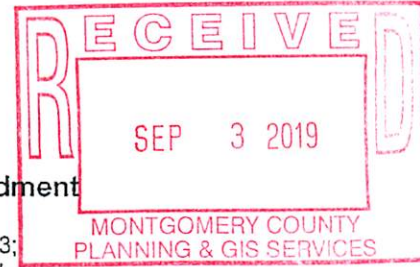




Rezoning Application Form
 Rezoning, Conditional Zoning, Proffer Amendment
 Montgomery County, Virginia
 755 Roanoke St. Suite 2A, Christiansburg, VA 24073;
 540-394-2148; mcplan@montgomerycountyva.gov



Application Request: (Please check one) Conditional Rezoning Rezoning Amend Proffers

Applicant Information: (PLEASE PRINT – if additional owners, please attach additional sheets)

Owner of Record (attach separate page for add'l owners): VIRGINIA L VAUGHAN REV. LIVING TRUST	Address: 3600 WOODRIDGE ROAD FORT COLLINS, CO 80524
Telephone: 970-482-8928	Email: vaughan@colostate.edu

Applicant Name: Owner Contract Purchaser/Lessee KIPPS FARM LLC - Georgia Anne Snyder-Falkinham	Address: 500 SOUTH MAIN STREET BLACKSBURG, VA 24060
Telephone: 540-552-3377	Email: snyder@usit.net

Representative Name and Company: BALZER AND ASSOCIATES - STEVE SEMONES	Address: 80 COLLEGE STREET SUITE H CHRISTIANBURG, VA 24073
Telephone: 540-381-4290	Email: ssemones@balzer.cc

Property Description:

Location or Address: (Describe in relation to nearest intersection) Landlocked parcel approximately 1,200 feet south of Prices Fork Road and adjacent to Parcel 019364.		
Parcel ID Number(s): 020291	Acreage: 3.0	Existing Zoning: A1 - AGRICULTURAL
Comprehensive Plan Designation: VILLAGE EXPANSION	Existing Use: VACANT	

Description of Request: (Please provide additional information on attached sheet if necessary)

Proposed Zoning (Include Acreage): PUD-RES PLANNED UNIT DEVELOPMENT - RESIDENTIAL
Proposed Use: MASTER PLANNED COMMUNITY OF MIXED RESIDENTIAL - SINGLE FAMILY DETACHED AND TOWNHOME

I certify that the information supplied on this application and on the attachments provided (maps or other information) is accurate and true to the best of my knowledge. In addition, I hereby grant permission to the agents and employees of Montgomery County and State of Virginia to enter the above property for the purposes of processing and reviewing the above application.

DocuSigned by:

 Virginia L. Vaughan
 Owner 1 Signature
 Date: 9/3/2019

Owner 2 Signature (for add'l owners please attach separate sheet)

 Georgia Anne Snyder-Falkinham
 Applicant Signature
 Date: 9/3/19

Representative/Agent Signature
 Date: 9/3/19

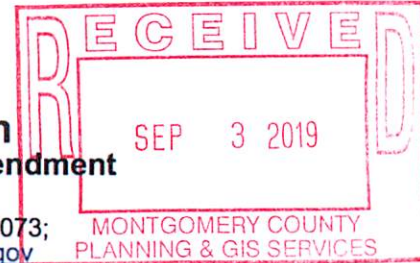


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Application Request: (Please check one) Conditional Rezoning Rezoning Amend Proffers

Applicant Information: (PLEASE PRINT – if additional owners, please attach additional sheets)

Owner of Record (attach separate page for add'l owners): KATHERINE HEMPHILL SEPARATE PROPERTY TRUST	Address: 3458 CAMINO MICHELLE CARLSBAD, CA 92009
Telephone: 760-613-9791	Email: ralph@hemphillsolutions.com

Applicant Name: Owner Contract Purchaser/Lessee KIPPS FARM LLC - Georgia Anne Snyder-Falkinham	Address: 500 SOUTH MAIN STREET BLACKSBURG, VA 24060
Telephone: 540-552-3377	Email: snyder@usit.net

Representative Name and Company: BALZER AND ASSOCIATES - STEVE SEMONES	Address: 80 COLLEGE STREET SUITE H CHRISTIANSBURG, VA 24073
Telephone: 540-381-4290	Email: ssemones@balzer.cc

Property Description:

Location or Address: (Describe in relation to nearest intersection) 3871 PRICES FORK ROAD		
Parcel ID Number(s): 019364 & 012091	Acreage: 50.965	Existing Zoning: A1 - AGRICULTURAL
Comprehensive Plan Designation: VILLAGE EXPANSION	Existing Use: VACANT SINGLE FAMILY HOUSE	

Description of Request: (Please provide additional information on attached sheet if necessary)

Proposed Zoning (Include Acreage): PUD-RES PLANNED UNIT DEVELOPMENT - RESIDENTIAL
Proposed Use: MASTER PLANNED COMMUNITY OF MIXED RESIDENTIAL - SINGLE FAMILY DETACHED AND TOWNHOME

I certify that the information supplied on this application and on the attachments provided (maps or other information) is accurate and true to the best of my knowledge. In addition, I hereby grant permission to the agents and employees of Montgomery County and State of Virginia to enter the above property for the purposes of processing and reviewing the above application.

Property Owners Statement: Property Owners are domiciled out-of-state and thus have no direct knowledge whatsoever as to Applicant's intended future use of Property or its current condition, and/or land-use / zoning designation(s); nor have Property Owners seen any of the attachments (maps or other information) appurtenant to Application, if any; therefore, Property Owners hereby acknowledge Application (including attachments) and Applicant, but do not in any way attest to, endorse, and/or warrant /guarantee and/or make any claims as to the completeness and/or accuracy of any of the information / claims associated with Application or Applicant.

Katherine Hemphill Separate Property Trust 01/30/18

By: Katherine Hemphill

Its: Trustee

Owner 1 Signature	Date
<u>Georgia Anne Snyder-Falkinham</u>	08/27/19
Applicant Signature	Date
<u>[Signature]</u>	9/3/19
Representative / Agent Signature	Date
<u>[Signature]</u>	9/3/19

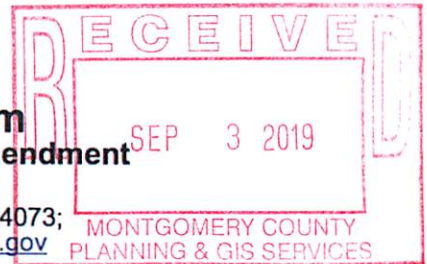


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755 Roanoke St. Suite 2A, Christiansburg, VA 24073;
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Application Request: (Please check one) Conditional Rezoning Rezoning Amend Proffers

Applicant Information: (PLEASE PRINT – if additional owners, please attach additional sheets)

Owner of Record (attach separate page for add'l owners): DR. AMY L. TALBOY, MD. (fmr. Dr. Amy L. Pakula, MD)	Address: 3142 WEST ROXBORO ROAD, ATLANTA, GA 30324
Telephone: 404.593.6997	Email: altjep@mac.com

Applicant Name: Owner Contract Purchaser/Lessee KIPPS FARM LLC - Georgia Anne Snyder-Falkinham	Address: 500 SOUTH MAIN STREET BLACKSBURG, VA 24060
Telephone: 540-552-3377	Email: snyder@usit.net

Representative Name and Company: BALZER AND ASSOCIATES - STEVE SEMONES	Address: 80 COLLEGE STREET SUITE H CHRISTIANSBURG, VA 24073
Telephone: 540-381-4290	Email: ssemones@balzer.cc

Property Description:

Location or Address: (Describe in relation to nearest intersection) 3871 PRICES FORK ROAD		
Parcel ID Number(s): 019364 & 012091	Acreage: 50.965	Existing Zoning: A1 - AGRICULTURAL
Comprehensive Plan Designation: VILLAGE EXPANSION	Existing Use: VACANT SINGLE FAMILY HOUSE	

Description of Request: (Please provide additional information on attached sheet if necessary)

Proposed Zoning (Include Acreage): <p style="text-align: center;">PUD-RES PLANNED UNIT DEVELOPMENT - RESIDENTIAL</p>
Proposed Use: MASTER PLANNED COMMUNITY OF MIXED RESIDENTIAL - SINGLE FAMILY DETACHED AND TOWNHOME

I certify that the information supplied on this application and on the attachments provided (maps or other information) is accurate and true to the best of my knowledge. In addition, I hereby grant permission to the agents and employees of Montgomery County and State of Virginia to enter the above property for the purposes of processing and reviewing the above application.

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By: DR. AMY L. TALBOY, MD. (fmr. Dr. Amy L. Pakula, MD)

Signature: Amy L. Talboy, MD

27 August 2019

Owner 2 Signature

Date

Georgia Anne Snyder-Falkinham

9/3/19

Applicant Signature

Date

[Signature]

9/3/19

Representative / Agent Signature

Date



Rezoning Application Form

Rezoning, Conditional Zoning, Proffer Amendment
Montgomery County, Virginia
755 Roanoke St. Suite 2A, Christiansburg, VA 24073
540-394-2148

Application Request (Please check one) Conditional Rezoning Rezoning Amend Proffers

Applicant Information: (PLEASE PRINT -- if additional owners, please attach additional sheets)

Owner of Record (attach separate page for add'l owners): JLR LAND HOLDINGS, LLC	Address: 3321 COUNTRY LANE HAYS, KANSAS 67601
Telephone: 785-628-1654	Email: wrossell@jraland.net

Applicant Name: Owner Contract Purchaser/Lessor: KOPPS FARM LLC - Georgia Anne Snyder-Falkinham	Address: 500 SOUTH MAIN STREET BLACKSBURG, VA 24060
Telephone: 540-552-3177	Email: snyder@afil.net

Representative Name and Company: BALZER AND ASSOCIATES - STEVE SEMONES	Address: 80 COLLEGE STREET SUITE H CHRISTIANSBURG, VA 24073
Telephone: 540-381-4290	Email: semones@balzer.com

Property Description:

Location or Address: (Describe in relation to nearest intersection) 3911 PRICES FORK ROAD		
Parcel ID Number(s): 011177	Acreage: 55.90	Existing Zoning: A1 - AGRICULTURAL
Comprehensive Plan Designation: VILLAGE EXPANSION		Existing Use: VACANT SINGLE FAMILY HOUSE

Description of Request: (Please provide additional information on attached sheet if necessary)

Proposed Zoning (include Acreage): PUD-RES PLANNED UNIT DEVELOPMENT - RESIDENTIAL
Proposed Use: MASTER PLANNED COMMUNITY OF MIXED RESIDENTIAL - SINGLE FAMILY DETACHED AND TOWNHOME

I certify that the information supplied on this application and on the attachments provided (maps or other information) is accurate and true to the best of my knowledge. In addition, I hereby grant permission to the agents and employees of Montgomery County and State of Virginia to enter the above property for the purposes of processing and reviewing the above application.

Janet L. Russell, Manager

JLR Land Holdings, LLC
Owner 1 Signature

and sole member of LLC 8-29-19
Date

Owner 2 Signature (for add'l owners please attach separate sheet)

Georgia Anne Snyder - Falkinham 9/3/19
Date

Applicant Signature

[Signature] 9/3/19
Date

Representative/Agent Signature

**CONDITIONAL REZONING APPLICATION
FOR**

KIPPS FARMS, LLC

WESTHILL SUBDIVISION

**TAX PARCEL #052-A124
TAX PARCEL #052-A125, 126
TAX PARCEL #052-A128, 130
TAX PARCEL #052-A129**

September 3, 2019

PREPARED FOR:
KIPPS FARMS, LLC
500 South Main Street
Blacksburg, VA 24060

PREPARED BY:
BALZER & ASSOCIATES, INC.
80 College Street, Suite H
Christiansburg, VA 24073

WESTHILL SUBDIVISION
COMPREHENSIVE PLAN JUSTIFICATION

Property and Project Description

The properties described in the Rezoning application are currently zoned Agriculture A1. There are multiple parcels requested for rezoning in this application. They are designated as follows:

- 1) Tax Map ID# 052- A 130, 128 & Parcel ID# 019364
Existing Acreage: 26.710 acres
Proposed Acreage for Rezoning: 26.710 Acres
Proposed Use: Single Family Detached and Townhome
Existing Zoning Designation: A1 -Agriculture
Proposed Zoning Designation: PUD-RES -Planned Unit Development Residential

- 2) Tax Map ID# 052- A 125, 126 & Parcel ID# 012091
Existing Acreage: 24.255 acres
Proposed Acreage for Rezoning: 24.255 Acres
Proposed Use: Single Family Detached and Townhome
Existing Zoning Designation: A1 -Agriculture
Proposed Zoning Designation: PUD-RES -Planned Unit Development Residential

- 3) Tax Map ID# 052- A 124 & Parcel ID# 011177
Existing Acreage: 53.900 acres
Proposed Acreage for Rezoning: 53.900 Acres
Proposed Use: Single Family Detached and Townhome
Existing Zoning Designation: A1 -Agriculture
Proposed Zoning Designation: PUD-RES -Planned Unit Development Residential

- 4) Tax Map ID# 052- A 129 & Parcel ID# 020291
Existing Acreage: 3.00 acres
Proposed Acreage for Rezoning: 3.00 Acres
Proposed Use: Single Family Detached and Townhome
Existing Zoning Designation: A1 -Agriculture
Proposed Zoning Designation: PUD-RES -Planned Unit Development Residential

The requested zoning change to PUD-RES Planned Unit Development Residential would allow for a future land use that is in keeping with the Montgomery County Comprehensive Plan which designates this area as Village Expansion. According to the Comprehensive Plan, *“Village Expansion Areas are intended to provide an alternative to scattered rural residential development and to provide an opportunity to enhance the vitality of existing villages by providing for compatible expansions of residential and employment uses. Village Expansion Areas are adjacent to existing villages where appropriate new development can be accommodated while retaining the viability and character of the historic village core. These are natural expansion areas for the Villages*

that may potentially be served by future public sewer and water extensions. Development in Village Expansion Areas should be designed to tie into the existing street network serving the village it is adjacent to and to complement and augment the historic character and development pattern of the existing village. A mix of appropriately scaled residential, non-residential and community uses are anticipated in Village Expansion Areas.” The Village Expansion areas, along with Urban Expansion Areas and the Village Areas, are where the Comprehensive Plan anticipates the future growth of the unincorporated portions of the County.

The project is designed as a master planned development with a mix of three different housing types, community clubhouse and amenity area, extensive sidewalk infrastructure, new road improvements, and a multi-use trail. The unit types have been designed to provide housing product that is in high demand in Montgomery County, and appeal to a wide range of buyers. All units will be subdivided and will be “for sale” product. The expected timeline for total buildout of the property is 5-8 years. It is planned that the property will be developed in phases and that all three different housing types will be available in the early phases of the construction. The overall conceptual masterplan is shown on Sheet Z2 included with this application and narrative. More detailed drawings of each housing section are also included in the application.

The first housing type proposed are Townhomes. The townhomes will be located on the northern portion of the property and adjacent to the future Northstar Church development. They will primarily be 3-bedroom units and will be provided with a 1 or 2 car garage. These units are arranged in blocks of no more than 6 units and are all accessed from private alleys. These private alleys limit the curb cuts onto the new public roads and allow the units to have rear loaded garages. This takes the garage doors and cars out of sight from the main roads and allows the units to be situated closer to the roads. With units addressing the street and streetscape, it creates a more walkable and interactive community. These townhomes are situated to either front the streets as described above or to front on an open green area. These green areas provide opportunities for more community gathering areas in each of the townhome pods.

The second housing type are the Villa Units. The Villas are attached units and are also defined as a townhouse by the County code. However, these units are larger in footprint and provide a different living experience. The Villas will be primarily 3-bedroom units and a first-floor master bedroom will be available thus providing for single level living for residents who so desire that option. They will also have the option for a 1 or 2 car garage. The Villas will have individual driveways that are accessed directly off the proposed public roads. The Villas will be located near the center of the property just west of the clubhouse area.

The third housing type is Single Family Detached units. These units will be on individual subdivided lots of greater than 9,000 square feet. Multiple house styles, footprints, and options will be available to buyers in the single-family section. Most of the homes will be built to suit so the future buyers can truly make the house their own. These homes will be mix of 3 and 4 bedroom and will also be provided with garages as desired by the

purchaser. The single-family home section of the project is located on the back acreage and is situated adjacent to the surrounding Montgomery Farms subdivision. It was important to the applicant to provide a similar housing type next to Montgomery Farms to avoid any perceived lifestyle conflicts.

