain a tamper proof, flow restriction device limiting water flow to no more than 1,312 gpd." Why then is the projected maximum daily consumption projected to be only 800 gallons? **Why does the applicant contradict their own conclusions by claiming they have experience with interstate markets, and clearly the proposed Boyd Tavern Market is an interstate location, yet they want to use standard restaurant guidelines of water consumption, and not those of interstate or through restaurant/highway per seat? Additionally, Virginia Department of Health guidelines stipulate an allowance of 10 gpd of water per vehicle served for service stations. This number is never factored into the 800 gpd metric anywhere.**

Evans Report

Dr. Nick Evans of Virginia Groundwater LLC was commissioned to prepare a report for Tiger Fuel which was subsequently entitled *Boyd Tavern Market, TMP 94-39, Tier 3 Ground Water Assessment, Groundwater Management Plan* (dated March 31, 2017, Modified May 4, 2018). In his report Dr. Evans' **findings were predicated entirely upon the premise that a maximum of 800 gallons of water would be consumed daily by the Market and consequently he built his entire report and key findings around this metric.** Would his key findings change if indeed the Boyd Tavern Market were to use 2,520 gallons of water daily as projected by other sources? The Evans report is primarily a restatement of that which has already been documented in more comprehensive studies conducted earlier by the Virginia State Water Control Board and DEQ (Sterrett and Hinkle, 1980; White, 2019) and previous investigations by Cross (1960) and Dekay (1972). Evans did not include any bibliography or cite any of these studies. Why not when the well yield data from these

studies are much more inclusive and comprehensive? Seven hundred sixty-one (761) wells are included in the Sterrett and Hinkle study. Evans includes eleven (11) domestic wells and four (4) public water wells located within 2000 feet of the property. He goes on to state, "The greater yields are likely due to increased bedrock fracture density in the Mountain Run fault." He also commented there were no observable fissures or fractures on the proposed Boyd Tavern Market site. The fifteen wells cited in his report are at lower elevations, are mostly located on the opposite side (east) of the drainage divide, and are located often in draws and flats, which are more conducive to water production. How about the wells of lesser yield in this same area? Why were they not included? Are they due to the same fault zone? Why were well yield data included in the Evans report for the Everona limestone formation (a highly productive water source at some distance to the west of the Boyd Tavern Market), when the proposed market would be situated above a different underlying bedrock structure?

Studies of Groundwater Resources

In December 2017, another study was published by the Timmons Group *Water and Wastewater Facilities Plan for Keswick Hall and Golf Club*. In the Timmons study the following was stated, "There are two geologic formations located in the Keswick area. A majority of the Keswick property is underlain by the Loudoun Formation, also known as the Chandler Formation, which does not contain prolific subsurface anomalies conducive to high groundwater yields." The proposed Boyd Tavern Market would be located in the Chandler Formation.

Among the findings/conclusions in the Sterrett and Hinkle study were (1). "Wells developed in the metasedimentary rocks in the eastern part of the county offer the lowest ground water potential. **Over half the wells produce less than 5 gallons per minute and water bearing fractures are not encountered deeper than 100 feet**." Fifty-four percent (54%) of wells drilled in the Boyd Tavern area of Albemarle County have historically produced less than a flow of five gallons per minute, and of these many produced flows of three (3) gallons per minute or less. (2) The belts underlying this portion of the county have significantly lower ground water potential than the remainder of Albemarle County. To date, no test wells have been drilled on the Boyd Tavern Market site that could be used for predictive purposes. Dr. Evans cites the Mountain Run Fault Zone and its proximity to the proposed Market. However, "The permeability of fault zones impacts diverse geological processes such as hydrocarbon migration, hydrothermal fluid circulation, and regional groundwater flow, yet how fault zones affect groundwater flow at a regional scale (1–10 km) is highly uncertain (Malgrange and Gleeson, 2014)."

According to Evans, summary data were examined from 290 wells in the County database that were constructed in the same bedrock formation as underlies the property. The average yield of these wells is 7.7 GPM (gallon per minute), which is low to moderate relative to average yields from other geologic formations in the county. He went on to further state that dry holes or zero GPM wells are under reported in the database. A nearby facility Virginia Department of Highways shows two wells on their site with yields of 1 and 8 gallons per minute respectively (Sterrett and Hinkle, 1980). Why were these data not included in the Evans report? or the data from residents along Mechunk Road, who have reported yields of 0-5 gpm? Having spoken to many neighbors who live near this proposed facility and

who have wells with low flow rates, the availability of water is a major concern for them for opposing the Boyd Tavern Market. One neighbor on Mechunk Road had to have two wells fracked just to get a flow of water, and even then, it was in the 1-5 gpm range. The bedrock associated with the aquifer underlying the proposed site is labeled as cpcl (abbreviation used to indicate geologic age of a water bearing unit – aquifer) and historically cpcl locations have very low yields countywide (Sterrett and Hinkle, 1980). Numerous wells in cpcl formations were reported as dry wells. My well and others along Fox Hunt Drive in Keswick Farms fall into this cpcl category! Without any exploratory wells, Tiger Fuel has no idea of the potential of groundwater resources underlying the property.

