

OLD BLACKSBURG HIGH SCHOOL PLANNED RESIDENTIAL DEVELOPMENT

Rezoning Application & Preliminary Master Plan
Blacksburg, Virginia
April 30, 2019
Revised August 23, 2019



Prepared For:

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Attachments

(Under Separate Covers)

1. Rezoning Application (Provided in Original)
2. Traffic Impact Analysis (Provided 7/23/19)
3. Stormwater Management Concept Plan (Provided in Original, no revisions)
4. Pre-Submittal Meeting Minutes, Dated March 28, 2019 (Provided in Original)

**PROFFER STATEMENT FOR THE APPLICATION OF
OLD BLACKSBURG HIGH SCHOOL PLANNED RESIDENTIAL DISTRICT REZONING
DATED: August 23, 2019**

Pursuant to Section 15.2-2298 of the Code of Virginia (1950) as amended, and Section 1160 of the Town of Blacksburg Zoning Ordinance, Town Code Appendix A, HS Development LLC., Owner, hereby voluntarily proffer that the property which is the subject of this Application will be developed in accordance with the following conditions if, and only if, the rezoning request submitted herewith is granted with only those conditions agreed to by the Owner. In the event this request is denied or approved with conditions not agreed to by the Owner, these proffers shall immediately be null and void and of no further force or effect. The Owner, its successors and assigns, voluntarily proffer for the property as follows:

1. The Owner will develop the property in substantial conformance with the Old Blacksburg High School Planned Residential District Preliminary Master Plan (the "Application") prepared by Parker Design Group, Inc. of Roanoke, Virginia & Communita Atelier LLC of Seattle, Washington, dated 23 August 2019 or as amended.
2. No purpose-built student housing design with four-bedroom, four bath parity is allowed. Four-bedroom or three-bedroom units with three and a half (3.5) or fewer baths may be constructed notwithstanding what is depicted and stated in the Application.
3. The Owner shall reserve, after construction completion of all the dwelling units within Area 2, as described in the Preliminary Master Plan, any excess stormwater nutrient removal credits generated by the stormwater management system serving the residential development on Area 2, for future developments within Area 1 as described in the Preliminary Master Plan, pursuant to § 62.1-44.15:35 of the Code of Virginia.
4. No more than 100 dwelling units shall be constructed within Area 2.
5. Exposed exterior walls (above finished grade) for residential dwellings shall consist of brick, stone, cultured stone, cementitious siding (e.g., Hardiplank or equivalent), engineered siding (e.g., LP Smartside or equivalent), high-grade vinyl siding (a minimum of .042" nominal thickness as evidenced by manufacturer's printed literature), shake siding or PVC in gables, or a combination of the foregoing; provided, however, a minimum of 25% masonry materials. Vinyl windows, trim and molding may be used. Alternate materials may be allowed if requested by Owner and specifically approved by the Director of Planning upon a demonstration by Owner that such materials are of equivalent quality, function or manufacturer to those specifically enumerated above.

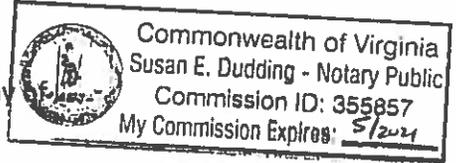
6. Prior to or concurrent with the final approval of the initial site plan and/or subdivision for Area 2, a document setting forth covenants (the "Covenants") shall be recorded in the Clerk's Office of the Circuit Court of Montgomery County, Virginia (the "County") setting forth controls on the development and maintenance of Area 2 and establishing an owners' association (the "Association"). The Association shall establish uniform rules related to the standards for approval by the Association of improvements within Area 2, including, but not limited to, construction of any dwelling units.
7. All residential units in the Planned Residential District (excluding transfers by the developer to related and/or subsidiary entities) shall be part of the "Association," which must adopt the following rules and regulations prior to the sale of any residential units and maintain them after units are sold:
 - (1) All purchasers shall be required to represent to the seller in an affidavit, at the time of purchase that they are not acquiring the property primarily for investment purposes or as a "rental property."
 - (2) In the event that a residential unit is rented, a standard residential lease form must be used and the names of all tenants and contact information must be provided in the application and executed lease. The lease shall be filed with the "Association" prior to tenant occupancy.
 - (3) Leases shall be for a minimum term of twelve (12) months, and no residence may be individually leased by the bedroom.
 - (4) Leases shall provide that sub-leasing requires permission from the Owner of the unit.
 - (5) All leases must contain a clause notifying the tenants of the obligations to abide by all covenants and bylaws, as well as the occupancy limitations established by the "Application".
8. The "Association" shall not adopt any covenants or bylaws prohibiting Owners from installing rooftop solar collection devices.

The undersigned hereby warrants that all of the owners of a legal interest in the subject property have signed this proffer statement, that they have full authority to bind the property to these conditions, and that the proffers are entered into voluntarily.

[Signature]
David L Hagan, Managing Member
HS Development LLC

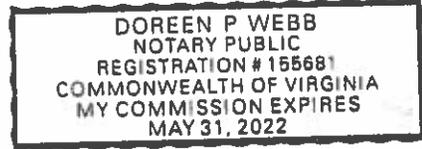
Commonwealth of Virginia
County of Montgomery

The foregoing instrument was acknowledged before me this 23rd day of August, 2019, by David L. Hagan of HS Development LLC.



[Signature] My commission expires: 5/2021
Notary Public

[Signature]
Jeanne H Stosser, Partner
HS Development LLC



Commonwealth of Virginia
County of Montgomery

The foregoing instrument was acknowledged before me this 23rd day of August, 2019, by Doreen P. Webb of _____.

[Signature] My commission expires: 5/31/2022
Notary Public

**PROFFER STATEMENT FOR THE APPLICATION OF
OLD BLACKSBURG HIGH SCHOOL PLANNED RESIDENTIAL DISTRICT REZONING
DATED: August 23, 2019**

EXHIBIT A

Proffer #1: The Preliminary Master Plan and accompanying rezoning documents contain the details of the application. This proffer provides assurance to the Town that the project will be developed in accordance with these documents.

Proffer #2: Prohibiting four-bedroom, four-bath parity in units encourages long-term occupancy.

Proffer #3: Reserving stormwater nutrient removal credits will help facilitate future development of Civic uses and supporting public infrastructure within Area 1.