The elements that directly conform to the issues stated in the **Montgomery County 2025 Comprehensive Plan** are the following:

- 1) **PLU 1.6** – The development is located within an area designated Village Expansion.
- 2) **PLU 1.6.4.b** – The development will have a range of housing types.
- 3) **PLU 1.6.4.e** – The development will preserve critical open space and natural features.
- 4) **PLU 1.6.5a & PLU 1.7.5a,e** – The development will have public utilities and will provide stormwater management for the new development.
- 5) **PLU 1.6.5c & PLU 1.7.5d**– The new roads within the development will provide a new connection to Prices Fork Road from Montgomery Farms and will have sidewalks along both sides of the new streets.
- 6) **PLU 1.7.4.c** – The development is proposing extensive open space and pedestrian connections throughout the subdivision. Setbacks create an inviting streetscape and parking for the higher density Townhomes is off the rear loaded alleys.
- 7) **PLU 2.1.1** – The development is located within an area designated Village Expansion.
- 8) **PLU 2.1.2** – The development will be served by public water and sewer.
- 9) **PLU 2.1.3** – Two road access points are shown from Prices Fork along with the associated improvements and determined by the accompanying traffic study.
- 10) **PLU 2.1.4** – The concept plan shows the location of all roads, sidewalks, trails and open spaces.
- 11) **PLU 2.1.5**– The development will provide multiple access points to adjacent parcels.
- 12) **PLU 2.1.6** – The development will have open space, and pedestrian access.
- 13) **PLU 2.1.7** – The development will have buffers along all uses with lower intensities.
- 14) **ENV 1.5** – The development will utilize BMP’s to protect water quality.
- 15) **ENV 3.2.4** – The development will minimize any negative effect on water quality.
- 16) **ENV 3.2.6** – Several areas of natural landscaping are planned to be preserved.
- 17) **ENV 3.2.7** – The development will protect main water sources and riparian areas.
- 18) **ENV 5.6** – The development will provide for stormwater management and is located in an area where public water and sewer service exists.
- 19) **ENV 6.5** – The proposed development will maintain existing drainage patterns for stormwater management.
- 20) **ENV 7.0** – The proposed development will maintain water quality and protect downstream properties with stormwater management techniques.
- 21) **HSG 1.3.3** – The development provides interconnectivity of roads and sidewalk infrastructure.
- 22) **PRC 2.1.4** Open spaces and playground areas will be provided in the development to serve the residents.
- 23) **PRC 2.3** – The development is proposing a trail connection through the middle of the property that could be connected to in the future.
- 24) **TRN 1.3.1** – Very few cul-de-sacs are proposed in the overall development.

- 25) **TRN 1.3.2** – Streets are designed provide connectivity within the subdivision, to the existing Montgomery Farms subdivision and to undeveloped adjacent parcels.
- 26) **TRN 1.3.3** – All public streets and right of ways will be designed and constructed to VDOT standards.
- 27) **TRN 1.3.5** – Sidewalks will be provided on both sides of the public roads.
- 28) **UTL 4.1.2** – The project could allow for regional stormwater management facility with coordination with Montgomery County.

The elements that directly conform to the issues stated in the Montgomery County 2025 Comprehensive Plan for the **Prices Fork Village Area** are the following:

PFV 1.1.2 Compatibility is Fundamental. *The density, type and character of new development must be compatible with the existing village, the vision of the village’s future, and be generally consistent with the Land Use Plan Map. New development must be compatible with the traditional forms and architectural character of the village.*

The proposed project will provide development that is consistent with the Land Use Plan. The architecture will be responsible and respectful of the traditional village character.

PFV 1.1.4 A Variety of Housing Types Should be Built. *The County will encourage a variety of housing types, costs and net densities, in order to provide high quality housing for a range of ages and income levels. Most housing will be single-family detached units, but may include accessory units, small single-family detached dwellings, and apartments on the second-floor levels of employment or civic buildings, and housing for elderly citizens.*

The project is proposing three different housing types that will be attractive for multiple buyer types. These types will vary in home size, lot size, and price.

PFV 1.1.6 Proffers Are Expected to Mitigate Impacts. *Any rezoning to a higher intensity of land use, particularly residential land uses, will be expected to provide proffers of land, infrastructure and/or funding to offset the impacts of the development, particularly on capital facilities such as roads, parks, schools and public safety.*

The proposed proffers will help mitigate impacts and concerns.

PFV 1.1.7 Incorporate Universal Design Features. *A portion of dwelling units within any given residential project should feature "universal design" in order to provide for all age groups and to allow people to "age in place" within the village.*

The Villa units provide a master bedroom on the main floor which helps allow aging in place.

PFV 1.3.2 Areas with Higher Net Densities. *Areas with higher net densities should be dispersed throughout the planning area as shown conceptually on the Land Use Plan Map. Each such area should be small and compact so as to form a focal point for a particular neighborhood or development, and should be designed to reinforce the traditional, grid street network.*

The overall density of the project will be between 4-5 units per acre. The proposed masterplan currently shows a total of 484 dwelling units which would be approximately 4.6 units per acre. Lot configurations and numbers may vary slightly based on final engineering design including road grading, stormwater management and sanitary sewer design. Final density will be determined during the site plan stage but no more than 5 units per acres will be allowed.

PFV 1.3.3 Streetscape Features on Major Streets. Streetscape improvements in these areas should include curb and gutter, sidewalks, on-street parking with curb bump-outs, pedestrian crosswalks at intersections, parking behind buildings and in alleys, building heights of two stories above the front street level, small front building setbacks, traditional street lights and street furniture, pocket parks and public greens or squares defined by adjacent building facades.

Extensive landscaping is planned along Prices Fork Road.

PFV 1.3.4 Streetscape Features on Minor Streets. Streetscape improvements should include walking paths, street trees and parking behind buildings.

Landscaping will be provided throughout the development and along the subdivision's internal road network. Sidewalks will be provided on both sides of the proposed public roads. Future trail locations have also been shown on the master plan.

PFV 1.3.5 Street and Walking Connections. New development should provide street and pedestrian path connections within the site and to adjacent properties, including "stub" connections to the property line of sites that are planned but not yet rezoned or developed.

The property will have sidewalks connecting all onsite uses and open spaces. Road stubs are shown throughout the development. Future trail or sidewalk connections to adjacent properties will be determined during the site plan process.

PFV 1.5.1 Preserve Views. Except in the Historic Core, as development occurs along the corridor, site new buildings away from the existing roadway so that they are at a low enough elevation to preserve the views of the surrounding farms, forests and mountains.

The development along Prices Fork Road is planned to sit at a lower elevation than the road itself. This should help maintain southern views.

PFV 1.5.2 Avoid Reverse-Frontage Development. New development adjacent to Prices Fork Road should front a new parallel street so that the fronts of new buildings (rather than the rear) face toward Prices Fork Road.

Homes along Prices Fork will be oriented with their fronts towards the road and all access will be from a rear alley.

PFV 1.5.3 Manage Access. Develop and implement an access management plan along Prices Fork Road to limit the number of access points on the road, consistent with the land use and design policies for this corridor.

Due to the long length of road frontage, two new entrances are proposed along Prices Fork Road. Spacing of these entrances meets the access management guidelines and area further detailed in the provided traffic analysis.

PFV 1.5.4 Encourage Connectivity. Encourage interparcel connections between all sites along Prices Fork Road for both vehicles and pedestrians, including making new connections to existing neighborhoods that need better and safer access, such as Montgomery Farms.

This project provides the vehicular and pedestrian access to Montgomery Farms stated in this goal. Future connections to other adjacent parcels are also planned for with this development.

PFV 6.6 Promote Regional Stormwater Management. *The County will create guidelines and regulations for coordinating stormwater management facilities on a regional and sub-regional basis rather than site by site.*

At the time of redevelopment and site plan preparation, the applicant will engage the County on options, either onsite or offsite, that may mutually benefit the applicant and the Village regarding regional stormwater management.

PFV 9.1 Greenway Park and Trail System. *Support the development a county-wide greenway park and trail system master plan.*

The development plan shows a conceptual location for a trail that could provide a connection in the future to parcels on either side of Westhill.

PFV 9.2 Pocket and Neighborhood Parks and Green Spaces. *Encourage developers to provide pocket and neighborhood parks and green spaces in their development designs.*

Open space and parks will be provided to serve the residents of the development.

PFV 10.2.1 Interconnected Grid Network. *Interconnect new streets to form a loose grid network.*

A street network has been designed for the subdivision and provides interconnectivity to all parts of the neighborhood as well as to the existing Montgomery Farms subdivision.

PFV 10.2.2 Pedestrian Facilities. *Incorporate pedestrian paths or sidewalks into all new and existing street systems to protect pedestrians and improve mobility.*

Sidewalks are proposed on both sides of all new public roads to be constructed in the Westhill neighborhood.

PFV 10.3 Strongly Discourage Cul-de-Sacs. *As shown on the Illustrative Plan Map, cul-de-sacs undermine the desired connectivity of Prices Fork. In order to achieve safe streets with a sense of privacy, courts or "eyebrows" can be created rather than cul-de-sacs.*

Very few cul-de-sacs are proposed in the overall development. Private alleys are proposed to service the northern section of townhomes.

PFV 10.6 Manage Access. *Limit new access points on the major through-roads designated in this Plan.*

Entrances planned with this development have been planned incorporating access management guidelines.

PFV 10.7 Construct Roads in Conjunction with Rezoning Approvals. *Require development applicants to dedicate right-of-way and build their portion of new roads, in conjunction with receiving zoning approvals for higher densities.*

The project will construct any road improvements required per the results of the traffic study performed for this project.

PFV 10.9 Pursue Public Transit. *The County will pursue opportunities for public transit, such as a trolley or bus system service to key points within Prices Fork.*

The developer would be in favor of the County bringing public transit opportunities to the Village. This service would be very helpful for the residents of Westhill.

PFV 11.1 Extent Public Water and Sewer Service. *The County will provide and manage public water and sewer service for Prices Fork. The County will require that new development connect to these systems and will prohibit new private wells and septic systems. The project will connect to public water and sewer.*

PFV 11.2 Limit of Public Water and Sewer Expansion. *The County will limit water and sewer service to the designated Service Area set forth in this Plan. Providing public utility service only to the designated area will ensure that new development is compatible with the villages historic character, is affordable for the County to serve, and enhances rather than degrades the quality of life for local residents.*

Public water and sewer service are available to the site and it has been anticipated that those utilities would serve this property.

PFV 11.3 Treatment Capacity. *The County will monitor available treatment capacity. The County will approve rezonings to higher intensity uses only in conjunction with assurances that adequate water and wastewater treatment capacity will be available. Treatment capacity will be expanded in accord with the County's long-range capital improvement plans. Public utility capacity will be planned to accommodate the orderly growth in the area, in accord with the County's overall Comprehensive Plan, rather than to create or "drive" that growth.*

The County has provided a water and sewer availability letter for this rezoning. Additional projected flow information is included below.

PFV 11.5 Underground & Buried Utilities. *Require developers to place utilities underground in all new developments.*

New utilities resulting from the redevelopment of this site will be installed underground.

Site Development Regulations

Parent Parcel Perimeter Setbacks and Yards

- (a) Buffer yards shall be provided along the exterior property lines as required by the Montgomery County Zoning Ordinance.

Lot Area, Setbacks, Frontage, Lot Depth, and Area (Townhomes only)

- (a) Minimum setbacks for Townhomes are as follows:
 - Front Setback: Ten (10) feet
 - Side Setback for end units: Ten (10) feet
 - Rear Setback: Twenty (20) feet
- (b) The minimum lot width shall be twenty-two (22) feet and be maintained, at a minimum, for the entire depth of the lot.
- (c) Minimum lot depth shall be sixty-five (65) feet.
- (d) Although the above dimensions indicate required minimums, no lot shall have less than 1,430 square feet in total lot area.
- (e) Front porches & stoops and rear decks and patios (covered or uncovered) may extend into the front and rear setbacks.

Lot Area, Setbacks, Frontage, Lot Depth, and Area (Villas only)

- (a) Minimum setbacks for Villas are as follows:
 - Front Setback: Twenty (20) feet
 - Side Setback for end units: Fifteen (15) feet
 - Rear Setback: Fifteen (15) feet
- (b) The minimum lot width shall be thirty-two (32) feet and be maintained, at a minimum, for the entire depth of the lot.
- (c) Minimum lot depth shall be ninety-five (95) feet.
- (d) Although the above dimensions indicate required minimums, no lot shall have less than 3,000 square feet in total lot area.
- (e) Front porches & stoops and rear decks and patios (covered or uncovered) may extend into the front and rear setbacks.

Lot Area, Setbacks, Frontage, Lot Depth, and Area (Single Family only)

- (a) Minimum setbacks for Single Family homes are as follows:
 - Front Setback: Twenty (20) feet
 - Side Setback: Ten (10) feet
 - Rear Setback: Thirty (30) feet
- (b) The minimum lot width shall be eighty (80) feet and be maintained, at a minimum, for the entire depth of the lot.
- (c) Minimum lot depth shall be one hundred twenty (120) feet.
- (d) Although the above dimensions indicate required minimums, no lot shall have less than 9,600 square feet in total lot area.
- (e) Front porches & stoops and rear decks and patios (covered or uncovered) may extend into the front and rear setbacks.

Clubhouse and constructed amenities

- (a) The clubhouse will be setback a minimum of twenty (20) feet from any public right of way.
- (b) Other constructed amenities such as the pool will be setback a minimum of twenty (20) feet from any public right of way.
- (c) Parking for the clubhouse shall be setback a minimum of fifteen (15) feet from any public right of way.

Height

Buildings may be erected up to Forty (40) feet in height above the main finished floor elevation; except that no accessory building within twenty (20) feet of any lot line shall be more than thirty-five (35) in height. All accessory buildings shall be less than the main building in height.

Accessory Buildings

The minimum setback for accessory buildings, regardless of height, is five feet from any adjoining rear or interior side property line and a minimum of 10 feet from any side street right-of-way line, except:

- a. Accessory buildings shall not be constructed inside of, or on any portion of, any easement.
- b. The front facade of any accessory structure shall be set back a minimum of ten feet from the rear of the principle structure.

Density

The maximum residential density for the overall development shall be five (5) units per acre.

Driveways (Townhomes only)

- (a) Driveways for Townhome Type A units shall enter from private alleys as shown on the Masterplan.
- (b) Driveways for Townhome Type B units shall enter from the public streets and shall meet VDOT driveway spacing criteria.
- (c) Driveways for Single Family lots shall enter from the public streets and shall meet VDOT driveway spacing criteria.

Parking

- (a) Townhomes shall be parked at a ratio of 2 spaces per unit and may be provided in garages, in driveways (including behind garages). Additional parking spaces may be provided off the internal alleys during the site plan development stage.
- (b) Villas shall be parked at a ratio of 2 spaces per unit and may be provided in garages, in driveways (including behind garages).
- (c) Any residential units with a garage may count garage spaces towards their required parking ratio.
- (d) As all main roads will be public, road widths will be designed to allow for on-street parking on one or both sides of the road. That on-street parking will provide adequate additional parking for any visitors or guests.
- (e) Parking on one side of the private alleys shall be allowed if determined appropriate by the Homeowners Association. Allowances and restrictions of this use will be provided in the Association documents.

Occupancy

Townhomes and Villas will have the following occupancy requirements. The maximum dwelling unit occupancy shall be a family, plus two (2) unrelated individuals; or no more than three (3) unrelated persons.

Miscellaneous Provisions

- (a) Driveways entrances will be designed and constructed in accordance with the Montgomery County Zoning Ordinance and VDOT standards.
- (b) Sidewalks will be provided along both sides all proposed public streets. All principle structures shall be provided with a minimum three feet wide walkway connected to the street right-of-way, or alternatively, to the driveway. Units may share sidewalks.
- (c) Rear privacy fencing between townhome units shall not be required.