Current Database of Well Yields in Boyd Tavern Area

Mr. Brad White of the Virginia Department of Environmental Quality and Manager of the Groundwater Characterization Program recently provided a current database of water yield of one hundred eighty-seven (187) wells, all located within two miles of the proposed Market. All were located in similar bedrock formations. Eighteen of the wells were reported as dry wells. The mean for water yield for these 187 wells was 6.12 gpm. One hundred fourteen (114) of the wells in this database had yields of 5 gpm or less. The standard deviation for these 187 wells was 8.458, indicating rather high variance, which was largely due to five outliers above 40 gpm.

Additional Response to Revised SUP Revision Dated December 10, 2019

Observations: Water usage data from the Market at Ruckersville were used for the new comparison as these data are more favorable for Tiger Fuel. When asked to weigh in on this subject of water usage for the Boyd Tavern Market, Mr. Josh Kirtley of the Virginia Department of Health commented in an email to Tori Kanellopoulos, "I do not believe it is VDH's role to comment as to the suitability of a proposed project with regards to potential groundwater impacts."

Questions: Why does the topic of the availability of ground water resources remain an elusive one? Why do the water demand numbers keep changing, as we have far different projections of usage in the two SUP applications and their associated studies?

Water Usage

How much water does the average person use at home per day? Estimates vary, but each person uses about 80-100 gallons of water per day. The largest use of household water is to flush the toilet, and after that, to take showers and baths. When both the internet sites for the United States Geologic Survey (USGS) and Environmental Protection Agency (EPA) estimate that a person uses 75 gallons of water per day and an average family 300 gallons per day, how can it be that a business that will draw hundreds of customers daily will only use 800 gallons? The president of Tiger Fuel responding to my questions about this during the May 22, 2019 community meeting, stated, "all water used by the facility will go back into the drain field and then be returned to the aquifer." Anyone familiar with the hydrologic cycle knows this is certainly not the case. Dr. Evans stated in his review that only about 15% of annual precipitation would contribute to groundwater recharge. This would amount to about 6.6

inches annually. And he went on to state water from the drain field would return to the aquifer. But he never states how much and seems to contradict his own projection. Because of the topology of the site being the highest point around, "there would be little hydraulically-driven recharge from off-site." This would imply the drain field for the Market by the force of gravity would feed downhill and off-site, and the source of groundwater for the facility would come from adjoining properties. Because of the topography of the site being the highest point in the area, wells drilled in similar situations have had poor yields and had to be drilled deep (Sterrett and Hinkle, 1980).

Comparative and/or Predictive Data

For several years I have observed the operation at the Sheetz location at Zion Crossroads during my shopping forays in that area. I am one interstate exit removed from this location. More recently, my observations are based upon the belief this location and business model are very similar to what is being proposed for the Boyd Tavern Market and therefore would give me a realistic assessment of traffic patterns and water consumption. There are those who will argue this Sheetz station is not comparable to what is being proposed as it is surrounded by many other businesses that attract consumers. But, this is true also of Bellair, Mill Creek, and 5th Street Market locations as well. It is also true there are three other comparable gasoline/convenience stores/fast food restaurants at the Zion Crossroads exit. And obviously, they dilute the volume of traffic to Sheetz. Additionally, it has been my observation the bulk of the Sheetz traffic is interstate traffic, as upon exiting the Sheetz station the vast majority of vehicles return to Route 15 south, toward I-64. It is generally acknowledged interstate travelers are heavy users of restroom facilities, and the data below reinforce that. Employees at Sheetz have supported this inference as well. **This Sheetz interstate location is certainly a better match than either the Bellair or Mill Creek Markets.**

I began to collect data on the number of vehicles serviced at the gasoline pumps, along with the number of large recreational vehicles and trailers, and the number of people using the restroom facilities during timed five-minute intervals at this Sheetz location. I purchase gasoline at this Sheetz location and often use the facilities and travel here for shopping at various times of the day and night, and average 3-4 trips each week typically to Sheetz, Lowes, Walmart, and nearby restaurants. It is during these times I have observed and collected these data. I purposely avoided data collection at peak hours of 7-9:00 am and 4-6:00 pm, as the Sheetz website showed these hours to be their peak business hours, and I certainly did not want to skew the data and/or be accused of cherry-picking data. Many online reviews by customers centered on how busy the location was and the lack of cleanliness of the restrooms.

The methodology I used was to record the date and time, and to count every passenger vehicle, and separately large recreational vehicles and trailers, that filled up with gasoline and left, or were at a pump, or were in-line at the end of this five-minute interval. Often, vehicles were lined up two-deep at a single pump at the end of the five minutes. I recorded also the total number of individuals who entered a restroom, with the assumption they used urinals and/or commodes, as well as sinks for

washing hands. Based upon water consumption for these restroom facilities only, I calculate conservatively that each person would use 1.5 gallons of water per restroom visit.