Proffer #4: The residential development density is limited in order to maintain that existing utility and infrastructure is adequate for the development.

Proffer #5: Providing for a diversity of materials enables the development to provide aesthetic variety and variety in price points to ensure a successful quality development.

Proffer #6: The establishment of a Homeowners Association will maintain and govern an acceptable appearance of the neighborhood and common spaces, provide means of refuse and recycling collection, and reduce homeowner maintenance.

Proffer #7: Establishing these HOA rules and regulations is intended to inhibit student occupancy.

Proffer #8: Allows for application of current VA Code §67-701 in perpetuity, and provides opportunity for energy conservation.

Section 1: Purpose and Justification

This application requests rezoning of Tax Map numbers [227- A 4], [TM 227-A 4C], and [TM 227-A 4D] from R-4 Low Density Residential to a Planned Residential District as amended by Ordinance 1863 adopted by the Town of Blacksburg on April 25, 2018.

The Planned Residential Development (PRD) for 520 Patrick Henry Drive, the site of the old Blacksburg High School, is proposed as a PRD to increase the allowable density for residential development while also provisioning for future civic developments on the property planned by the Town of Blacksburg, with the interest of also preserving existing civic uses and mature forest within the property.

Approximately 23.25-acres of the property will be sold to the Town of Blacksburg contingent on the "Agreement of Purchase and Sale" between HS Development LLC and the Town of Blacksburg, effective March 27, 2019. The PRD provisions for Civic uses and supporting public infrastructure, and conservation of approximately 6.87 acres of existing mature growth forest included within the property to be sold. The areas associated with the purchase agreement are defined as Areas 1 and 3 in Section 2.3 of this application. No developments are currently planned for Area 1 with the initial application. The Town of Blacksburg will be required to amend the PRD for any future land-use plans within Areas 1 or 3, subject to the review and public hearing process.

Situated between existing suburban neighborhoods and in close proximity of the Municipal Park Complex, the property is in an ideal location for a suburban townhome neighborhood that will contribute to the vibrancy of the surrounding community, fully supported by the existing recreational and community facilities. While a by-right development option was considered for the property, the benefits to the workforce and general population housing markets will be further realized with a higher density development as provided by a planned residential development, by allowing valuable civic facilities to continue to serve the community, preserving natural resources, and reducing homeowner maintenance. A by-right R-4 subdivision of the property would conceptually yield approximately 90 to 100 residential lots over the entire property, however, reduced lot sizes and building setbacks as permitted in a PRD provides opportunity for a similar quantity of townhomes while maintaining the existing recreational and forested areas. Overall, the proposed project will generate a suburban quality and atmosphere desirable to families that is able to blend in with the surrounding neighborhoods.

No adverse effects on public services or facilities in the Town of Blacksburg are anticipated as a result of this proposed rezoning and development. There will be an expected increase in the use of existing public transit and public utilities, however, all infrastructure will be designed and constructed to meet Town standards.

Section 2: Land Use Plan

2.1 Site Description

The site is comprised of three land parcels totaling 36.503-acres, with 2.630-acres of Parcel 2 divided by the Blacksburg and Montgomery County corporate limits which is not subject to the rezoning. The Town parcels are currently zoned R-4 Low Density Residential, and designated as Civic use on the Future Land Use Plan. The Montgomery County tax map is currently zoned R2 Residential. The site remains occupied by the old Blacksburg High School buildings, track and field area, softball field, baseball field, and basketball courts. The High School building was opened in 1974 and has been condemned since the gymnasium collapse in 2010. Ownership of the property was transferred from Montgomery County to HS Development LLC in 2017.

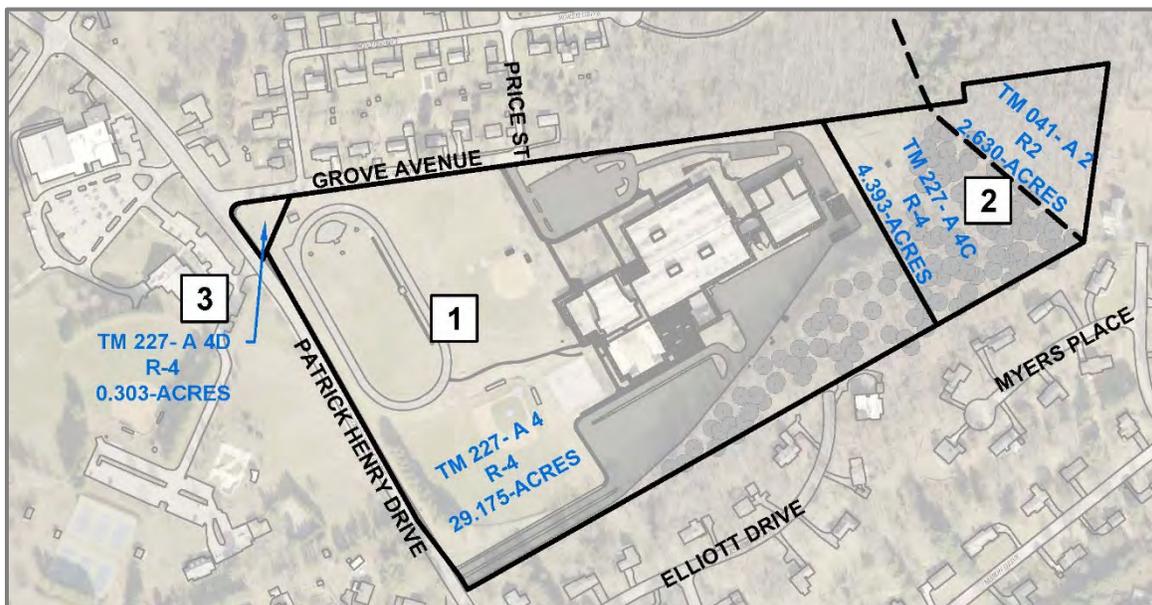


Figure 2.1: Existing Parcels; parcels are numbered as described in Section 2.2.

A Boundary and Physical Improvements survey was completed in March 2019 to facilitate development of the property. See Appendix A.1 for the boundary and topographic survey, and Existing Parcels Exhibit in Appendix C.1. The legal description for the property is provided in Section 2.2.