Water & Sewer Service

The proposed rezoning area is on the north side of Prices Fork Road and north of the existing Montgomery Farms subdivision. Currently the site does have public water service located adjacent to the parcel boundaries via a 12" waterline in Prices Fork Road. The property directly west of the subject property is owned by Northstar Church and is currently under construction. As part of the new church facility, an 8" waterline extension is being installed from a new connection to the 12" waterline. Montgomery County PSA has discussed the Westhill application with the NRV Regional Water Authority that controls the 12" waterline in Prices Fork. The Water Authority prefers not to have a separate connection to the 12" waterline for the Westhill subdivision but instead prefers a connection to the new 8" line being constructed for Northstar. Westhill will plan to tie to that new waterline and extend new waterlines throughout the proposed development at a minimum of 8" diameter. However, if the Church project were to not move forward and the 8" waterline is not installed or easements are not able to be obtained, Westhill would have the right to make a new connection to the 12" waterline in Prices Fork with approval of the Water Authority. The project will also connect to the existing 6" waterline located on Old Fort Road in the Montgomery Farms subdivision. This will complete a "loop" which is beneficial for redundant service to customers in case of a watermain break. Fire hydrants will be installed throughout the development as well in accordance with PSA and Emergency Services requirements.

Sanitary sewer extensions will be required for the development as well. A new 8" sanitary sewer main is proposed to be constructed by Northstar Church and Shah Development which will cross the Westhill property. Easements for this line have already been dedicated and design plans have been prepared. When installed, Westhill will be able to connect to that new dedicated public sewer main. Westhill would be able to design and construct their own sewer main extension if the Northstar/Shah line is not constructed. A minimum of 8" gravity sewer will be designed to service the proposed single-family homes and the townhomes in Westhill. A preliminary grading analysis has been performed and it appears the proposed lots can be serviced by gravity sewer and no public pump stations should be required.

The applicant will be required to dedicate Public Utility easements centered on all utilities that are designed and installed as public mains per Montgomery County PSA standards.

Based on Virginia Department of Health Standards, an average daily flow is estimated as follows for the proposed uses as shown on the conceptual master plan:

SINGLE-FAMILY RESIDENTIAL & TOWNHOME USE

Single Family Residential Dwelling: 145 units (a mix of 3 and 4-bedroom units).
Assumed average of 3.5 bedrooms per unit for a total of 507 bedrooms.

Design Assumptions and Calculations:

1. Assume 3.5 bedrooms per dwelling
2. Assume 2 persons per bedroom based on 12VAC5-610-670 Table 5.1
3. Water and Sewer usage for residential use is 100 gal/day per person
= 101,400 gallons per day

Townhome Residential Dwelling: 298 units (3-bedroom units).
Assumed 3-bedroom units for a total of 894 bedrooms

Design Assumptions and Calculations:

1. Assume 3 bedrooms per dwelling
2. Assume 2 persons per bedroom based on 12VAC5-610-670 Table 5.1
3. Water and Sewer usage for residential use is 100 gal/day per person
= 178,800 gallons per day

TOTAL ESTIMATED WATER/SEWER USAGE BY PROPOSED DEVELOPMENT = 280,200 gallons per day

The subject property is identified in the Montgomery County Comprehensive Plan as Village Expansion. The Comprehensive Plan further states that Village Expansion areas are "...natural expansion areas for the Villages that may potentially be served by future public sewer and water extensions. Preliminary boundaries should be set based on utility service areas, physical and natural features that define the "area of interest" and existing zoning." As this area already has water and sewer service available, as specified in service availability letter provided by the Montgomery County PSA, this development does meet the requirements as described in the Comprehensive Plan.

Applicant will construct or cause to be constructed at no expense to the County all water/sewer mains and appurtenances on the Property and will connect the water/sewer mains to publicly owned water/sewer mains. All water mains and sewer mains will be constructed to the standards of the Montgomery County PSA, will comply with the regulations and standards of the PSA and will comply with the regulations and standards of all other applicable regulatory authorities. All water mains and appurtenances and sewer mains will be dedicated to public use.

Roads

The proposed development conceptual plan indicates that are two main entrance /access points into the Westhill development. Both entrances will be located on Prices Fork

Road. The western most entrance is approximately 525 feet west of Stratford View Drive and is planned to be the main boulevard entrance road. It is designated Road A on the conceptual master plans. The road will be heavily landscaped and will have no private access points off it until you reach the clubhouse parking area and the single-family residential lots. The eastern entrance is directly across Prices Fork from Stratford View Drive and is designated Road B on the conceptual master plan. These locations will provide all required intersection sight distances and stopping sight distances as dictated by the Virginia Department of Transportation. All public roads shall be designed to VDOT and Montgomery County standards. All public roads will have sidewalks and curb and gutter and will be designed to have on street parking on one or both sides depending on final determination by the applicant.

The single-family detached lots and the Villa lots will have individual driveway connections to the public roads fronting each lot. The townhome units will not have individual driveway access to the public roads. The townhomes have been designed in pods which will be accessed by a series of private alleys. These alleys lead to the rear of the units where their driveways and garages are. While this is an additional expense by the applicant, it allows the townhomes to move closer to the main roads and create a more inviting and pedestrian level streetscape. It also allows for internal greenspace courtyards to be created where lots do not front directly on the public street. All alleys and parking areas internal to the project will be private and will not be dedicated as public right of way. Thus, all maintenance of these areas will be the responsibility of the future Homeowners Association or management company.

The road layout provides extensive connectivity throughout the subdivision and has very few cul-de-sacs. There are only three cul-de-sacs shown and they serve a total of only 35 lots of the overall 145 single family detached lots. The road system and design also will provide a secondary connection to from Old Fort Road in the existing Montgomery Farms subdivision to Prices Fork Road. Currently Montgomery Farms only has one access to Prices Fork Road and that is along Thomas Lane. A second connection has been discussed and desired for many years for convenience to residents and for better access for emergency services. This connection point to Old Fort Road is in the location of a platted right of way that was dedicated to Montgomery County during the original subdivision platting process. There is also multiple future road connection stub-outs shown on the masterplan to undeveloped adjacent properties. This will allow for future connectivity as desired by Montgomery County and VDOT.

As part of this rezoning application, a Traffic Impact Analysis has been performed to study the potential impacts of this new development on the existing road system of Prices Fork Road. Meetings with County staff and VDOT representative occurred prior to this filing to ensure the parameters of the study were appropriate and considered the additional planned growth that is occurring along the Prices Fork Road corridor. Traffic consultants Ramey Kemp were contracted to perform this analysis. The complete study is included with this application and provides all background data, analysis and recommendations. Below is the trip generation for the proposed subdivision and the

recommendations provided in their report for road improvements necessary to accommodate the new development.

Upon review of the ITE Trip Generation 10th Edition manual, the project is expected to generate the following additional vehicle trips.

TRIP GENERATION

ITE Land Use (ITE Code)	Density	Average Daily Traffic (vpd)	AM Peak Hour (vph)		PM Peak Hour (vph)	
			Enter	Exit	Enter	Exit
Single-Family Detached Housing (210)	145 Dwelling Units	1,464	27	81	91	54
Multifamily Housing (Low-rise) (220)	289 Dwelling Units	2,144	30	101	96	56
Total		3,608	57	182	187	110

Based on VDOT’s Access Management Design Standards for Entrances and Intersections and traffic capacity analysis, the following improvements are expected to accommodate the projected 2030 traffic conditions with the proposed development fully built out:

Prices Fork Road and Stratford View Road/Eastern Site Access:

- Construct a 200-foot bay taper on the eastbound approach of Prices Fork Road.
- Construct an exclusive left turn lane with a minimum of 200 feet of full storage and 200 feet of bay taper on the westbound approach of Prices Fork Road.
- In addition, a two-lane approach consisting of a shared left-through lane and an exclusive right turn lane should be provided with a minimum of 100 feet of full storage and 100 feet of bay taper within the site access.

Prices Fork Road and Western Site Access:

- Construct an exclusive right turn lane with a minimum of 100 feet of full storage and 200 feet of bay taper on the eastbound approach of Prices Fork Road.
- Construct an exclusive left turn lane with a minimum of 200 feet of full storage and 200 feet of bay taper on the westbound approach of Prices Fork Road. With the construction of an exclusive left turn lane at this location and the proximity to the eastern site access, it is recommended that a three-lane section be constructed between the two intersections.
- In addition, a two-lane approach consisting of exclusive left and right turn lanes should be provided with a minimum of 100 feet of full storage and 100 feet of bay taper within the site access.

Water Quality & Stormwater Management Standards

The overall property currently drains naturally north to south in multiple smaller drainage areas. All these areas flow to Walls Branch – some by overland flow through the Vaughan and Wall properties and some off to the southwest which forms a small tributary that flows through Montgomery Farms and ties into Walls Branch near the terminus of Mockingbird Drive. Approximately 1,600 feet further south, Walls Branch connects to Stroubles Creek which then continues southwest until it converges with the New River.

Open space areas have been sited throughout the property to allow for multiple stormwater management facilities to be constructed upon the development of the project. These facilities will be designed and permitted through Montgomery County and the Department of Environmental Quality during the site plan and subdivision platting stage. As development occurs and impervious areas increase on the project site, stormwater management will be required to control the increased water flows as they move offsite to these tributaries. These stormwater management facilities would be sized to accommodate the additional stormwater runoff created by the increased impervious areas of the development and designed to reduce the amount of post development runoff. It is anticipated that water quality requirements for the project may be achieved through a variety of possible design options such as retention, bio-retention and the purchase of nutrient credits. The proposed stormwater management areas will conform to all applicable Department of Environmental Quality regulations dealing with stormwater quantity and quality. At a minimum, the 2-Year and 10-Year post-development runoff rates will be less than or equal to the 2-Year and 10-Year pre-development runoff rates, and all current channel and flood protection requirements set by the Virginia Stormwater Management Program will be met. Downstream adequacy will also be addressed with the overall stormwater management plan to ensure areas downstream of the project site do not see increased flooding or erosion. With these design measures in place, there should be no negative impact on the groundwater supply for any adjacent well users.

Project Phasing

The development of the project is planned to be constructed over a 5-8-year period. It is planned that an overall mass grading plan will be provided in the first set of construction documents so that the entire site can be graded at one time. This will ensure that all roads, sanitary sewer and stormwater management facilities are planned accordingly for the entire development. The exact infrastructure to be constructed in the first phases will be dependent on which areas of the site are developed first. It is the applicant's desire to have multiple product type available for sale early in the project timeline. This would require any infrastructure needed for construction of a portion of the townhomes, the villas and the single family to be in place.

All product type including the townhome units also proposed to be subdivided on individual lots and will be for sale units. All subdivided lots will meet the requirements

stated within this rezoning application and the Montgomery County Zoning Ordinance and Subdivision Ordinance as applicable.

Homeowner's Association

A Homeowner's Association or a management association will be formed and be responsible for the maintenance of the proposed open space and active recreational uses including the Clubhouse and pool area. These areas will be under the development's ownership or the established Association and will be maintained at no cost to the general taxpayer. A management company will also oversee exterior maintenance required for the parking areas and stormwater management areas. Lawn maintenance for portions of the development may also be provided for at the developer's discretion.

No dumpsters are proposed with this plan as all units will have individual trash cans. Pickup of these trash cans shall be by a private collection company contracted by the Homeowner's Association.

Landscaping/Buffering

Landscaping will be provided as specified in the Montgomery County Zoning Ordinance based on the land use buffer matrix. The subject property use would two Land Use Group classifications. The single-family lots would be a Land Use Group 1 and the Townhomes would be classified as Land Use Group 2. No buffers are required for a Land Use Group 1 classification. However, the Land Use Group 2 areas would be required to provide buffers along certain perimeters of the development. A Type 2 buffer would be required along the perimeter of the parent parcel where the Townhomes are proposed and adjacent to the northern most proposed single-family lots. A Type 1 may be required between the two different types of townhome styles proposed with this development. While only a Type 2 buffer is required along Prices Fork Road, the applicant may wish to provide additional landscaping along this critical corridor. There is also planned to be additional landscaping along the boulevard entry road, specific open space parcels and around the clubhouse area.

Site Lighting

Site lighting will be provided as specified in the Montgomery County Zoning Ordinance.

Signage

The developer reserves the right to construct project identification signs at locations to be determined during the final construction plan development and approval process. Any proposed signage will be permitted separately, and the designs and sizes will meet the signage requirements as stated within the Montgomery County zoning ordinance.

Housing Resources

Housing continues to be a challenge for Montgomery County as a whole. Particularly in areas adjacent to the two Towns. Housing stock is at a very low level and when homes become available for sale, they are typically under contract in a short amount of time and often with multiple back up offers. The type of housing desired is also changing in Montgomery County. While the standard single-family detached home on large lot is still in demand, there has been a shift towards attached units such as townhomes, duplexes, and multi-family. These units, when new, provide a high-quality, energy efficient housing opportunity for young professionals, smaller families, empty nesters, and seniors with little outside maintenance.

According to the Housing Resources section of the Comprehensive Plan, single family attached housing units account for only 6.5% of the housing stock in Montgomery County in 2000. While this number has likely increased over the last 19 years, it is still a more underutilized housing unit in the unincorporated areas of the County. Based on overall development patterns and availability of adequate infrastructure, most of these units are within the limits of the Town of Blacksburg and Town of Christiansburg. The majority of the townhome units in the Blacksburg area are purpose built or marketed to undergraduate students. There are some larger townhome developments such as The Orchards, Oaktree, Cambria Crossing, Clifton Townhomes that do not cater towards the Virginia Tech student population and provide this critical housing type. The location of Westhill will provide an excellent location for these units and will continue to address the increasing housing demand near the Blacksburg area of the County.

Public School Impacts

The proposed residential master planned development in the proposed PUD-RES zoning district will be designed to allow up to 539 residential units. Based on the national average of a single dwelling unit adding 0.6 students to the school system, the project would on average have the potential of increasing the enrollment by 323 total students. Full build-out and occupancy of the project will likely be 5-8 years after rezoning approval, thus the development would likely not create an instant adverse impact on the school system.

APPENDIX A

PSA AVAILABILITY LETTER



**MONTGOMERY COUNTY
PUBLIC SERVICE AUTHORITY**

**Government Center
Suite 2I
755 Roanoke Street
Christiansburg, VA 24073-3185**

M. Todd King, Chairman
Darrell O. Sheppard, Vice-Chair
Mary W. Biggs, Secretary-Treasurer
Sara R. Bohn, Member
April N. DeMotts, Member
Steve R. Fijalkowski, Member
Christopher A. Tuck, Member

Charles E. Campbell
Interim PSA Director

August 28, 2019

Steve Semones, LA
Executive President
Balzer & Associates
80 College Street, Suite H
Christiansburg, Virginia 24073

Dear Mr. Semones:

Water is available to parce #019364, 012091 and 011177 by an 8" line not yet constructed by Northstar Church. There will also be a connection to a 6" line at the intersection of Old Fort Road.

Sewer will be available to these parcels once a sanitary sewer line extension is built by the developer of Northstar Property and Shah Development.

Cost for connections:

Water \$3,425.00 per connection

Sewer \$3,950.00 per connection

Pool and Pool House fee will be based on meter size.

Please feel free to contact me with any questions you may have.

Sincerely,

A handwritten signature in black ink that reads "Charles E. Campbell".

Charles E. Campbell
Interim PSA Director

ADMINISTRATIVE OFFICES: (540) 381-1997
BILLING & COLLECTIONS: (540) 382-6930
FAX NO. (540) 382-5703

APPENDIX B

ARCHITECTURAL EXAMPLES
AND HOME STYLES







APPENDIX C
ZONING DRAWINGS

Traffic Impact Analysis
Westhill Rezoning
Montgomery County, Virginia
August 2019



TRAFFIC IMPACT ANALYSIS
FOR
WESTHILL REZONING

LOCATED
IN
MONTGOMERY COUNTY, VIRGINIA

Prepared for:
Snyder & Associates
500 South Main Street
Blacksburg, Virginia 24060

Prepared by:
Ramey Kemp & Associates, Inc.
621 Jonestown Road
Suite 221
Winston-Salem, North Carolina 27103

August 2019
RKA Project – 19294

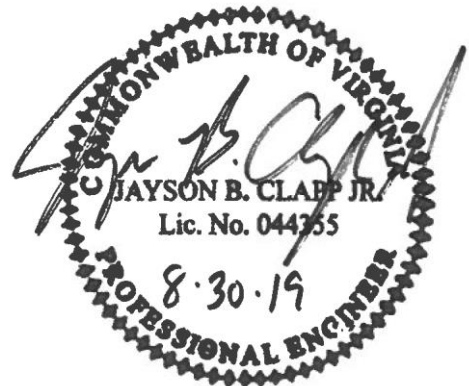


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TRAFFIC IMPACT ANALYSIS WESTHILL REZONING MONTGOMERY COUNTY, VIRGINIA

1. INTRODUCTION

This report summarizes the findings of the Traffic Impact Analysis (TIA) that was performed for the proposed rezoning of the Westhill property located at 3871 Prices Fork Road in Montgomery County, Virginia. The purpose of this study is to evaluate the future traffic conditions at the proposed site access locations and determine what mitigation measures, if any, are needed to accommodate the projected traffic volumes.