The time period for my observations and data collection was from March to June 2019. The majority of the observations were during daylight hours between 9:00 am and 3:00 pm. Based upon a total of twenty (20) five-minute observations to this date, the mean for vehicles serviced was 22.38 per five minutes and the standard deviation was 7.37. The mean for the number of persons entering a restroom per five minutes was 23.55. And the standard deviation was 8.03. Based upon these calculations, the following conclusions can be extrapolated:

1. For every sampled five-minute interval, 35.32 gallons of water were used just for restroom facilities (23.55 persons x 1.5 gallons of water usage).
2. For every sampled five-minute interval 22.38 vehicles (both recreational and passenger vehicles) were either serviced, or at a pump, or in-line for gasoline.
3. **Similar observations and data have been gleaned from the 5th Street Market.**

Unanswered Questions

1. How will Tiger Fuel address congestion issues on a two-lane highway that is already quite busy?
2. How will large recreational vehicles, trailers, and similar vehicles be stopped from using the I-64, 129 Exit, as Tiger Fuel states they will not be serviced at this Market?
3. What will be the hours of operation?
4. Will it be open twenty-four hours as are many of Tiger Fuel Markets?
5. Does Tiger Fuel plan to request a traffic light at this location?
6. How will light and noise levels be minimized and controlled?
7. Who will monitor trespassing after hours?
8. Who will collect litter that is bound to accumulate near the station?
9. Where did the 800 gpd metric come from and how exactly was it calculated?
10. Is the 800 gpd estimate a realistic one, given the proposed Boyd Tavern Market is clearly an interstate Market?
11. Why were water consumption data not used from the 5th Street Market or Sheetz for comparative purposes, rather than the Bellair or Mill Creek locations?
12. How large a water storage tank do they proposed to install?
13. Recharging the aquifer is mentioned in the Evans report, but there are no attempts to quantify it. Where is a more detailed explanation of the projected volume of this recharge?
14. Why was the Evans study based upon an 800 gpd consumption metric only?
15. Why were well yield data included in the Evans report for the Everona limestone formation (a highly productive water source to the west of the Boyd Tavern Market), when the proposed market would be situated above a different underlying bedrock structure?
16. Why were not more well yield data included in the Evans report when the data clearly were available?

17. How many wells does Tiger Fuel plan to drill on the property to get the water yield they will need?
18. How will water usage data be collected and reported for the Boyd Tavern Market if the SUP is approved?
19. In light of the volume of traffic and water consumption at the Sheetz station, just one interstate exit removed, how reasonable is it to project only 800 gallons of daily water usage for the Boyd Tavern Market?
20. How much would the water consumption and traffic increase for the Sheetz station at exit 273, if it were not for the fact there are three other comparable gasoline/convenience stores/fast food restaurants at that same interstate location to absorb some of the traffic?
21. Is Tiger Fuel prepared to compensate landowners for wells that fail as a result of the water demands of the Market?
22. Is Tiger Fuel prepared to install a tamper-proof cutoff valve/device once the water usage reaches the 800 gpd level or the lesser amount cited at the Ruckersville location?

Conclusions

For the reasons and support cited above, the proposed Boyd Tavern Market is simply in the wrong location. Increased traffic congestion, noise, lighting, and water consumption are unacceptable to the Boyd Tavern Community, who will bear the brunt of this ill-conceived project. The revised SUP does little to address the primary issues of greatly increased traffic with associated noise, lighting, security, and water usage. To refer to this proposed location in glowing language such as a "community gathering place to have a cup of coffee in an underserved area" does little to minimize the many concerns and, in fact, merely further adds fuel to the debate. The residents of the surrounding community feel this is nothing more than a profit-driven enterprise with little regard to how it will impact the environment, groundwater resources, its neighbors, or the surrounding community.

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SUMMARY OF COMMENTS RECEIVED VIA PHONE CALLS

Phone call with Resident #1 on 06-20-19

- Concerned about traffic and safety. Road busy and difficult to turn out of already. Concerned about kids waiting for the bus and their safety
- Not the right location for this proposal. The scale of Boyd Tavern (existing) is much more appropriate
- Will change the character of the neighborhood and cause detriment to neighbors

Voicemail from Resident #2 on 06-20-19

- Lives on Mechunk Road
- Expressing opposition to this proposal

Voicemail from Resident #3 on 06-20-19

- Neighbor in the area
- Greatly opposed to the proposal
- Thinks will be very detrimental to the area

Phone call with Resident #1 on 01-13-20

- Continue to be opposed to project even with resubmittal
- Not a single change has helped
- Gas station would change character of neighborhood
- Nothing would make gas station ok with Comp Plan – no tourist stop
- No one approves of it in nearby area
- Horses next to gas station – lights bad at night; farm has horses at corner
- Old Boyd Tavern only had 3 pumps w/ one nozzle each – real country store; reopening again
- 6 mins from Pantops and Zion Crossroads
- Many other uses on property instead
- Applicant knows this is rural area