2.2 Legal Description

Parcel 1: All that certain parcel of land lying in the Town of Blacksburg, Mt. Tabor Magisterial District of Montgomery County, Virginia located on the east side of Patrick Henry Drive and bounded and described as follows: BEGINNING at an iron rod in the east line of Patrick Henry Drive, a corner to the now or formerly owned land of Apperson, Inc.; thence with eastern line Patrick Henry Drive; N 27° 39' 00" W 40.80 feet to an iron rod; N 34° 53' 00" W 184.05 feet to an iron rod; N 26° 50' 10" W 806.94 feet to a post, a corner to a parcel of land now or formerly owned by Town of Blacksburg; thence with a line of same N 26° 14' 30" E 170.15 feet to an iron rod in the South line of Grove Avenue; thence with the South line of Grove Avenue N 84° 31' 00" E 1396.40 feet to a stake; thence a new line with the now or formerly owned land of James M. Price, et als, S 26° 52' 00" E 622.83 feet to a stake in a line of the land of the now or formerly of Apperson, Inc.; thence with a line of same S 63° 07' 45" W 1410.58 feet to the BEGINNING, containing an area of 29.497 acres, more or less.

LESS AND EXCEPT the strip conveyed to the Town of Blacksburg along Grove Avenue described as Parcel "A" on the plat of survey entitled "Plat Prepared for Exchange of Property Between County School Board of Montgomery County and Town of Blacksburg", dated May 10, 1974 recorded with a deed from the County School Board of Montgomery County, Virginia to the Town of Blacksburg, Virginia dated August 19, 1993 and recorded in the Clerk's Office of the Circuit Court of Montgomery County, Virginia in Deed Book 806, Page 668.

Parcel II: All that certain parcel of land, lying partially in the Town of Blacksburg in the Mt. Tabor Magisterial District of Montgomery County, Virginia, bounded and described as follows: BEGINNING at an iron rod in the south line of Grove Avenue, a corner to the land of County School Board of Montgomery County (tract of 29.497 acres); thence with the south line of Grove Avenue, N. 84° 31' 00" E. 382.37 feet to a point; thence with the line of the eastern terminus of Grove Avenue, N. 05° 29' 00" W. 35.0 feet to a point in a line of the land now or formerly owned by Thomas M. Price; thence with the line of the land now or formerly owned by Thomas M. Price, N. 84° 31' 00" E. 385.44 feet to an iron rod in a line of the land now or formerly owned by Hassell Price; thence with the line of the land now or formerly owned by Hassell Price, S. 10° 21' 50" W. 471.59 feet to a post, a corner in the lines of the land, now or formerly, of Apperson, Inc.; thence with the line of same, S. 63° 07' 45" W. 442.38 feet to an iron rod, a corner to the aforesaid land of County School Board of Montgomery County; thence with the line of same, N. 26° 52' 00" W. 622.83 feet to the BEGINNING, containing an area of 7.111 acres, more or less, according to a survey made by Clements and Draper, Certified Land Surveyors, On August 18, 1967.

Parcel III: All that certain parcel of land, lying in the Town of Blacksburg in the Mt. Tabor Magisterial District of Montgomery County, Virginia, bounded and described as follows: BEGINNING at a point of intersection of the northeast line of Patrick Henry Drive with the south line of Grove Avenue; thence with the south line of Grove Avenue, N 83° 46' E 188.63 feet to an iron rod, a corner to the land of County School Board of Montgomery County; thence with a line of the land of County School Board of Montgomery County and a line of the land, now or formerly, of Gilbert Price Heirs (Gilbert Price Estate), S 25° 29' W 192.35 feet to an iron rod in the northeast line of Patrick Henry Drive; thence with the northeast line of Patrick Henry Drive, N 34° 22' W 185.54 feet to the BEGINNING, containing an area of 0.354 acre, according to a plat of survey entitled "Plat of survey of property to be acquired by County School Board of Montgomery County, Blacksburg, Virginia" dated November 25, 1969, made by Clements and Draper, Certified Land Surveyors, a copy said plat is recorded in the Circuit Court Clerk's Office of Montgomery County, Virginia in Plat Book 5, page 127.

2.3 Proposed Zoning Districts

The property located within the Town Corporate Limits, approximately 33.87-acres, is proposed to be rezoned to Planned Residential (PR). TM 041- A 2 located within Montgomery County jurisdiction, is excluded from the rezoning request. Parcel boundary line adjustments will be completed for TM 227- A 4, TM 227- A 4C, and TM 227-A 4D as conceptually illustrated in Figure 2.3 and Appendix C.2 after Rezoning to create three (3) new parcels. The dimensions and acreages shown are conceptual and are primarily provided to distinguish the proposed uses of the site for purposes of rezoning.

Area 1: The parcel adjacent Patrick Henry Drive will front Patrick Henry Drive and extend east to the proposed sixty (52) foot right-of-way between Price Street and Patrick Henry Drive, and encompasses the existing recreation facilities covering approximately 15.77-acres (including 2.05-acres of right-of-way). Area 1 will be for civic and recreational uses with supporting public facilities and infrastructure.

Area 2: The parcel east of the proposed right-of-way is proposed as a new residential subdivision comprised of a maximum of 100 townhomes with public streets and open space, and covers approximately 11.22-acres including rights-of-way to be dedicated.

Area 3: The remaining parcel will be designated as Open Space and remain undeveloped, providing conservation of existing trees and otherwise undeveloped greenspace covering approximately 6.87-acres. 2.63 acres (Area 4) will remain within the jurisdiction of Montgomery County but may be combined with the Area 3 a future date and designated as PR.



Figure 2.3: Proposed Zoning Districts. Acreages shown are approximate and subject to change during design development.

2.4 Structures

The total number of dwelling units shall not exceed 100. The townhomes will feature two varying architectural styles (ie. Colonial, Craftsman, etc.) with a unit mix that includes primarily two- and three-stories, all with private driveways and two-car garages. A portion of the townhomes will also include full first-floor living to accommodate “aging in place” and retirees; zero-step entries will be provided for these units if the topography and final grades allow, which will be determined during design development.

2.5 Permitted Uses

The following uses are permitted by right within the Planned Residential district.

Residential

Home Occupation
Townhouse

Civic

Public Parks and Recreational Areas
Public Recreation Assembly
Community Recreation
Day Care Center
Open Space

Miscellaneous

Accessory Structures

2.6 Preliminary Master Plan

The Preliminary Master Plan located in Appendix C includes the following exhibits:

- Proposed Zoning and Uses
- Concept Architectural Elevations and Floor Plans
- Subdivision & Road Concept
- Overall Concept Site Plan
- Open Space Exhibit
- Pedestrian Connectivity Exhibit.