1.1. Executive Summary

The proposed site is located on the south side of Prices Fork Road east of Prices Fork Elementary School in Montgomery County, Virginia. The development of the site is proposed to consist of 145 single-family homes and 289 townhomes. If approved, the residential development is anticipated to be fully built out by the year 2030. Full access to Prices Fork Road is to be provided via two (2) new connections, one located opposite Stratford View Drive, and the second located approximately 525 feet west. Distance is measured center-to-center.

Based on coordination with Virginia Department of Transportation (VDOT), it was determined that the weekday AM and PM peak hours would be analyzed at the proposed site access locations under future (2030) 'build' traffic conditions.

Based on the traffic capacity and queuing analysis results, the following improvements are expected to sufficiently accommodate the future (2030) 'build' traffic conditions with the residential development fully built out:

Prices Fork Road and Stratford View Road/Eastern Site Access:

- Construct a 200-foot bay taper on the eastbound approach of Prices Fork Road.
- Construct an exclusive left turn lane with a minimum of 200 feet of full storage and 200 feet of bay taper on the westbound approach of Prices Fork Road.
- In addition, a two-lane approach consisting of a shared left-through lane and an exclusive right turn lane should be provided with a minimum of 100 feet of full storage and 100 feet of bay taper within the site access.

Prices Fork Road and Western Site Access:

- Construct an exclusive right turn lane with a minimum of 100 feet of full storage and 200 feet of bay taper on the eastbound approach of Prices Fork Road.
- Construct an exclusive left turn lane with a minimum of 200 feet of full storage and 200 feet of bay taper on the westbound approach of Prices Fork Road. With the construction of an exclusive left turn lane at this location and the proximity to the eastern site access, it is recommended that a three-lane section be constructed between the two intersections.
- In addition, a two-lane approach consisting of exclusive left and right turn lanes should be provided with a minimum of 100 feet of full storage and 100 feet of bay taper within the site access.

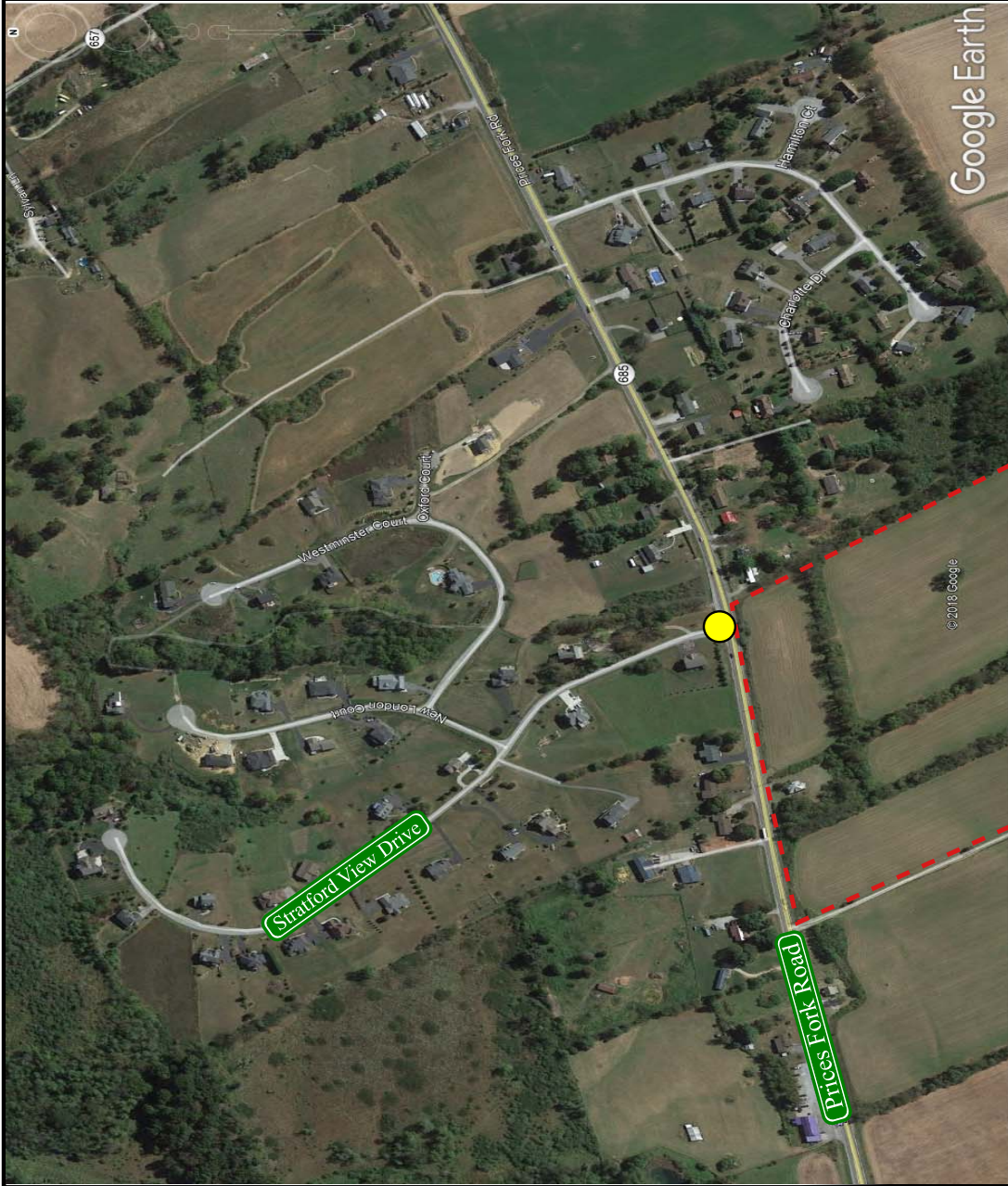
1.2. Site Location and Study Area

The proposed site is located on the south side of Prices Fork Road [east of Prices Fork Elementary School] in Montgomery County, Virginia. The study area was developed through coordination with VDOT and consists of the proposed site access locations. Refer to Appendix A for a copy of the Pre-Scope of Work Meeting Form.

Refer to Figure 1 for the site location map.

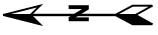
1.3. Existing Land Uses


The site is currently undeveloped.



LEGEND

-  Study Intersection
-  Proposed Site Location



	<p>Westhill Rezoning Montgomery County, VA</p>		<p>Site Location Map</p>
<p>Scale: Not to Scale</p>			<p>Figure 1</p>

1.4. Proposed Land Uses and Access

The development of the site is proposed to consist of 145 single-family homes and 289 townhomes. If approved, the residential development is anticipated to be fully built out by the year 2030. Full access to Prices Fork Road is to be provided via two (2) new connections, one located opposite Stratford View Drive, and the second located approximately 525 feet west. Distance is measured center-to-center. Refer to Figure 2 for a copy of the rezoning plan.

1.5. Existing Roadway Network

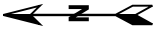
Prices Fork Road is a two-lane facility with a posted speed limit of 45 miles per hour (mph) within the study area. Based on 2017 VDOT Annual Average Daily Traffic (AADT) estimates, Prices Fork Road carries approximately 10,000 vehicles per day within the vicinity of the site.

Refer to Figure 3 for an illustration of the geometrics and traffic control at the existing study intersection.

2. TRAFFIC ANALYSIS PROCEDURE

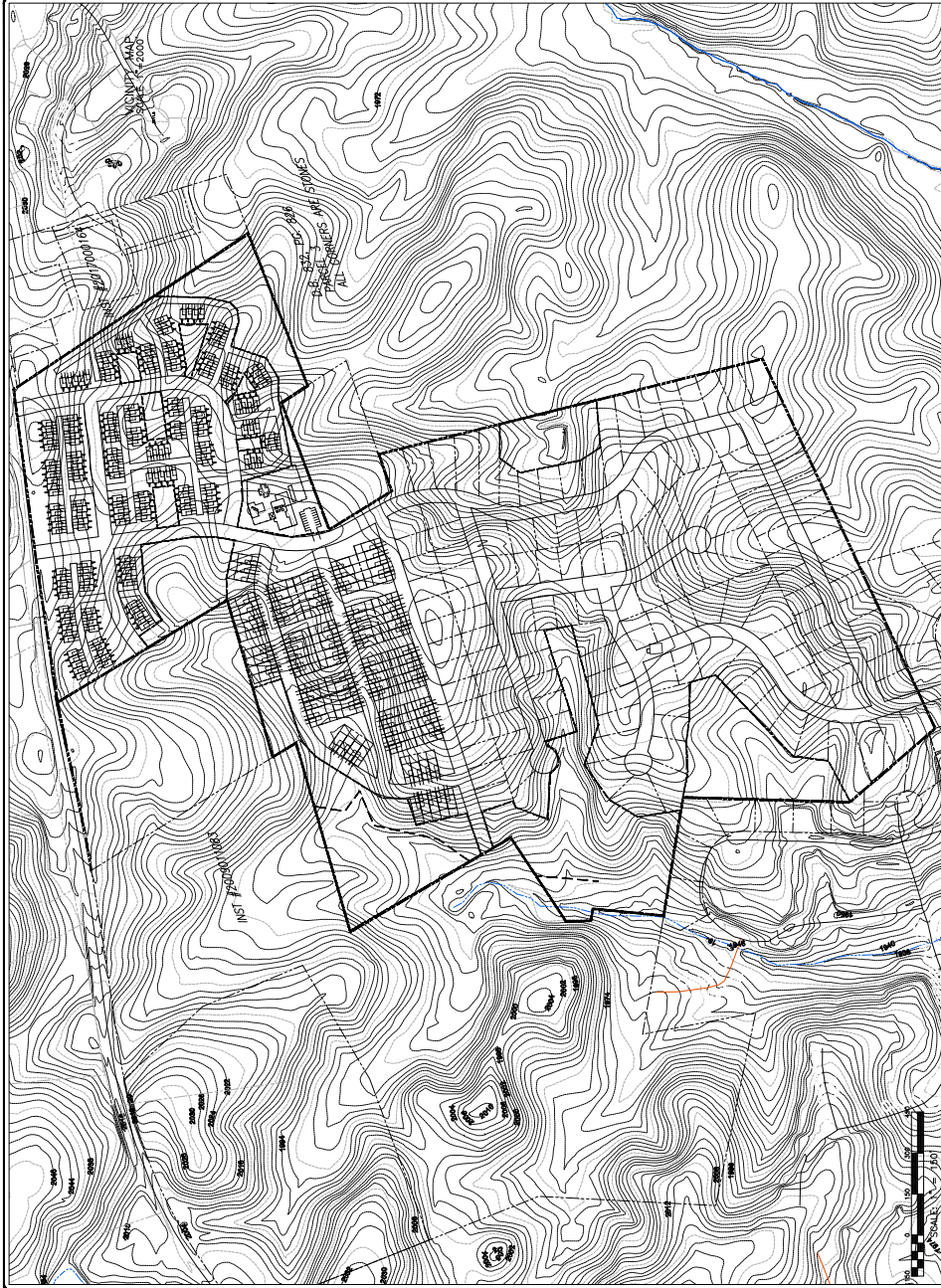
All study intersections were analyzed using the methodology outlined in the Highway Capacity Manual (HCM) published by the Transportation Research Board. The computer software package, Synchro (Version 10.2), was used to complete all analyses. Synchro was developed by Trafficware Corporation and allows the user to input data into the Synchro software and calculate the output based on methodologies in the HCM.

The HCM defines capacity as “the maximum hourly rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of a lane or roadway during a given time period under prevailing roadway, traffic, and control condition.” Level of service (LOS) is a term used to represent different driving conditions and is defined as a “qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passenger.” Level of service varies from Level “A”, representing free flow, to Level “F”, where greater vehicle delays are evident.



WESTHILL
 CONCEPTUAL MASTER PLAN
 MONTGOMERY COUNTY, VIRGINIA
 PREPARED BY: BALZER & ASSOCIATES
 DATE: 11/11/10
 SCALE: 1" = 100'

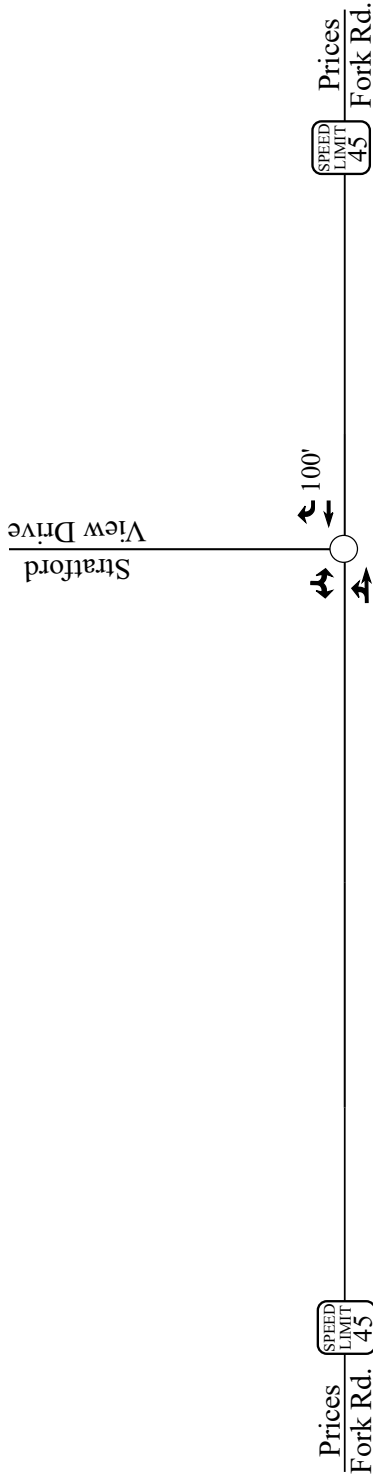
Z3
 ZONING



Westhill Rezoning
 Montgomery County, VA

Rezoning Map

Scale: Not to Scale Figure 2



LEGEND

- Unsignalized Intersection
- ➔ Existing Lane
- Ⓢ Posted Speed Limit
- X' Storage (In Feet)

	<p>Westhill Rezoning Montgomery County, VA</p>	<p>Existing Geometrics and Traffic Control</p>
<p>Scale: Not to Scale</p>		<p>Figure 3</p>

For unsignalized intersections, Synchro calculates the average control delay for stop-controlled movements but does not provide an overall LOS for the intersection. Refer to Table 1 for HCM levels of service and related average control delay per vehicle. Control delay as defined by the HCM includes “initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.” As shown in Table 1, an average control delay of 30 seconds at a signalized intersection results in LOS D operation.