The Preliminary Master Plan shows the locations of proposed rights-of-way, structures, driveways, pedestrian paths, utilities, and open space.

2.7 Lot Development Requirements

The following charts detail the site's lot development requirements for the proposed uses. See Appendix C.2 for the Area boundaries. An exception to Use and Design Standard 4231(b)(1) is requested to allow more than two contiguous adjacent series of townhomes. An exception to Use and Design Standards 4231(b)(14) is requested, provided that there is a change in façade color and/or material where the exception applies, and shall not apply to more than two-adjacent in a series of townhomes.

Area 1 (Civic)

Development requirements for Area 1 will be established during future Town land-use planning through a PRD amendment process.

Area 2 (Townhomes)

Minimum Building Setbacks	
¹ Front	8 feet
² Side (corner units only)	8 feet
¹ Rear	8 feet
Structure Height	
Maximum	35 feet
Maximum Lot Coverage	
Lot Coverage for Individual Townhome Lot	95%
Lot Coverage for Area 2	80%
³ Floor to Area Ratio (FAR)	0.50
Minimum Open Space; See Section 2.8	20% (Property)
Residential Density	
Maximum	30 bedrooms per acre

¹ Covered porches and overhangs may encroach 4-ft into setbacks.

² Townhouse contiguous series shall have minimum 20-ft separation.

³ Calculated as the gross floor area of all dwelling units relative to "Area 2"

Area 3 (Open Space) – No development will be permitted outside of public rights-of-way.

2.8 Minimum Open Space

As required by the PRD district, a minimum of twenty-percent (20%) of the total site shall be designated as open space. A compact area of at least five thousand (5,000) square feet shall be provided for active or passive recreational activities. When a site is part of a public master plan adopted by town council, the required open space percentage may also include off-site open space and parcels under separate ownership (Town code 3113.b.1.f). Approximately sixty (67%) of total open space and approximately forty (42%) of active open space is anticipated within the entire PRD property. Area 2 will include active and passive open space.

The Area 2 open space was also evaluated independently, including public rights-of-way to be dedicated to the Town. Table 2.8 below summarizes the proposed open space. See also Appendix C.6.

Description	Active/Passive	Area (square-feet)	Cumulative Area (square-feet)
Perimeter Green Space	Passive	61,595	61,595
Miscellaneous Green Space	Passive	8,800	70,395
*Pedestrian Paths	Active	19,180	89,575
Central Park Area	Active	15,790	105,365
Area 2 Total		488,619	21.6%

* Includes Central Park sidewalks and 10-ft multi-use trail within Area 2.

2.9 Dwelling Occupancy

This planned residential development shall have a maximum occupancy of a family plus two (2) persons unrelated to the family; or no more than three (3) unrelated persons for townhome units.

2.10 Landscaping

Proposed landscaping will be in conformance with Section 5400 of the Town Development Standards. Parcel 3 referenced in Section 2.2 provides an exceedance of the twenty (20) percent tree canopy required for the R-4 zoning district.

A minimum average of one (1) native street tree for every thirty (30) feet of public street frontage. Additional landscaping will be provided throughout the development along pedestrian paths and within pocket parks, including trees, shrubs, and ground covers.

2.11 Lighting

All street and pedestrian lighting shall be designed in compliance with Town of Blacksburg Code and VDOT Subdivision Design standards.

2.12 Parking

No centralized or courtyard style off-street parking is proposed for the townhome lots. Each townhome unit shall include a two-car garage, and private driveways shall be provided for each townhome lot to allow space for two (2) vehicles. Garages will have adequate space to accommodate bicycle storage as well. On-street parallel parking shall be provided along at least one side of public streets. On-street parallel parking shall be provided along both sides of the proposed through road. A minimum of 1.1 spaces per bedroom shall be provided for parking dedicated to townhome units, which includes driveway and garage parking, but excludes on-street parking. Off-street parking requirements for all other proposed uses shall be per Town Code development standards, section 5220, and parking facilities shall be located behind the front building line.

2.13 Amenities

Numerous existing public amenities are provided by the Blacksburg Municipal Park which are within a reasonable walking distance from the development. The proposed development also includes a central park area, small pocket parks, and a 10-ft multi-use trail network. A minimum 625-sqft tot-lot is proposed adjacent the northern bend of the loop road, Refer to Appendix C.6.

2.14 Entrance Signs

Two (2) freestanding monument entrance signs are proposed, with one located adjacent the Grove Ave entrance, and one adjacent the south intersection of the loop road and through road. The monument signs will not exceed 50 square-feet total, with neither exceeding 35 square-feet, and will be no taller than 8-feet (in accordance with Town Code 5532). All freestanding signs will include a base and meet Sections 5523(e) and 5525 of the Town of Blacksburg Zoning Ordinance.

Section 3: Public Utilities and Services

3.1 Estimated Water & Sewer Usage

The Preliminary Utility Plan is located in Appendix C3. All utilities shall be constructed to Town standards, and where appropriate, be dedicated to the Town. Public utility easements will be dedicated along water distribution and sewer collection lines outside of the road right-of-way. Average daily consumption was estimated based on the Town of Blacksburg Standards:

$$\text{Water \& Sewer residential usage} = (111 * 3BR) \times (100\text{gpd per person}) = 33,600 \text{gpd}$$

3.2 Water

All water systems shall be installed according to Town standards. Fire hydrants shall be located at all intersections more than 400 feet apart, at the end of all dead-end streets more than 400 feet in length, and the maximum distance between any structure and the nearest fire hydrant shall not exceed 200 feet. New water mains shall be looped where possible, and dead-end line lengths shall be 400 feet maximum. Each townhome unit shall be individually metered. The Town's Engineering Department was contacted to ensure there is adequate pressure and flow in existing waterlines which will be confirmed by the Town Water Resources Department at the time of site plan development.

$$\begin{aligned} Q \text{ avg daily} &= 400 * 111/1440 = 31 \text{ gpm} \\ Q \text{ max daily} &= 400 * \frac{111}{1440} * 2 = 62 \text{ gpm} \\ Q \text{ peak hourly} &= 11.4 * (111)^{0.544} = 148 \text{ gpm} \end{aligned}$$

3.3 Sanitary Sewer

All sanitary sewer systems shall be installed according to Town standards. The Town's Engineering Department was contacted to verify adequate capacity in the existing downstream sanitary sewer. A portion of the receiving sanitary sewer system downstream of the proposed development is currently at or above capacity, thus infrastructure improvements will be required as part of or prior to development of the subject property.

$$\text{Estimated Peak Sewer Consumption (PF 2.5)} = 62.5 \text{ gpm}$$

3.4 Stormwater Management

A Stormwater Concept plan was submitted for concurrent review with this application addressing State and Local stormwater quality and quantity requirements. The submittal details the stormwater project narrative, pre-development conditions, post-development conditions, downstream conditions, and maintenance/inspection plans. The SCS/TR-55 method is utilized to

calculate stormwater runoff, peak discharge, hydrographs, and storage volumes. Information for calculations such as soil descriptions and precipitation data were gathered from the NRCS Web Soil Survey and NOAA Precipitation Frequency Data Server respectively.