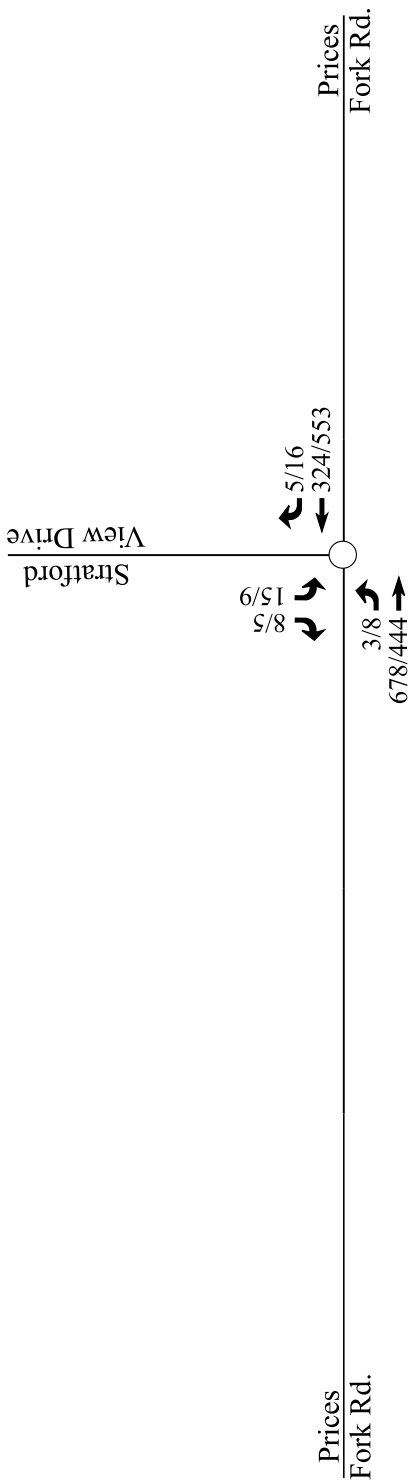
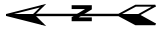
TABLE 1
HIGHWAY CAPACITY MANUAL – LEVELS OF SERVICE AND DELAY

UNSIGNALIZED INTERSECTION	
LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (SECONDS)
A	0-10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

In order to determine if proposed storage for newly warranted auxiliary turn lanes is adequate, the queue lengths at each of the intersections were evaluated under future conditions. The queue lengths reported at the study intersections are the maximum queue lengths observed by SimTraffic and are based on an average of ten (10) simulation runs.

3. EXISTING TRAFFIC CONDITIONS

Existing through volumes on Prices Fork Road at the study intersections were obtained from the Traffic Impact Analysis (TIA) that was completed for The Preserve at Walnut Springs [sealed on October 11, 2018]. Turning volumes for the Prices Fork Road/Stratford View Drive intersection were estimated utilizing methodology contained within the 10th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual. Traffic was generated for the thirty-six (36) single-family homes in the neighborhood according to the peak hour of adjacent street traffic for the land use of single-family detached (ITE Code 210). Utilizing the number of dwelling units as the independent variable and equations, trips were generated for the subdivision located opposite the proposed site. Refer to Figure 4 for an illustration of the existing traffic volumes at the Prices Fork Road/Stratford View Drive intersection. A copy of the traffic count data can be found in Appendix B.



LEGEND

- Unsignalized Intersection
- X / Y → AM / PM Peak Hour Traffic

	Westhill Rezoning Montgromry County, VA	
	Existing (2017) Traffic Volumes	Figure 4

Scale: Not to Scale

4. 'NO-BUILD' TRAFFIC CONDITIONS

4.1. Background Traffic Growth

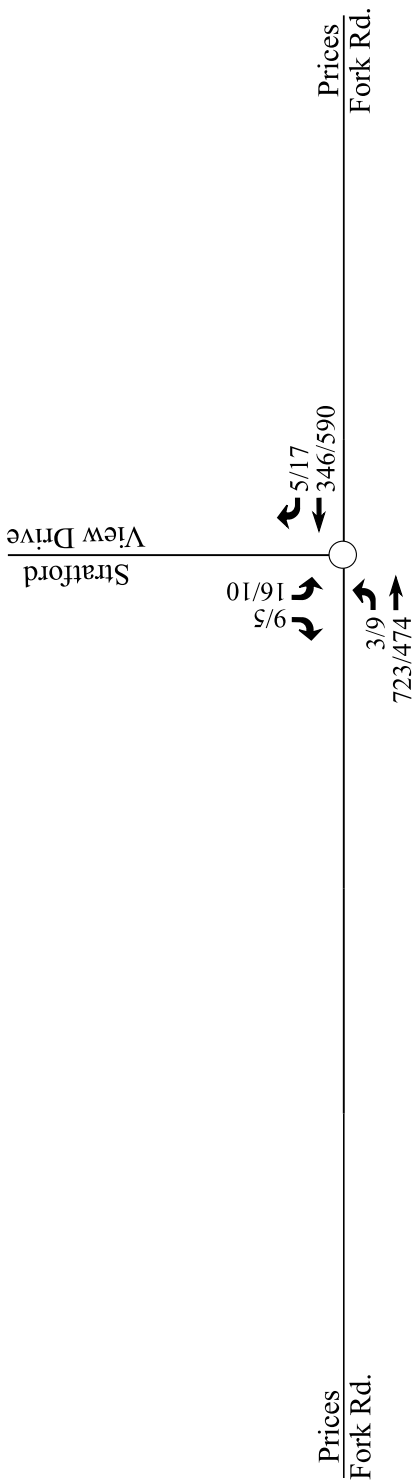
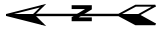
In order to account for the growth of traffic and subsequent traffic conditions at a future year, background traffic projections are needed. Background traffic is the component of traffic due to the growth of the community and surrounding area that is anticipated to occur regardless of whether the site is developed. A compounded annual growth rate of 0.5% [per VDOT] was applied to the existing traffic volumes at the Prices Fork Road/Stratford View Drive intersection to project background traffic volumes for the future year 2030. Refer to Figure 5 for an illustration of the projected (2030) peak hour traffic volumes.

4.2. Adjacent Development Traffic

Based on coordination with VDOT, it is understood that there are three (3) adjacent developments in the vicinity of the site that should be accounted for in this TIA: Old Prices Fork Elementary School Rezoning [Taylor Hollow], The Preserve at Walnut Springs, and Northstar Ministry Center.

The Taylor Hollow traffic study [completed by Blazer and Associates on April 23, 2015] proposes a multi-use development located at the old Prices Fork Road Elementary School site between Brookfield Road and Thomas Lane [west of the proposed study area]. Upon completion, the development is expected to consist of 58 apartments, 36 [attached] senior adult housing units, a 4,900 square foot daycare, and 4,888 square feet of retail space. At full build out, Taylor Hollow is expected to generate 100 total trips (43 entering and 57 exiting) during the AM peak hour, and 121 total trips (65 entering and 56 exiting) during the PM peak hour.

The Preserve at Walnut Springs Traffic Study [completed by Ramey Kemp and Associates on October 11, 2018] proposes a residential development located on Prices Fork Road [west of the proposed study area]. Upon completion, the development is expected to consist of 131 single-family homes, 126 townhomes, and 84 apartments. At full build out, The Preserve at Walnut Springs is expected to generate 187 total trips (47 entering and 140 exiting) during the AM peak hour and 242 trips (152 entering and 90 exiting) during the PM peak hour.



LEGEND

- Unsignalized Intersection
- X / Y → AM / PM Peak Hour Traffic



Westhill Rezoning
Montgomery County, VA

Projected (2030)
Traffic Volumes

Scale: Not to Scale

Figure 5

The Northstar Ministry Center Traffic Narrative [completed by Spectrum Design on June 21, 2019] proposes a church that will be utilized by members and the surrounding community for various events during the week. Based on a table indicating anticipated uses of the facility during the week, uses during the peak times of the adjacent roadway network include a coffee shop during the AM peak hour and small group/community organizational meetings occurring during the PM peak hour. Based on the information provided, the coffee shop could be expected to generate 4 total trips (2 entering and 2 exiting) during the AM peak hour, while the meetings could be expected to generate up to 43 total trips (all entering) during the PM peak hour. Refer to Figure 6 for an illustration of the total adjacent development traffic volumes. Refer to Appendix C for information related to each approved development.

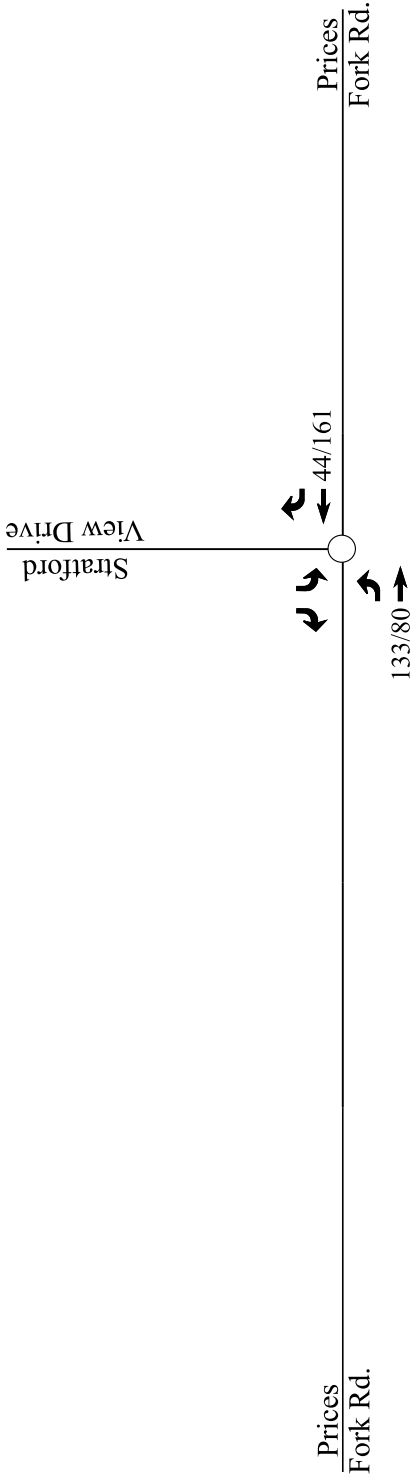
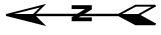
4.3. Future (2030) ‘No-Build’ Peak Hour Traffic Conditions

The ‘no-build’ (2030) peak hour traffic volumes were determined by adding the adjacent development peak hour traffic volumes to the projected (2030) peak hour traffic volumes. Refer to Figure 7 for an illustration of the future (2030) ‘no-build’ traffic volumes.

5. PROJECT TRAFFIC

5.1. Trip Generation

The proposed residential development is expected to consist of 145 single family homes and 289 townhomes. Average weekday daily as well as AM and PM peak hour site trips for this analysis were calculated utilizing methodology contained within the 10th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual. Traffic was generated according to the peak hour of adjacent street traffic for the land uses of single-family detached (ITE Code 210) and low-rise multifamily housing (ITE Code 220) for the townhomes. Utilizing the number of dwelling units as the independent variable and equations, trips were generated for each of the proposed land uses. Table 2 provides a summary of the trip generation calculations



LEGEND

○ Unsignalized Intersection

X / Y → AM / PM Peak Hour Trips

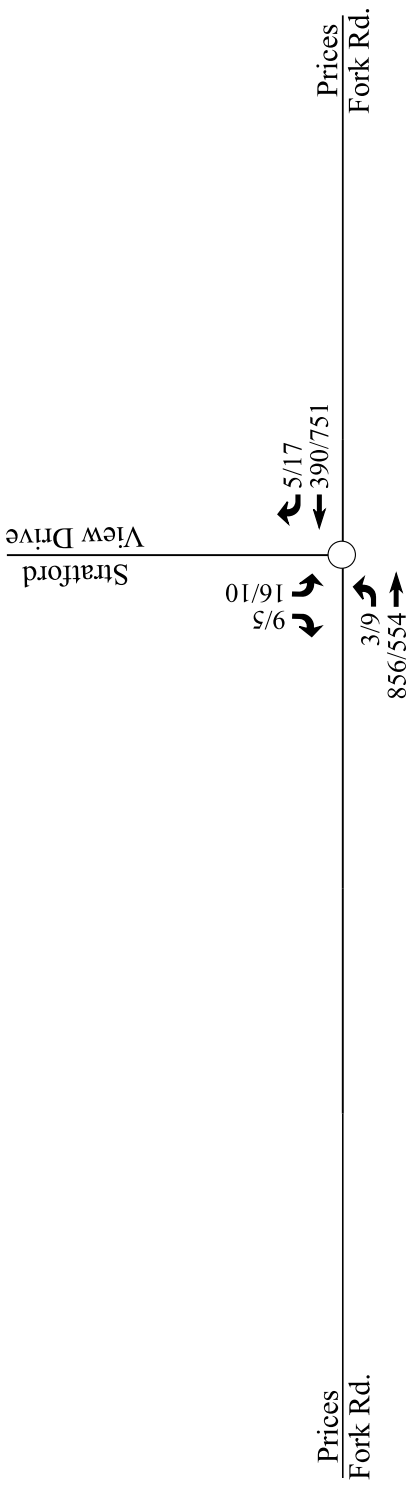
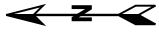


Westhill Rezoning
Montgomery County, VA

Adjacent Development
Traffic Volumes

Scale: Not to Scale

Figure 6



LEGEND

- Unsignalized Intersection
- X / Y → AM / PM Peak Hour Traffic

	Westhill Rezoning Montgromry County, VA	
	No-Build (2030) Traffic Volumes	Figure 7
Scale: Not to Scale		

**TABLE 2
TRIP GENERATION**

ITE Land Use (ITE Code)	Density	Average Daily Traffic (vpd)	AM Peak Hour (vph)		PM Peak Hour (vph)	
			Enter	Exit	Enter	Exit
Single-Family Detached Housing (210)	145 Dwelling Units	1,464	27	81	91	54
Multifamily Housing (Low-rise) (220)	289 Dwelling Units	2,144	30	101	96	56
Total		3,608	57	182	187	110

6. SITE TRIP DISTRIBUTION AND ASSIGNMENT

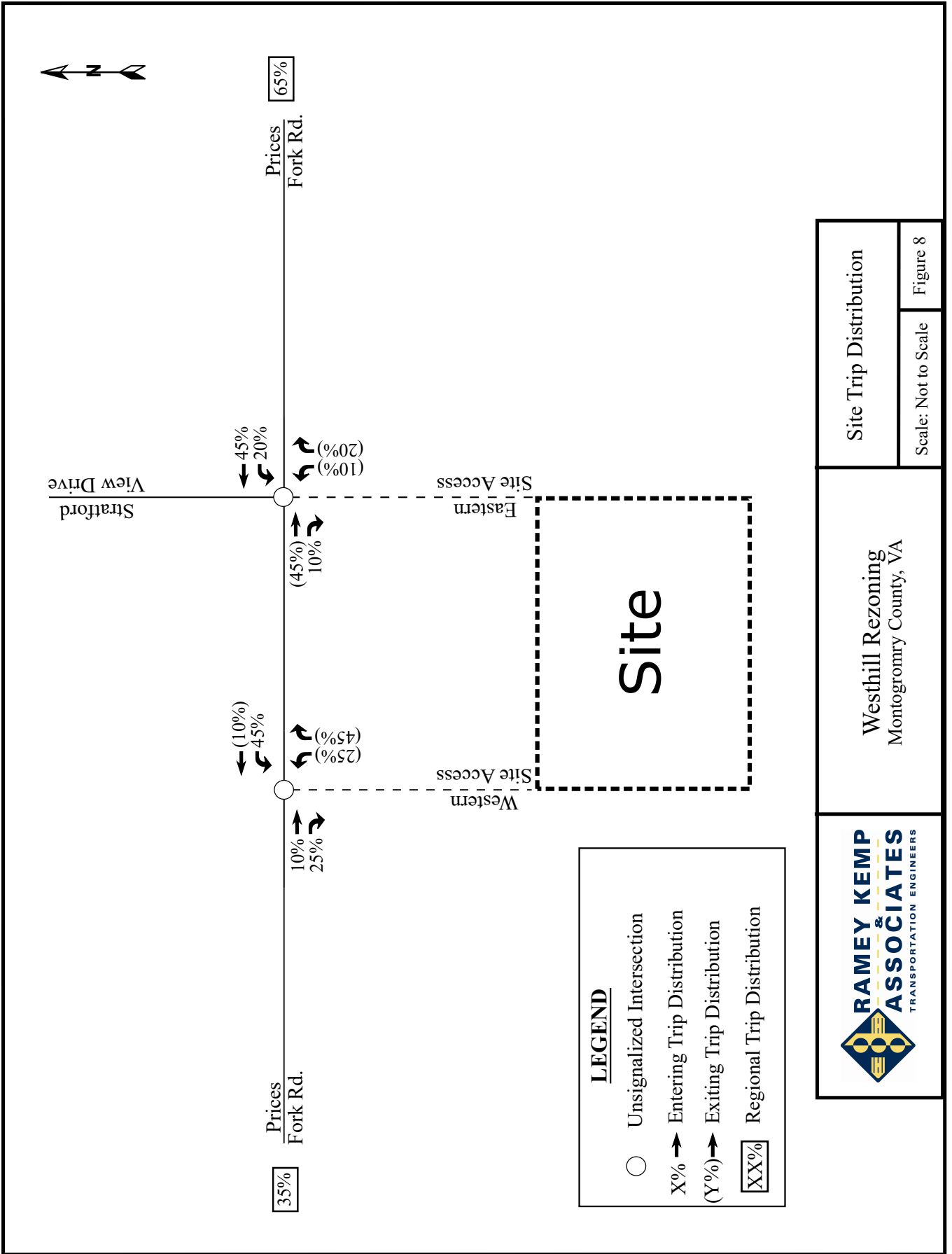
The primary site trip distribution for the proposed development was determined based on the previously prepared TIA for The Preserve at Walnut Springs and engineering judgment, and are summarized below:

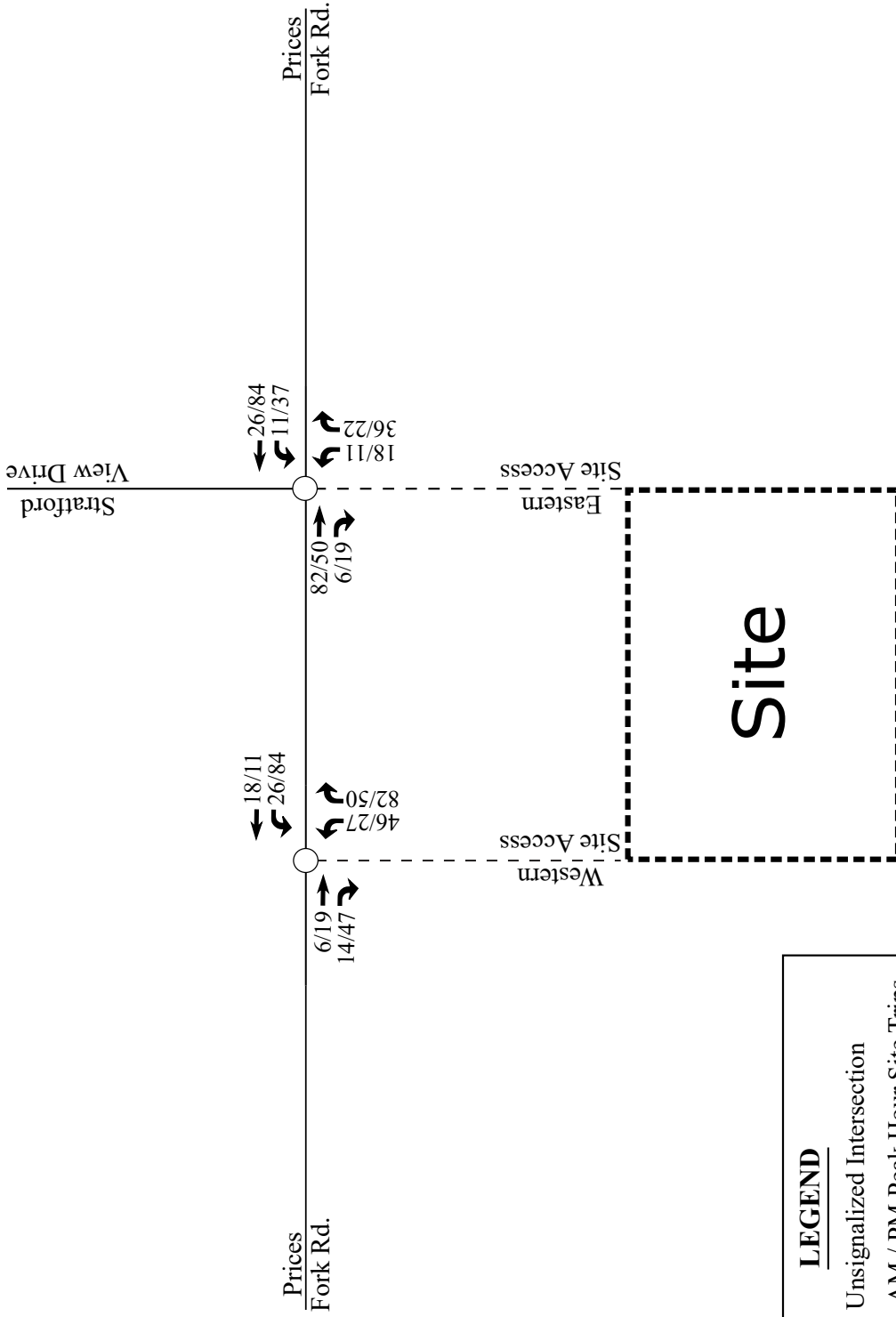
- 65% to/from the east via Prices Fork Road
- 35% to/from the west via Prices Fork Road

Refer to Figures 8 and 9 for illustrations of the site trip distribution and the site trip assignment, respectively.

7. ‘BUILD’ TRAFFIC CONDITIONS

With the construction of the proposed development, cross access is to be provided to the residential land uses located south of the site via Old Fort Road. In order to estimate the amount of [southern] residential traffic that would utilize the proposed development’s roadway network to access Prices Fork Road, trips were generated for 100 single-family homes utilizing methodology contained within the 10th Edition ITE Trip Generation Manual. This portion of the residential development is expected to generate 76 total trips (19 entering and 57 exiting) during the AM peak hour and 102 trips (64 entering and 38 exiting) during the PM peak hour. It was assumed that approximately 50% [of the 65%] of the development traffic that is expected to travel to/from the east on Prices Fork Road would utilize the proposed development’s





LEGEND

- Unsignalized Intersection
- X / Y → AM / PM Peak Hour Site Trips

	Westhill Rezone Montgomery County, VA	
	Site Trip Assignment	Figure 9

Scale: Not to Scale

roadway network. Refer to Figures 10 and 11 for illustrations of the [southern] residential traffic diversion, respectively.

7.1. Future (2030) ‘Build’ Peak Hour Traffic Conditions

Future (2030) ‘build’ conditions were determined by adding the site-generated traffic volumes (Figure 9) and the southern residential traffic diversion (Figure 11) to the future (2030) ‘no-build’ traffic volumes (Figure 7). Refer to Figure 12 for an illustration of the future (2030) ‘build’ traffic volumes with the development fully built out.

7.2. Analysis of Future (2030) ‘Build’ Peak Hour Traffic Conditions

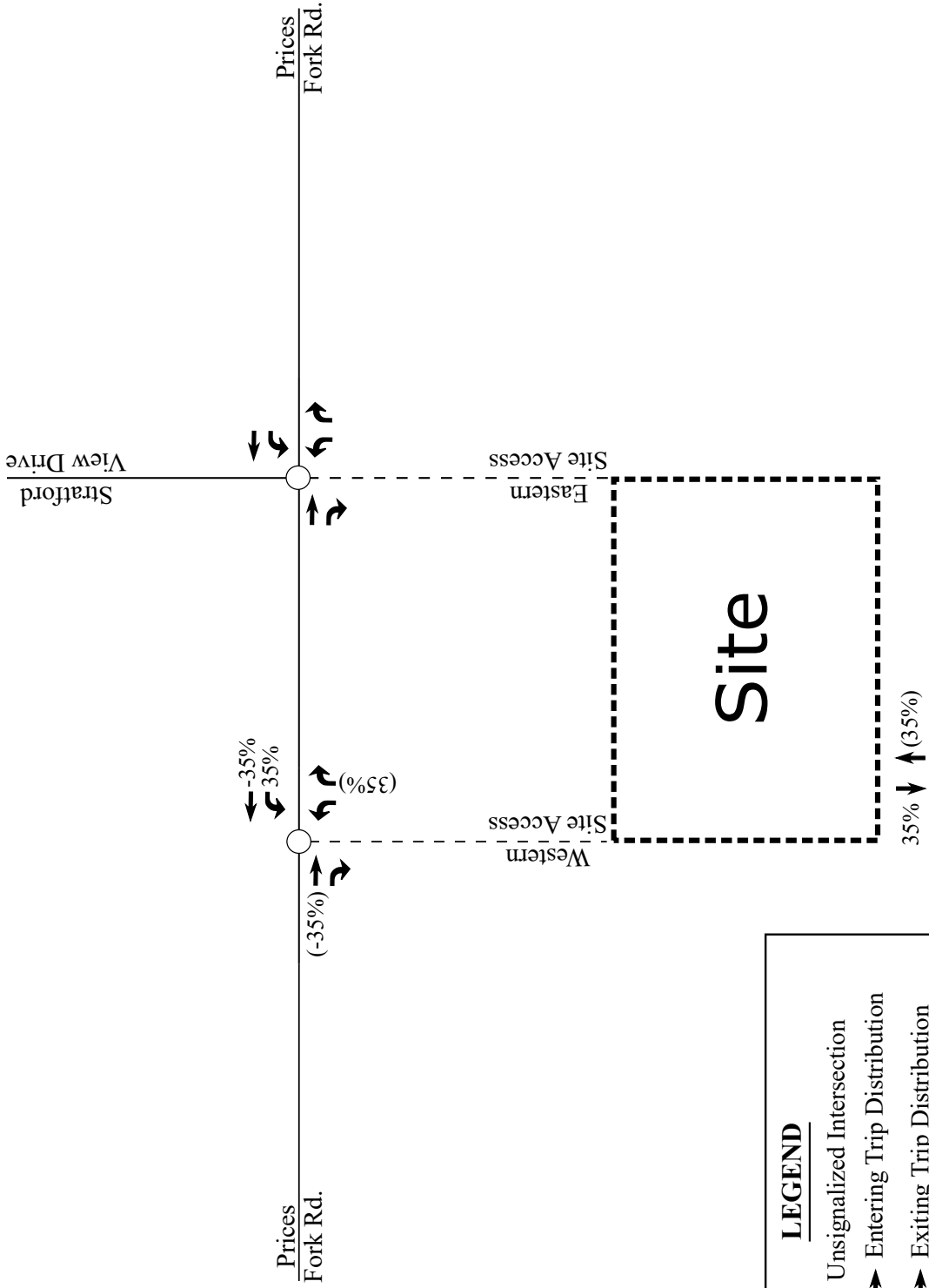
The study intersections were analyzed with the future (2030) ‘build’ traffic volumes (Figure 10), utilizing the existing truck percentages for the through movements along Prices Fork Road [as calculated in the TIA for The Preserve at Walnut Springs] and 2.0% for any turning movements at the proposed site driveway, in addition to a peak hour factor (PHF) of 0.92. The results are presented in Section 8 of this report.

8. CAPACITY ANALYSIS

8.1. Prices Fork Road and Stratford View Drive/Eastern Site Access

Refer to Table 3 for a summary of the capacity analysis results for this unsignalized intersection. Based on VDOT’s Access Management Design Standards for Entrances and Intersections, an exclusive [westbound] left turn lane and a [eastbound] right turn taper are warranted on Prices Fork Road at the Eastern Site Access. Refer to the Appendix D for the VDOT turn lane warrant diagrams. In addition to the auxiliary turn lanes on Prices Fork Road, the site access should be designed as a two-lane approach in order to provide exclusive left and right turn lanes so that turning movements can be separated. The recommended two-lane approach should be provided for a minimum of 100 feet within the site access.

Under future ‘build’ traffic conditions with the auxiliary turn lanes provided, in addition to an exclusive eastbound left turn lane [recommended to provide symmetrical widening], capacity analysis indicates that the major street [eastbound and westbound] left turn movements on Prices Fork Road are expected to experience minor delays of less than 10.5 seconds per vehicle and operate at LOS B or better during the AM and PM peak hours. The stop-controlled



LEGEND

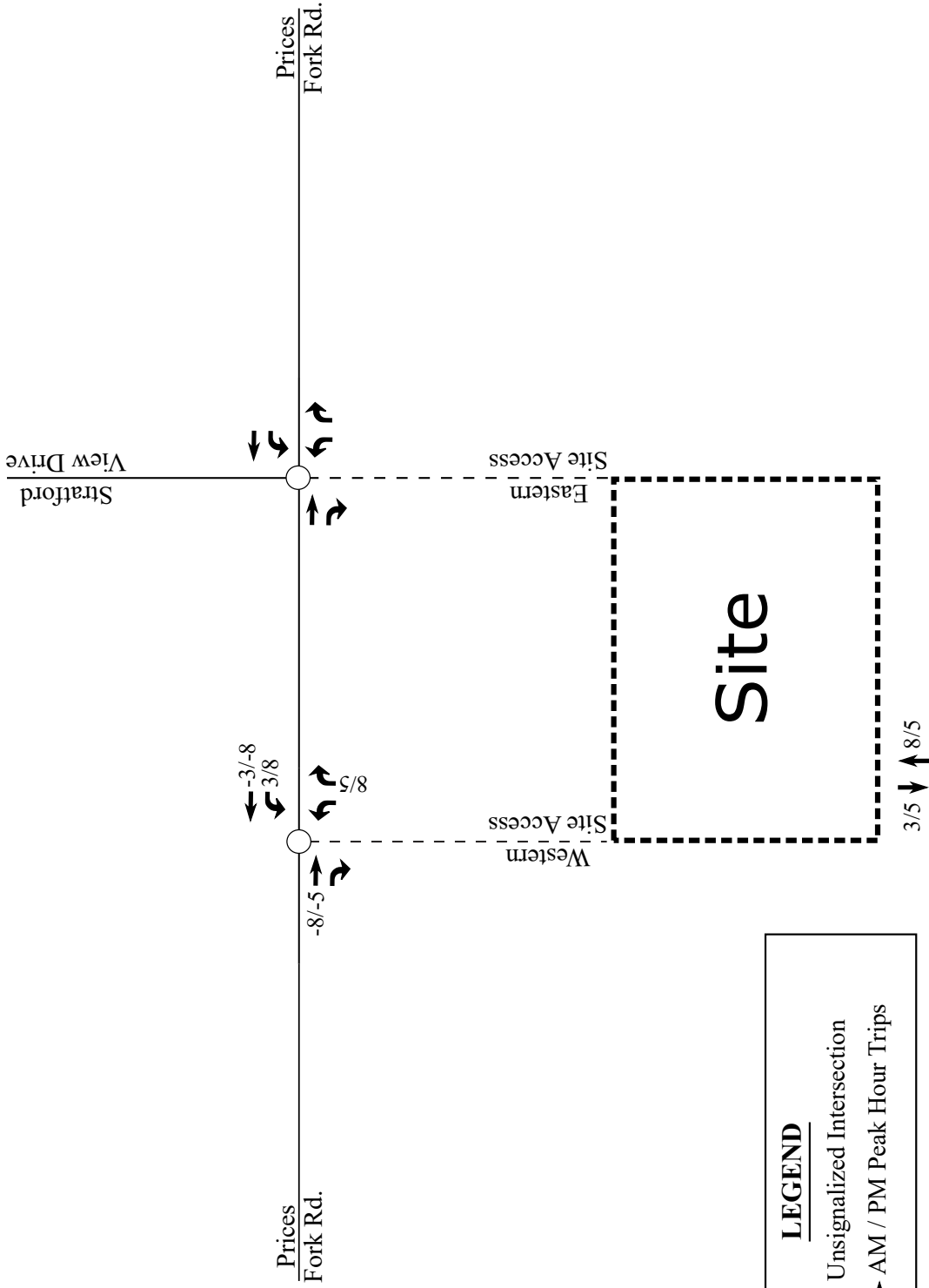
- Unsignalized Intersection
- X% → Entering Trip Distribution
- (Y%) → Exiting Trip Distribution

Westhill Rezoning
Montgomery County, VA

Old Fort Road Traffic
Diversion Distribution

Scale: Not to Scale

Figure 10



LEGEND

- Unsignalized Intersection
- X / Y → AM / PM Peak Hour Trips

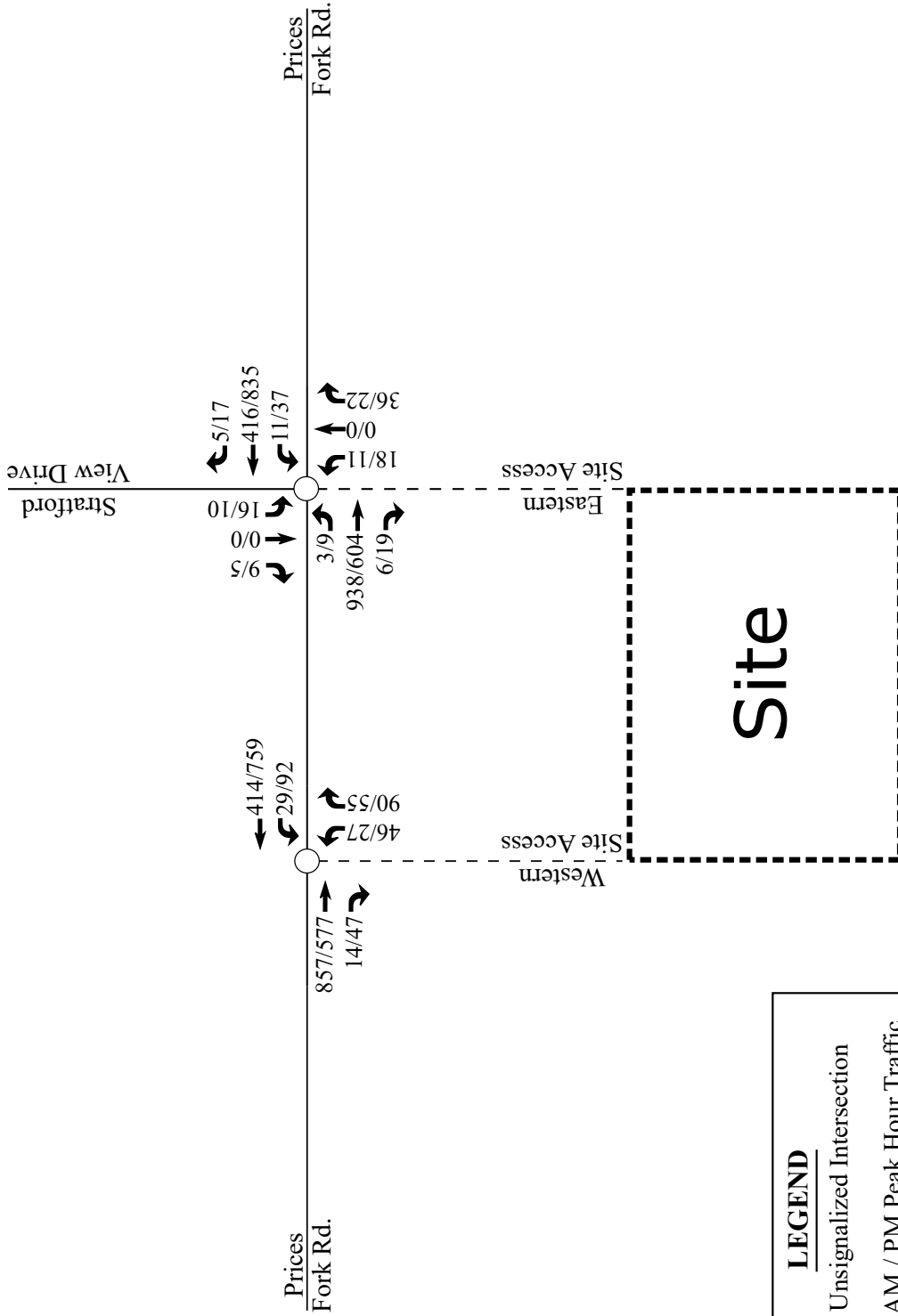
Old Fort Road Traffic
Diversion Assignment

Scale: Not to Scale

Figure 11

Westhill Rezoning
Montgomery County, VA





LEGEND

- Unsignalized Intersection
- X / Y → AM / PM Peak Hour Traffic

	<p>Westhill Rezoning Montgomery County, VA</p>	<p>Build (2030) Traffic Volumes</p>
<p>Scale: Not to Scale</p>		<p>Figure 12</p>

[northbound and southbound] minor street movements of the proposed site access and Stratford View Drive are expected to experience minor to moderate delays of 44.0 seconds per vehicle or less and operate at LOS E or better during the peak hours, with the exception of the shared northbound left-through movement [AM and PM peak hours] and the shared southbound left-through-right movement [PM peak hour]. Although these movements could be expected to experience heavier delays, this is not uncommon for minor-street stop-controlled movements at unsignalized intersections, especially during peak times when mainline volumes are the heaviest.

TABLE 3
ANALYSIS SUMMARY OF
PRICES FORK ROAD & STRATFORD VIEW DRIVE/EASTERN SITE ACCESS/

CONDITION	LANE GROUP	AM PEAK HOUR			PM PEAK HOUR		
		Lane LOS	Delay (s)	Lane Queue (ft)	Lane LOS	Delay (s)	Lane Queue (ft)
'Build' (2030) Conditions	WBL ²	B	10.4	24	A	9.5	42
	WBT ³	-	-	0	-	-	0
	WBR ³	-	-	0	-	-	0
	EBL ^{2,4}	A	8.3	10	A	9.9	18
	EBT ³	-	-	0	-	-	0
	EBR ^{3,5}	-	-	1	-	-	5
	NBLT ¹	F	51.9	60	F	75.1	45
	NBR ¹	C	19.5	90	B	14.2	34
SBLTR ¹	E	44.0	55	F	53.6	55	

Bold Type denotes warranted and/or proposed improvements.

1. Level of service for minor approach
2. Level of service for major street left turn movement
3. HCM methodology does not provide lane group or overall LOS or delay for major street through movements or right turns at unsignalized intersections
4. In order to provide symmetric widening, an eastbound left turn lane is recommended for the purpose of this analysis.
5. Warranted right-turn taper was modeled as an exclusive turn lane for the purpose of the analysis.

Based on a review of the maximum queuing results that are based on the average results of ten (10) simulation runs, the maximum queues are not expected to exceed the effective storage lengths [full width plus half of bay taper] for the existing and proposed turn lanes. In addition, no queues are expected to exceed 90 feet [approximately 3-4 car lengths]. Refer to Appendices D and E for more detailed capacity and queuing analysis results, respectively.

Based on the capacity and queuing analysis results, no further mitigation measures have been identified to accommodate the proposed development traffic at this intersection.

8.2. Prices Fork Road and Western Site Access

Refer to Table 4 for a summary of the capacity analysis results for this unsignalized intersection. Based on VDOT’s Access Management Design Standards for Entrances and Intersections, an exclusive [westbound] left turn lane and an exclusive [eastbound] right turn lane are warranted on Prices Fork Road at the Western Site Access. In addition to the auxiliary turn lanes on Prices Fork Road, the site access should be designed as a two-lane approach in order to provide exclusive left and right turn lanes so that turning movements can be separated. The recommended two-lane approach should be provided for a minimum of 100 feet within the site access.

Under future traffic conditions, capacity analysis indicates that the [westbound] left turn movement on Prices Fork Road is expected to experience minor delays of less than 10.5 seconds per vehicle and operate at LOS B or better during peak hours. The stop-controlled [northbound] minor street movements of the western site access are expected to experience minor to moderate delays of less than 45.5 seconds per vehicle and operate at LOS E or better during the peak hours, except for the northbound left turn movement during the PM peak hour. As mentioned previously, it is not uncommon for minor-street stop-controlled movements at unsignalized intersections to experience greater delays, especially during peak times when mainline volumes are the heaviest.

TABLE 4
ANALYSIS SUMMARY OF
PRICES FORK ROAD & WESTERN SITE ACCESS

CONDITION	LANE GROUP	AM PEAK HOUR			PM PEAK HOUR		
		Lane LOS	Delay (s)	Lane Queue (ft)	Lane LOS	Delay (s)	Lane Queue (ft)
‘Build’ (2030) Conditions	WBL ²	B	10.2	46	A	9.4	61
	WBT ³	-	-	0	-	-	0
	EBT ³	-	-	2	-	-	0
	EBR ³	-	-	2	-	-	4
	NBL ¹	E	44.8	81	F	58.2	67
	NBR ¹	C	20.9	94	B	13.5	64

Bold Type denotes warranted and/or proposed improvements.

1. Level of service for minor approach
2. Level of service for major street left turn movement
3. HCM methodology does not provide lane group or overall LOS or delay for major street through movements or right turns at unsignalized intersections

Based on a review of the maximum queuing results that are based on the average results of ten (10) simulation runs, the maximum queues are not expected to exceed the effective storage lengths [full width plus half of bay taper] for the proposed turn lanes. In addition, no queues are expected to exceed 95 feet [approximately 4 car lengths]. Refer to Appendices E and F for more detailed capacity and queuing analysis results, respectively.

Based on the capacity and queuing analysis results, no further mitigation measures have been identified to accommodate the proposed development traffic at this intersection.

9. TRAFFIC SIGNAL WARRANT ANALYSIS

Even though the delays expected for the left turn movements onto Prices Fork Road from the site access connections during the peak hours are not uncharacteristic during the peak hours, an abbreviated traffic signal warrant analysis was performed for the new site accesses located on Prices Fork Road. The analysis was performed to determine what, if any, traffic signal warrants are met upon full build out of the proposed residential development utilizing methodology contained within the Manual on Uniform Traffic Control Devices (MUTCD).

Based on the results of the traffic signal warrant analysis, no hourly thresholds were met for the four hour [Warrant 2] or the peak hour warrant [Warrant 3]. Therefore, it was determined that a traffic signal would not be warranted at either location. Refer to Appendix G for a summary of all traffic calculations and warrants.

10. SIGHT DISTANCE EVALUATION

According to Tables 2-5 and 2-6 in Appendix F in the VDOT Road Design Manual, the sight distance requirements for drivers entering/exiting the proposed development are summarized in Table 5. The sight distance is based on a design speed of 50 mph with the warranted exclusive left and right turn lanes on Prices Fork Road. Sight distance triangles should be provided at the both site access connections to meet the required sight distances.

TABLE 5
SIGHT DISTANCE REQUIREMENTS

DESIGN SPEED	TURN	MINIMUM SIGHT DISTANCE
Prices Fork Road: 50 mph	Left from stop	625 feet
	Right from stop	590 feet
	Left from major road	425 feet

11. RECOMMENDATIONS

Based on VDOT’s Access Management Design Standards for Entrances and Intersections and traffic capacity analysis, the following improvements are expected to accommodate the projected 2030 traffic conditions with the proposed development fully built out:

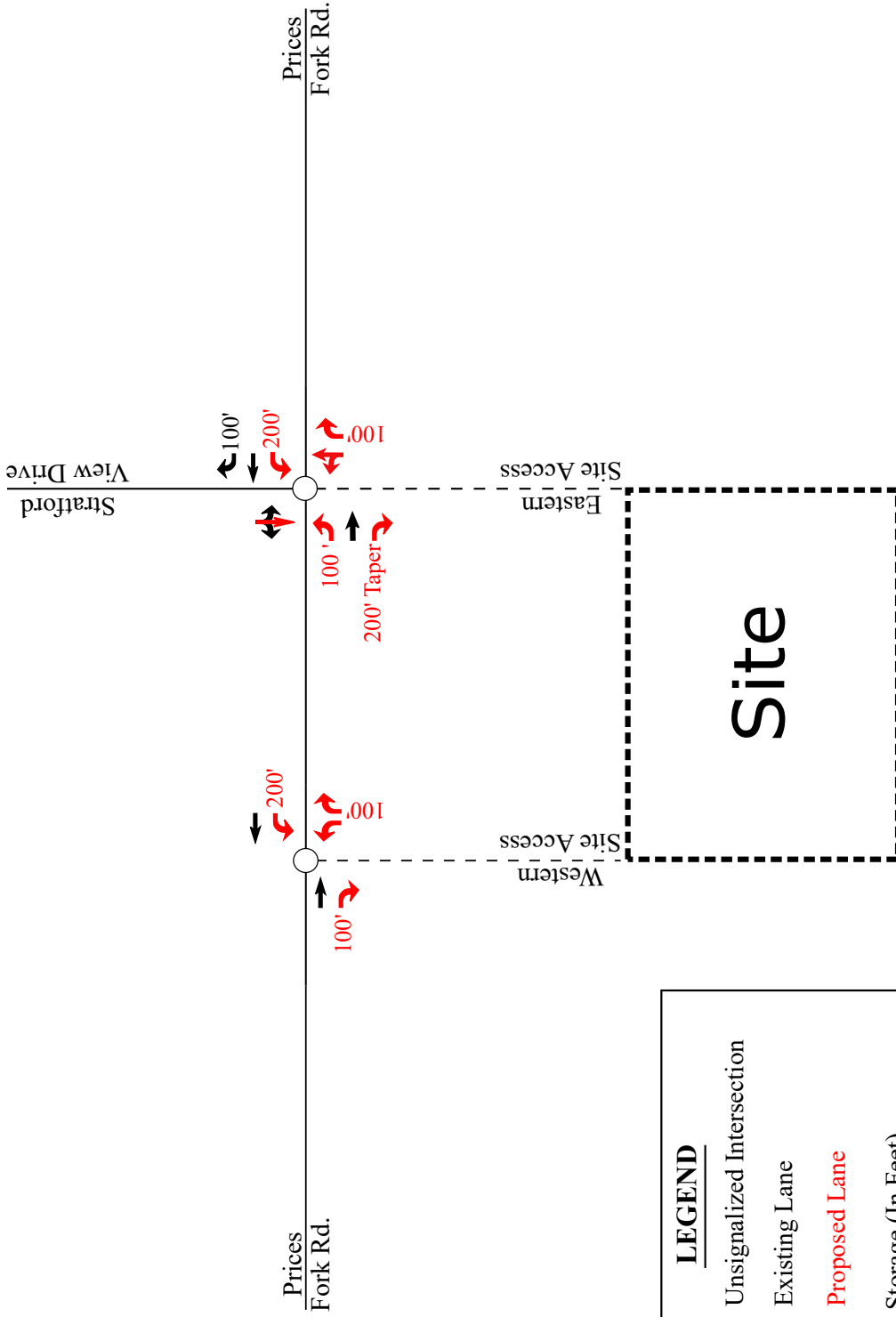
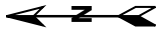
Prices Fork Road and Stratford View Road/Eastern Site Access:

- Construct a 200-foot bay taper on the eastbound approach of Prices Fork Road.
- Construct an exclusive left turn lane with a minimum of 200 feet of full storage and 200 feet of bay taper on the westbound approach of Prices Fork Road.
- In addition, a two-lane approach consisting of a shared left-through lane and an exclusive right turn lane should be provided with a minimum of 100 feet of full storage and 100 feet of bay taper within the site access.

Prices Fork Road and Western Site Access:

- Construct an exclusive right turn lane with a minimum of 100 feet of full storage and 200 feet of bay taper on the eastbound approach of Prices Fork Road.
- Construct an exclusive left turn lane with a minimum of 200 feet of full storage and 200 feet of bay taper on the westbound approach of Prices Fork Road. With the construction of an exclusive left turn lane at this location and the proximity to the eastern site access, it is recommended that a three-lane section be constructed between the two intersections.
- In addition, a two-lane approach consisting of exclusive left and right turn lanes should be provided with a minimum of 100 feet of full storage and 100 feet of bay taper within the site access.

Refer to Figure 13 for an illustration of the proposed lane geometrics and traffic control.



LEGEND

- Unsignalized Intersection
- ↑ Existing Lane
- ↑ Proposed Lane
- X' Storage (In Feet)

Proposed Lane Geometrics
and Traffic Control

Scale: Not to Scale

Figure 13

Westhill Rezoning
Montgomery County, VA



TECHNICAL APPENDIX

APPENDIX A

VDOT PRE-SCOPE OF WORK MEETING FORM

PRE-SCOPE OF WORK MEETING FORM

Information on the Project Traffic Impact Analysis Base Assumptions

The applicant is responsible for entering the relevant information and submitting the form to VDOT and the locality no less than three (3) business days prior to the meeting. If a form is not received by this deadline, the scope of work meeting may be postponed.