The stormwater concept applies to the residential development portion of the property described as "Area 2" within the rezoning application, which includes all proposed streets, sidewalks, townhomes, and supporting infrastructure. The re-development area is approximately 13.74-acres of the 36.503-acre property for which re-zoning is requested. Demolition of the existing school building and auxiliary structures will be permitted and completed separately, and is not included as part of this concept; per discussions with Town Staff, the pre-development land cover prior to demolition will conditionally serve as the pre-development land cover for the residential re-development area. The proposed development results in a net decrease in impervious land cover, however, the reduction does not solely satisfy stormwater quality (9VAC25-870-65) and quantity (9VAC25-870-66) requirements, thus an on-site StormTech stormwater detention system with an integrated stormwater quality BMP is proposed.

Stormwater Quality Summary

The Post-Development total phosphorous (TP) load reduction for the site will be approximately 1.49 lb/yr of TP removal as calculated using the Virginia Runoff Reduction Method (VRRM) Spreadsheet V3.0.

Re-Development Land Cover Summary		
	Managed Turf (acres)	Impervious (acres)
Pre-ReDevelopment	4.47	9.27
Post-ReDevelopment	6.37	7.37
Difference	+1.90	-1.90

The StormTech Isolator Row BMP will be sized to detain a 1-year storm event and treat approximately 2.88-acres of managed turf and 3.72-acres of impervious area within the conceptual limits of disturbance, which provides 3.88 TP removal at approved 40% efficiency and exceeds the required TP removal by 2.39 pounds per year. The remaining contributing drainage area of the site will bypass the StormTech system.

Stormwater Quantity Summary

Without on-site detention, the site does not meet the requirements of energy balance for discharging to a natural channel as outlined by the Virginia Administrative Code (9VAC25-870-66. Sec B.3). The proposed StormTech Detention System with Isolator Row will reduce the peak

flow rate of the 1-year storm event for the development to meet the allowable flow rate calculated by the energy balance equation. The allowable post-development 1-year flow rate per energy balance is calculated as follows:

Energy Balance Analysis	
Evaluation Point A	
Drainage Area:	13.74 Acres
The maximum peak flow rate from the one-year 24-hour storm is calculated with the following methodology:	
$Q_{Developed} \leq I.F. * (Q_{Pre-Developed} * RV_{Pre-Developed}) / RV_{Developed}$	
Under no condition shall $Q_{Developed}$ be greater than $Q_{Pre-Developed}$ nor shall $Q_{Developed}$ be required to be less than that calculated in the equation $(Q_{Forest} * RV_{Forest}) / RV_{Developed}$	
Where:	
$Q_{Developed}$	= The allowable peak flow rate of runoff from the developed site = (See below)
$RV_{Developed}$	= The volume of runoff from the site in the developed condition = 61,624 cuft
$Q_{Pre-Developed}$	= The peak flow rate of runoff from the site in the pre-developed condition = 32.40 cfs
$RV_{Pre-Developed}$	= The volume of runoff from the site in pre-developed condition = 66,860 cuft
Q_{Forest}	= The peak flow rate of runoff from the site in a forested condition = 9.71 cfs
RV_{Forest}	= The volume of runoff from the site in a forested condition = 29,483 cuft
I.F. (Improvement Factor)	equals 0.8 for sites > 1 acre or 0.9 for sites ≤ 1 acre = 0.8
$I.F. * (Q_{Pre-Developed} * RV_{Pre-Developed}) / RV_{Developed}$	= 28.12 cfs
$(Q_{Forest} * RV_{Forest}) / RV_{Developed}$	= 4.65 cfs
For the 1-YR 24-HR Storm the Max $Q_{Developed}$ = 28.12 cfs	

Because there is a portion of the contributing drainage area to the StormTech system that is beyond the limits of disturbance for this project (thus not subject to the improvement factor associated with the energy balance equation), and an area within the limits bypasses the detention system, the allowable flow rate from the energy balance calculation must be adjusted to exclude off-site contributing drainage areas and account for on-site bypassing flows. This is outlined in greater detail within the aforementioned Stormwater Concept Plan.

This calculation indicates that the peak flow rate from the project site including the portion routed through the StormTech system must be 28.12-cfs or less in order to comply with the stormwater quantity requirements. As analyzed, the peak flow rate for this combined area for the 1-year storm event is 27.74-cfs.

Storm events greater than 1-year result in a reduction of peak flow rates from the post-development condition, thus flood protection requirements are met.

3.5 Trash and Recycling

Curb-side collection is proposed for the PRD refuse and recycling. Each townhome unit will be supplied with trash and recycling carts, with collection and fees managed by a Homeowners Association. Refuse and recycling will be collected from the alleys for alley-loaded units. Street-loaded units will be collected from the street.

3.6 Other Utilities

Utility connections such as power, phone, cable televisions, gas, and any other miscellaneous utilities serving this community shall be located underground.

Section 4: Traffic

4.1 Public Roads & Vehicular Traffic

All proposed streets will be designed per Town of Blacksburg Development Standards and dedicated to the Town of Blacksburg as public right-of-way; alleys will be private. 52-foot right-of-way is proposed to connect the Price Street/Grove Ave intersection to Road Section 'C' at the existing high school entrance (Road Section 'A' as shown in Appendix C.4). Road Section 'A' will feature on-street parallel parking on both sides. A ten (10) foot multi-use trail is proposed along the recreation side of Section 'A' outside of the proposed right-of-way within Area 1, and extends to intersect with Patrick Henry Drive. Five (5) foot pedestrian sidewalks are proposed along at least one side of all proposed rights-of-way. A loop road with fifty (50) foot right-of-way with parallel parking and five (5) foot sidewalk along the interior is proposed (Road Section 'B' as shown in Appendix C.4). Road Section 'B' will connect to Sections 'A' and 'C' with full-access intersections, and includes a 52-foot right-of-way dead-end branch at the northeast corner of the property (Road Section 'C' as shown in Appendix C.4). A ten (10) foot sidewalk is proposed along Road Section 'C' to serve as a multi-use trail, and provides access to the northern multi-use trail via the eastern-most alley. All alleys will intersect with Road Sections 'B' and 'C'.

At the request of the Town of Blacksburg, a traffic impact analysis (TIA) was completed for the project to analyze levels of service (LOS) for the North Main Street and Patrick Henry intersection, and the Patrick Henry and Harding Avenue intersection resulting from the Townhome development. Turn lane analyses were also completed for the proposed entrances and the Patrick Henry Drive and Harding Avenue intersection. Traffic impacts due to future public facilities and supporting infrastructure within "Area 1" were not included in the analysis, however, the peak hours for trips generated by these uses are anticipated to vary from the peak hours resulting from the Townhomes.

The study area developed through coordination with the Town consists of the following intersections:

- North Main Street and Patrick Henry Drive - Signalized
- Harding Avenue and Patrick Henry Drive – Unsignalized
- Patrick Henry Drive and Grove Avenue - Unsignalized
- Patrick Henry Drive and Full Access - Unsignalized

The study intersections were analyzed during the weekday AM and PM peak hours under the following traffic scenarios:

- Existing (2019) traffic conditions
- Future (2022) 'No-Build' traffic conditions
- Future (2022) 'Build' traffic conditions

Based on the results of the traffic impact analysis, no mitigation measures were identified as the traffic generated by the proposed development is not expected to have a significant impact on the study area. The full traffic impact analysis is attached to this application under separate cover.

4.2 Pedestrian, Bicycle, & Public Transit Connectivity

The 2016 Town of Blacksburg Comprehensive Plan Land Use Map Series Map D: Paths to the Future October 14, 2014, currently shows an existing public route running along Patrick Henry Drive, and a future route along the perimeter of the subject property. A network of interior walks is proposed, including a ten (10) foot multi-use sidewalk along road sections 'A' and 'C' that will connect to the existing sidewalks on Patrick Henry Drive and Grove Avenue. The exterior alleys are also connected by a (10) foot multi-use trail that traverses the north side of Area 2, which functionally creates a looped multi-use system within the development.

Bicycle parking is proposed in accordance with Town Code section 5213, which requires bicycle spaces equal to 25% of the total number of bedrooms. With 319 bedrooms currently provided in the master plan, 80 bicycle spaces will be provided throughout the property. As every townhome unit includes a garage which residents will likely use for bicycle storage, the bicycle spaces were located in areas anticipated to be used by visitors or residents accessing different open space areas within the development. Refer to Appendix C.4 for bicycle parking locations.

A review of the Blacksburg Transit (BT) FY2019-2028 Development Plan did not indicate any plans to expand routes to include Patrick Henry Drive between North Main and Harding Ave, however, BT routes are within reasonable walking distance from the development. The Main Street North (MSN) route has a stop at the intersection of Giles Road and Patrick Henry Drive which is about a quarter-mile from the site. The Harding (HDG) route has a stop at the intersection of Harding Ave and Patrick Henry Dr which is just over a quarter-mile from the site.

Section 5: Development Schedule & Phasing

Full build-out of the development is anticipated to be complete within two (2) years of site plan approval and permit issuance.

The project is currently planned to be developed as one phase; however, the applicant reserves the option to work with Town staff to develop a phasing plan during the design development process as necessary. The applicant is aware that critical design elements and infrastructure such as utilities, stormwater management, open space, and parking must be adequate per each phase of development as certificates of occupancy are requested. See Appendix C.8 for a development phasing concept.

Section 6: Comprehensive Plan & Residential Infill Guidelines

6.1 Comprehensive Plan Uniformity

The proposed development supports the comprehensive plan by providing uniformity with the following objectives and policies outlined in the Comprehensive Plan:

S.6: *Promote, protect and enhance the Town's urban forests through Town initiatives and in the development review process.*

While the development is not located within a designated urban development area, it is worth noting that the development will result in a net reduction in impervious area and provide new green space and canopy in addition to the conserved open space proposed.

EN.3: *Conserve, protect and manage networks and corridors of natural vegetation, forested areas, wildlife habitat, and undeveloped steep slopes.*

EN.8: *Ensure that subdivision of any land respects adjacent or affected open space features, and plan for connections to open spaces within and outside the subdivision.*

The majority of existing old-growth and steep slopes on the property will be situated in proposed designated conservation area.

J&H.48: *Plan for the housing demands of a changing and diversifying population.*

The development will be desirable to multiple market segments with varying lifestyles and income, ranging from young families and professionals to seniors.

J&H.51: *Promote varying types of housing types needed.*

J&H.52: *As the active adult, retiree, and senior citizen population increases, promote varying types of housing needed. For example, provide smaller homes that retirees can downsize to such as townhomes or condos, as well as retirement communities and nursing home facilities.*

The proposed townhome unit mix will provide diversity for varying demographics, with two- to three-bedroom options for workforce housing and families, including first-floor living with master suites in some units that would be particularly desirable for "aging in place" or retirees.

PR.1: *Ensure Blacksburg's Park and Recreation legacy for future generations by providing a wide variety of high-quality parks, recreational services, and special events for residents of all ages. Do so by implementing the Parks and Recreation Master Plan utilizing best management practices to guide the acquisition and development of park facilities and recreational programs.*

PR.2: *Preserve, protect, enhance, and restore Blacksburg's natural resources, including its parks. Construct, design, operate and maintain parks, facilities and programs to the greatest and most economical extent possible in an environmentally friendly manner to help protect the dual purpose of the Blacksburg Parks. Protect the environment while providing recreational space.*

The proposed development provides a unique acquisition opportunity by allowance of a PRD for valuable recreational facilities to be returned to the Town.

PR.3: *Create an interconnected regional and local system of trails and walkways. Ensure that recreational facilities and programs are easily accessible by the Blacksburg Transit system, sidewalks, bike lanes, greenways and other pedestrian links.*

The proposed development includes an interior network of pedestrian pathways that will promote a vibrant and active local community that is also directly connected to the recreation facilities on the property and the Blacksburg Municipal Park.

U.2: *Extend waterlines and upgrade all properties to provide fire protection service, ensuring waterlines are extended and fire hydrants are installed as part of any new development projects that occur in areas of Town not currently served by public water. Ensure that fire hydrants are installed within all existing developments in accordance with Town Code.*

New water main is proposed to serve the development, including placement of fire hydrants in accordance with the NFPA and Town requirements.

U.5: *Require new developments to utilize pipe design and construction of the water system in accordance with Town Code and development standards.*

All new water mains will be designed and constructed in accordance with the Town of Blacksburg Standards & Specifications for water distribution systems.

U.18: *Regarding underground utilities: Require that new installations of utilities in developments be constructed underground.*

All new utilities will be required to be constructed underground.

T.8: *Increase access to the trail network to promote the network as an effective means of transportation and recreational amenity.*

T.10: *Complete the construction of a connected sidewalk system.*

While there are no existing regional trails in the vicinity of the property, the proposed development includes sidewalks that provide internal connectivity and connectivity to existing sidewalks and bike lanes on Patrick Henry Drive, as well as the Blacksburg Municipal Park.

T.12: *Maintain and improve the aesthetic quality of the pedestrian environment by planting street trees and other landscaping and installing street furniture where appropriate.*

Street trees will be provided along all dedicated rights-of-way. Additional trees, shrubs, and ground covers will be provided throughout the development.

CCP 1: *Well-designed pedestrian and bicycle friendly routes and facilities are essential to the Town's identity as a walkable and bikeable community.*

The proposed development provides substantial pedestrian sidewalks, and opportunities for future multi-use trail developments. A 10-ft multi-use sidewalk is included within the residential development area.

CCP 2: *Lifestyle conflicts are inherent in a college town, where neighborhoods may have a mix of students and non-students.*

The proposed development includes features that generally characterize non-student housing and provides an environment that favors full-time residents, such as private garage and driveway parking versus courtyard or other off-street centralized parking, main floor living with master suites, family amenities, and unit occupancy.

CCP 16: *Responsible site design and development practices will minimize environmental impacts within the Town.*

The proposed development will reduce the net impervious area from its existing condition which inherently provides immediate environmental benefits. In addition, on-site stormwater quality treatment will exceed the required nutrient loading reduction.

CCP 17: *The preservation of open spaces is an important part of community identity.*

The proposed development includes dedicating approximately 6.6-acres of existing old-growth vegetation as conservation area.

6.2 Design Principles & Residential Infill Guidelines

The site layout and building design for the preliminary master plan implements the best practices described in the 2011 Residential Infill Guidelines as follows:

Best Practice #1: *Respect neighborhood context and enhance community character.*

The surrounding neighborhoods are predominantly loaded with ranch-style architecture popular in the 1960's and 1970's, with some homes also featuring hints of colonial architecture. The proposed townhomes serve to enhance the community character with contemporary colonial and craftsman style architecture that is cohesive with the surrounding neighborhoods. The townhome development will be street-oriented with front yards by way of providing alley access to the majority of the units.

Best Practice #2: *Provide transitions.*

To provide transitions of building scale and create visual diversity in the community, the architecture will provide two distinct architectural styles, contemporary colonial and craftsman. The buildings will be of different scale, massing, color, and materials.

Best Practice #3: *Create pedestrian friendly streetscapes.*

A network of pedestrian walks is proposed to provide internal connectivity throughout the development. The architecture of the homes is designed to create a pedestrian friendly streetscape that will include human scale elements, such as single-story porches that face the sidewalks and pocket parks. The sidewalks will provide access from the public streets to the front doors of all of the homes. The pedestrian ways will be landscaped to provide a pleasing pedestrian experience.

Best Practice #4: *Minimize visual impacts of parking.*

No courtyard or other centralized off-street parking is proposed, and the majority of townhomes will be alley-loaded which greatly reduces the visual impact of parking from public rights-of-way and allows for continuous pedestrian paths uninterrupted by garages and driveways. Where townhomes are front loaded, the garage doors will be offset behind the front façade of the home. The impact of the garage doors will also be minimized by having single car paneled garage doors.

Best Practice #5: *Create usable outdoor spaces.*

The proposed development includes multiple outdoor spaces conveniently connected by a network of pedestrian paths, including a central open space area within the loop road and pocket parks to more immediately serve the surrounding townhome blocks. Each home will also have a private outdoor space either in the front or rear of the home.

Site Design & Parking:

All primary entrances will be faced towards the streets or open space areas and be clearly defined by architectural features. With the exception of the basement garage units along the south-east side of the loop road there will be no driveways to intervene with the townhomes' relation to the streets. The reduced front yard setback allows unit parking to be located behind the townhomes off of alleys which provides more space for landscaping, uninterrupted pedestrian pathways, and prevents garages from dominating the street scene. In addition to a centralized common open space area, pocket parks will be provided to serve the outer blocks of townhomes which will all be connected by the internal pedestrian system.

This townhouse neighborhood is conceived in keeping with the precepts of "New Urbanist" planning. The emphasis is upon visual oversight of streets and open spaces for a safe and pedestrian friendly environment. A fabric of sidewalks links all homes to streets and on-site

amenities. Park benches along the sidewalks as well as in small plazas will encourage community gathering while streetlights, entry porch lights and lighting adjacent to each garage door will assure public safety.

End of building residences will enjoy a private outdoor yard. Townhomes which back up into a hillside will feature a second floor living area with a private rear patio. Mid-building residences will have interior living spaces focusing upon a front patio area next to their front entries buffered from the street or community open space by landscaping. Generous fenestration with French doors will join interior with exterior spaces.

Vehicle traffic is relegated to neighborhood streets and alleys, with each residence enjoying an attached two car garage.

Architectural Design and Character:

A variety of design tools will be incorporated in the exterior architectural character of these townhouses in order to provide an appealing historic reference, an emphasis upon the individual identity of each dwelling and a comfortable contextual relationship between these attached homes and the surrounding existing detached suburban housing. The design elements described below and shown in the renderings are specific to Colonial and Craftsman architectural styles to illustrate how the differing styles will be used to generate individual identity and help define the character of the development.

Architectural style: To introduce visual variety and interest as well as to differentiate each building, two architectural styles are featured. These particular styles reference the character, forms, materials and colors typical of the historic American Colonial and Craftsman Revival styles. The buildings are not meant to duplicate authentic architecture, but rather to incorporate a reminiscent warmth of character and scale as well as a pleasant charm to the new neighborhood.

Roof forms: Roof forms can vary between different architectural styles. For example, Colonial uses authentic steep gable forms and horizontal eaves while the Craftsman incorporates lower gable pitches with knee braces on deeper eaves together with horizontal eaves. This articulates each individual townhouse. The central roof form of the Colonial is a series of gables, differentiating it from the central roof form of the Craftsman Revival which in form is a softer shallow hip roof.

Building massing: To soften the visual perception of building scale, the ends of two-story buildings typically present one-story elevations while three story buildings typically end in two story elevations. Façade offsets, varying color and materials, and inset unit entry alcoves provide strong vertical articulation along the frontage and identify individual residences while maintaining a semblance of single-family scale for each building as a whole.

Identifying each town house unit with façade offset articulation is more in keeping with a single-family character desired by the Town and more appropriate to this suburban location. Offsets will not exclusively occur at the location of shared walls, rather, they may occur where needed to emphasize entries or other architectural features.

Exterior Materials: Exterior materials, textures and details will vary as appropriate to be reflective of the architectural styles to be used. For example, Colonial features brick masonry used full height on gable ends together with horizontal lap siding. The Craftsman incorporates stone masonry typically rising to window sill height on the second floor.

Architectural details: Window grids will be appropriate in design to the respective architectural style and are used exclusively on each respective style. Entry doors are styled appropriately to the respective building style.

Color: In keeping with and further differentiating architectural styles, color is used to identify each residence and distinguish it from its neighbors. Each architectural style will use different color palettes appropriate to the style used. Appendix B.2 provides examples of authentic Colonial colors, similarly seen in Williamsburg, and warm earth tones typical of the Craftsman era. Similarly, roof colors will vary between styles. Door, window and eave trim will feature accent colors appropriate to each style.

Streetscape:

The proposed streetscape generally includes three different sections.

The primary through road is designed with sufficient but not excessive width to accommodate pedestrian sidewalks and parallel parking on both sides. The sidewalk along the recreation side will be 10-foot wide to serve multiple uses and higher volume. The residential side will include a planting strip and 5-foot sidewalk. Rolltop curb will be considered along the residential side of the rights-of-way as a decorative alternative to standard curb and gutter to provide a more relaxed streetscape.

The loop road and dead-end will include parallel parking and sidewalk, with 10-foot sidewalk along the dead-end branch. The on-street parking will provide convenient front door parking and create a protective buffer between pedestrian and vehicular traffic. Designated crosswalks will be provided at intersections, as well as one raised mid-block crossing across the main through road to connect the central open space to the front recreational facilities.

Section 7: Adjoining Landowners

Owners of land adjoining the site are shown in the following chart and are listed by tax map parcel numbers with the name and mailing addresses:

Tax Map Number	Owner	Blacksburg Address	Mailing Address
041-8 84	Wallace L. Huff	BLACKSBURG HTS PT LOT 84	408 Murphy St. Blacksburg, VA 24060
041-17 A	Windy Ridge LLC.	WINDY RIDGE RESERVE AREA	1805 Augusta National Rd. Blacksburg, VA 24060
041-1 1 C	Jeffery E. Smith	503 Rucker Rd.	
227-16 8	Christopher D. & Julia R. Marin	501 Rucker Rd.	
227- 16 7	Chris N. & Maria C. Kappas	905 Myers Pl.	
227- 16 6	Ann Laberge Fishwick	903 Myers Pl.	
227- 16 5	Edward M. & Donna Jasie	901 Myers Pl.	
227- 15 6	Billie L. Mills	908 Elliott Dr.	
227- 15 5	Eleni Etal Jarrell	905 Elliott Dr.	
227- 15 4	Ashley Jo Slagel-Perry	903 Elliott Dr.	
227- 15 3	Benjamin C. & Deborah E. Clark	901 Elliott Dr.	
227- 15 2	Matthew C. & Jennifer D. Martin	809 Elliott Dr.	
227- 15 1	James & Caitlin Jewitt	805 Elliott Dr.	
227- 13 8	Arthur L. Eller Jr. & Carolyn L. Eller	500 Patrick Henry Dr.	
227- 6 12	Town of Blacksburg	ANNEX TO DUNDAS HTS LOT 12	
227- 6 17	Catherine B. Wedd & Matthew David Wagner	609 Lucas Dr.	
227- A 2	Town of Blacksburg	N E BLACKSBURG	
227- A 1	Town of Blacksburg	625 PATRICK HENRY DR	
197- 10 8A- 11A	Town of Blacksburg	BLACKSBURG HTS PT LOTS 8,9,10,11	
197- 11 B	Arthur W. Degener Sr., Ruby M. Degener, & Arthur Degener Jr.	700 Patrick Henry Dr.	6622 Hunters Wood Cir. , Catonsville, MD 21228
197- 10 13,14	William G. Polo & Roxann L. Reasor	717 Grove Ave.	125 N. Main St. 500-200 Blacksburg, VA 24060

Tax Map Number	Owner	Blacksburg Address	Mailing Address
197- 10 15,16	Bennie L. & Carolyn B. Agnew	801 Grove Ave.	109 Cohee Rd. Blacksburg,VA 24060
197- 10 17,18	Paul H. Farrier III	803 Grove Ave.	
197- 10 19,20	KELINSKY JONES LIA ROLPH JONES EMMA VIRGINIA	805 Grove Ave.	
197- 10 21	Edwin G. Tulcher	807 Grove Ave.	
197- 10 23	Mark N. & Deborah C. Courtney	809 Grove Ave	3808 Brennen Robert Pl. Glen Allen,VA 23060
197- 10 24,25	Holly Blair & Brandon G. Smith	811 Grove Ave.	2721 Green Meadow Dr. Blacksburg, VA 24060- 9156
197- 10 26,27,28,29,30	Barry Kent & Judith Colantouni Witherspoon	900 Grove Ave	514 College View Dr. Blacksburg, VA 24060
197- 18 3D	Sandra C. & William C. Davis	NORTH DR BLACKSBURG VA 24060	P.O. Box 986 Blacksburg, VA 24063