Contact Information				
Consultant Name: Tele: E-mail:	Balzer and Associates, Inc. - Steve Semones, EVP 540-381-4290 ssemone@balzer.cc			
Developer/Owner Name: Tele: E-mail:	Snyder and Associates - Mike Snyder, EVP 540-552-3377 msdenhill@yahoo.com			
Project Information				
Project Name:	Westhill Rezoning - (Hemphill/Russell Property)	Locality/County:	Montgomery	
Project Location: <small>(Attach regional and site specific location map)</small>	3871 Prices Fork Road			
Submission Type	Comp Plan <input type="checkbox"/>	Rezoning <input checked="" type="checkbox"/>	Site Plan <input type="checkbox"/>	Subd Plat <input type="checkbox"/>
Project Description: <small>(Including details on the land use, acreage, phasing, access location, etc. Attach additional sheet if necessary)</small>	Approximately 100 acres proposed for a mixed residential development including single family detached and single family attached homes. Two proposed access points to Prices Fork Road, new road connection to Old Fort Road and multiple future connection points. Project will be phased over approximately 5 years.			
Proposed Use(s): <small>(Check all that apply; attach additional pages as necessary)</small>	Residential <input checked="" type="checkbox"/>	Commercial <input type="checkbox"/>	Mixed Use <input type="checkbox"/>	Other <input type="checkbox"/>
	Residential Uses(s) Number of Units: 466 ITE LU Code(s): 210 - (145 units) 220 - (321 units) Commercial Use(s) ITE LU Code(s): _____ _____ _____ Square Ft or Other Variable: _____	 Other Use(s) ITE LU Code(s): _____ _____ _____ Independent Variable(s): _____ _____ _____		
Total Peak Hour Trip Projection:	Less than 100 <input type="checkbox"/>	100 – 499 <input checked="" type="checkbox"/>	500 – 999 <input type="checkbox"/>	1,000 or more <input type="checkbox"/>

It is important for the applicant to provide sufficient information to county and VDOT staff so that questions regarding geographic scope, alternate methodology, or other issues can be answered at the scoping meeting.

Traffic Impact Analysis Assumptions			
Study Period	Existing Year: 2019	Build-out Year: 2025	Design Year: 2020 at least 2030
Study Area Boundaries (Attach map)	North: Prices Fork Road	South: Old Fort Road	
	East: Stratford View Drive	West: Brookfield Road	
External Factors That Could Affect Project (Planned road improvements, other nearby developments)	Site plan requirements for Turn Lanes on Prices Fork Road for the recently approved Northstar Church Project and The Preserve at Walnut Springs project.		
Consistency With Comprehensive Plan (Land use, transportation plan)	Montgomery County Comp Plan currently shows this area as Traditional Neighborhood Design. Current proposal supports the comp plan designation.		
Available Traffic Data (Historical, forecasts)	Two previous traffic studies required for now approved rezoning requests. VDOT historical data. NORTHSTAR CURRENT SUBMITTAL.		
Trip Distribution (Attach sketch)	Road Name: Prices Fork Road	Road Name: OLD FORT RE-DIRECTION	
	Road Name:	Road Name:	
Annual Vehicle Trip Growth Rate:	0.5% (+NORTHSTAR)	Peak Period for Study (check all that apply)	<input checked="" type="checkbox"/> AM <input checked="" type="checkbox"/> PM <input type="checkbox"/> SAT EXTENDED 3:00-6:00
		Peak Hour of the Generator	PM
Study Intersections and/or Road Segments (Attach additional sheets as necessary)	1. New west road connection and Prices Fork Road	6.	
	2. New east road connection and Prices Fork Road	7.	
	3. IF SIGNAL WARRANT - MAY NEED ANALYSIS ADDITION	8.	
	4. SEGMENTS	9.	
	5.	10.	
Trip Adjustment Factors	Internal allowance: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Reduction: _____% trips	Pass-by allowance: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Reduction: _____% trips	
	Software Methodology		
Traffic Signal Proposed or Affected (Analysis software to be used, progression speed, cycle length)	<input checked="" type="checkbox"/> Synchro <input type="checkbox"/> HCS (v.2000/+) <input checked="" type="checkbox"/> aaSIDRA <input type="checkbox"/> CORSIM <input type="checkbox"/> Other _____ None at this time. CHECK FOR SIGNAL WARRANTS.		

It is important for the applicant to provide sufficient information to county and VDOT staff so that questions regarding geographic scope, alternate methodology, or other issues can be answered at the scoping meeting.

Improvement(s) Assumed or to be Considered	1) Right and/or Left Turn lanes, 2) Right of way dedication, 3) grading for sight distance, 4) <u>ALTERNATIVE / INNOVATIVE INTERSECTIONS</u>
Background Traffic Studies Considered	Old Prices Fork Elementary Rezoning Traffic Study & The Preserve at Walnut Springs Traffic Study, <u>+ N. SEMSTAR</u>
Plan Submission	<input checked="" type="checkbox"/> Master Development Plan (MDP) <input type="checkbox"/> Generalized Development Plan (GDP) <input type="checkbox"/> Preliminary/Sketch Plan <input type="checkbox"/> Other Plan type (Final Site, Subd. Plan)
Additional Issues to be Addressed	<input checked="" type="checkbox"/> Queuing analysis <input type="checkbox"/> Actuation/Coordination <input type="checkbox"/> Weaving analysis <input type="checkbox"/> Merge analysis <input type="checkbox"/> Bike/Ped Accommodations <input checked="" type="checkbox"/> Intersection(s) <input type="checkbox"/> TDM Measures <input checked="" type="checkbox"/> Other <u>TRAFFIC SIGNAL WAIVER</u>

"T" SIGNAL OR ROUNDABOUT

NOTES on ASSUMPTIONS:

SIGNED: [Signature]
Applicant or Consultant

DATE: 7/8/19

PRINT NAME: JOVE SEMOVES
Applicant or Consultant

It is important for the applicant to provide sufficient information to county and VDOT staff so that questions regarding geographic scope, alternate methodology, or other issues can be answered at the scoping meeting.

APPENDIX B

TRAFFIC COUNT DATA

Burns Service Inc.

1202Langdon Terrace Drive
Indian Trail, NC, 28079

File Name : Blacksburg(Prices Fork and Elementary Access) AM Peak

Site Code :

Start Date : 11/29/2017

Page No : 1

Groups Printed- Cars + - Trucks

Start Time	Prices Fork Road Westbound			Prices Fork Elementary Access Northbound			Prices Fork Road Eastbound			Int. Total
	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	
07:00	15	2	17	0	0	0	0	35	35	52
07:05	16	0	16	1	0	1	1	40	41	58
07:10	26	2	28	1	0	1	1	48	49	78
07:15	20	0	20	1	0	1	3	55	58	79
07:20	24	2	26	2	0	2	1	41	42	70
07:25	27	2	29	3	0	3	2	51	53	85
07:30	19	2	21	2	1	3	1	55	56	80
07:35	23	0	23	1	0	1	2	80	82	106
07:40	16	3	19	3	0	3	3	58	61	83
07:45	26	2	28	3	1	4	2	55	57	89
07:50	27	5	32	2	1	3	3	73	76	111
07:55	22	4	26	0	0	0	0	54	54	80
Total	261	24	285	19	3	22	19	645	664	971
08:00	34	4	38	0	0	0	5	46	51	89
08:05	31	3	34	2	0	2	6	42	48	84
08:10	23	4	27	0	0	0	3	41	44	71
08:15	20	2	22	1	0	1	2	43	45	68
08:20	8	7	15	2	0	2	6	45	51	68
08:25	22	6	28	0	0	0	4	38	42	70
08:30	22	8	30	1	0	1	4	46	50	81
08:35	17	5	22	1	1	2	6	43	49	73
08:40	20	7	27	3	1	4	7	49	56	87
08:45	17	16	33	9	3	12	7	39	46	91
08:50	11	12	23	18	11	29	7	32	39	91
08:55	30	9	39	22	7	29	1	33	34	102
Total	255	83	338	59	23	82	58	497	555	975
09:00	16	11	27	12	4	16	4	29	33	76
09:05	17	2	19	10	2	12	7	27	34	65
09:10	20	1	21	6	1	7	3	26	29	57
09:15	15	0	15	0	2	2	0	23	23	40
09:20	19	1	20	0	0	0	0	26	26	46
09:25	15	0	15	1	0	1	0	19	19	35
09:30	1	0	1	0	0	0	0	2	2	3
Grand Total	619	122	741	107	35	142	91	1294	1385	2268
Apprch %	83.5	16.5		75.4	24.6		6.6	93.4		
Total %	27.3	5.4	32.7	4.7	1.5	6.3	4	57.1	61.1	
Cars +	617	122	739	107	35	142	91	1294	1385	2266
% Cars +	99.7	100	99.7	100	100	100	100	100	100	99.9
Trucks	2	0	2	0	0	0	0	0	0	2
% Trucks	0.3	0	0.3	0	0	0	0	0	0	0.1

Burns Service Inc.

1202Langdon Terrace Drive
Indian Trail, NC, 28079

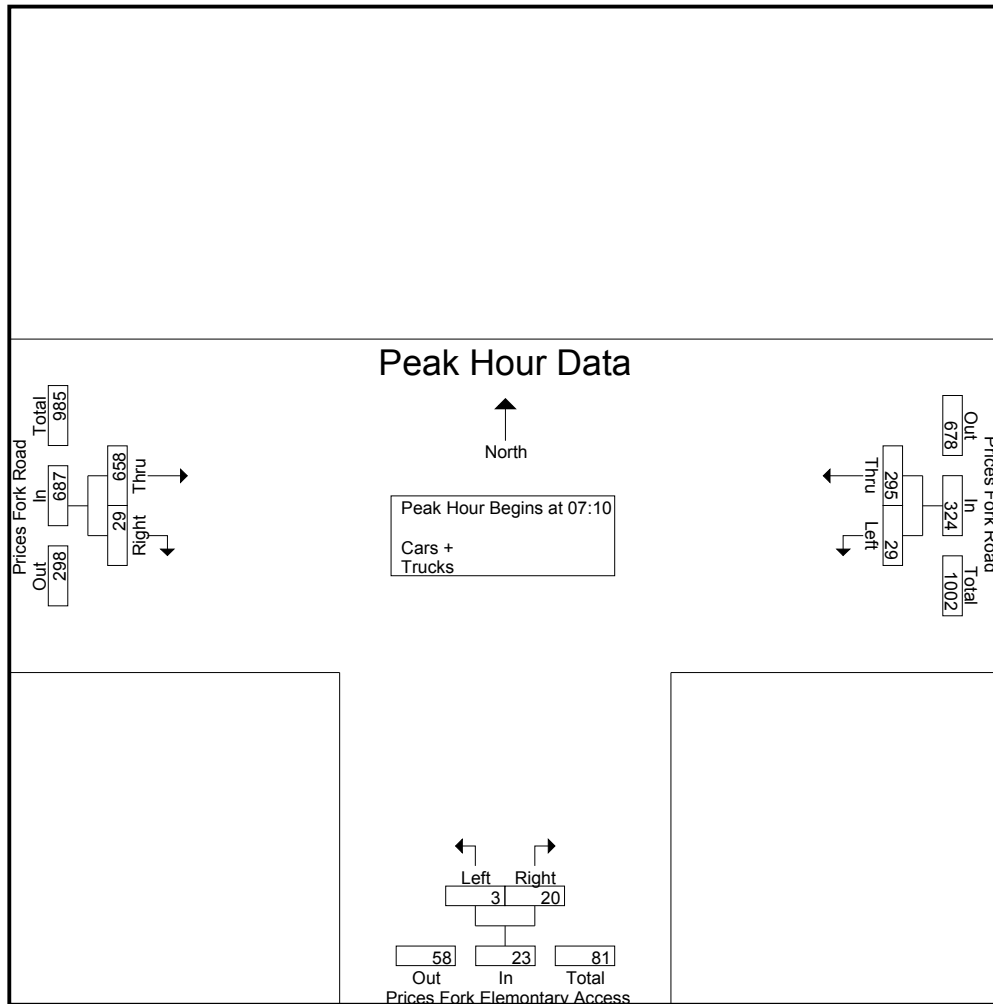
File Name : Blacksburg(Prices Fork and Elementary Access) AM Peak

Site Code :

Start Date : 11/29/2017

Page No : 2

Start Time	Prices Fork Road Westbound			Prices Fork Elementary Access Northbound			Prices Fork Road Eastbound			Int. Total
	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	
Peak Hour Analysis From 07:00 to 09:30 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:10										
07:10	26	2	28	1	0	1	1	48	49	78
07:15	20	0	20	1	0	1	3	55	58	79
07:20	24	2	26	2	0	2	1	41	42	70
07:25	27	2	29	3	0	3	2	51	53	85
07:30	19	2	21	2	1	3	1	55	56	80
07:35	23	0	23	1	0	1	2	80	82	106
07:40	16	3	19	3	0	3	3	58	61	83
07:45	26	2	28	3	1	4	2	55	57	89
07:50	27	5	32	2	1	3	3	73	76	111
07:55	22	4	26	0	0	0	0	54	54	80
08:00	34	4	38	0	0	0	5	46	51	89
08:05	31	3	34	2	0	2	6	42	48	84
Total Volume	295	29	324	20	3	23	29	658	687	1034
% App. Total	91	9		87	13		4.2	95.8		



Burns Service Inc.
 1202Langdon Terrace Drive
 Indian Trail, NC, 28079

File Name : Blacksburg(Prices Fork and Elementary Access) PM Peak
 Site Code :
 Start Date : 11/29/2017
 Page No : 1

Groups Printed- Cars + - Trucks

Start Time	Prices Fork Road Westbound			Prices Fork Elementary Access Northbound			Prices Fork Road Eastbound			Int. Total
	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	
15:00	34	5	39	2	0	2	1	20	21	62
15:05	45	1	46	1	1	2	0	28	28	76
15:10	48	5	53	0	2	2	3	19	22	77
15:15	45	5	50	1	0	1	3	16	19	70
15:20	37	9	46	0	1	1	4	29	33	80
15:25	27	7	34	3	1	4	3	24	27	65
15:30	34	6	40	2	1	3	3	16	19	62
15:35	26	3	29	8	1	9	3	27	30	68
15:40	46	5	51	10	7	17	11	34	45	113
15:45	44	6	50	17	8	25	5	29	34	109
15:50	34	8	42	17	14	31	1	12	13	86
15:55	28	4	32	10	11	21	1	23	24	77
Total	448	64	512	71	47	118	38	277	315	945
16:00	32	1	33	8	1	9	1	29	30	72
16:05	45	0	45	12	3	15	1	38	39	99
16:10	57	3	60	2	2	4	0	23	23	87
16:15	45	1	46	6	3	9	1	32	33	88
16:20	48	0	48	3	1	4	2	38	40	92
16:25	44	1	45	2	1	3	0	30	30	78
16:30	51	4	55	2	3	5	2	33	35	95
16:35	43	3	46	5	3	8	0	29	29	83
16:40	44	0	44	8	1	9	0	33	33	86
16:45	50	1	51	2	1	3	1	29	30	84
16:50	50	0	50	2	0	2	0	30	30	82
16:55	52	1	53	0	1	1	1	29	30	84
Total	561	15	576	52	20	72	9	373	382	1030
17:00	48	1	49	0	0	0	2	43	45	94
17:05	35	1	36	2	1	3	1	36	37	76
17:10	54	2	56	2	1	3	0	32	32	91
17:15	80	0	80	2	0	2	0	24	24	106
17:20	64	1	65	1	1	2	2	36	38	105
17:25	51	2	53	1	2	3	1	33	34	90
17:30	52	0	52	2	1	3	2	26	28	83
17:35	52	1	53	1	1	2	0	39	39	94
17:40	46	0	46	2	0	2	0	38	38	86
17:45	42	1	43	0	0	0	0	34	34	77
17:50	45	0	45	0	1	1	0	26	26	72
17:55	37	1	38	2	0	2	0	23	23	63
Total	606	10	616	15	8	23	8	390	398	1037
Grand Total	1615	89	1704	138	75	213	55	1040	1095	3012
Apprch %	94.8	5.2		64.8	35.2		5	95		
Total %	53.6	3	56.6	4.6	2.5	7.1	1.8	34.5	36.4	
Cars +	1615	89	1704	138	75	213	55	1038	1093	3010
% Cars +	100	100	100	100	100	100	100	99.8	99.8	99.9
Trucks	0	0	0	0	0	0	0	2	2	2
% Trucks	0	0	0	0	0	0	0	0.2	0.2	0.1

Burns Service Inc.

1202 Langdon Terrace Drive
Indian Trail, NC, 28079

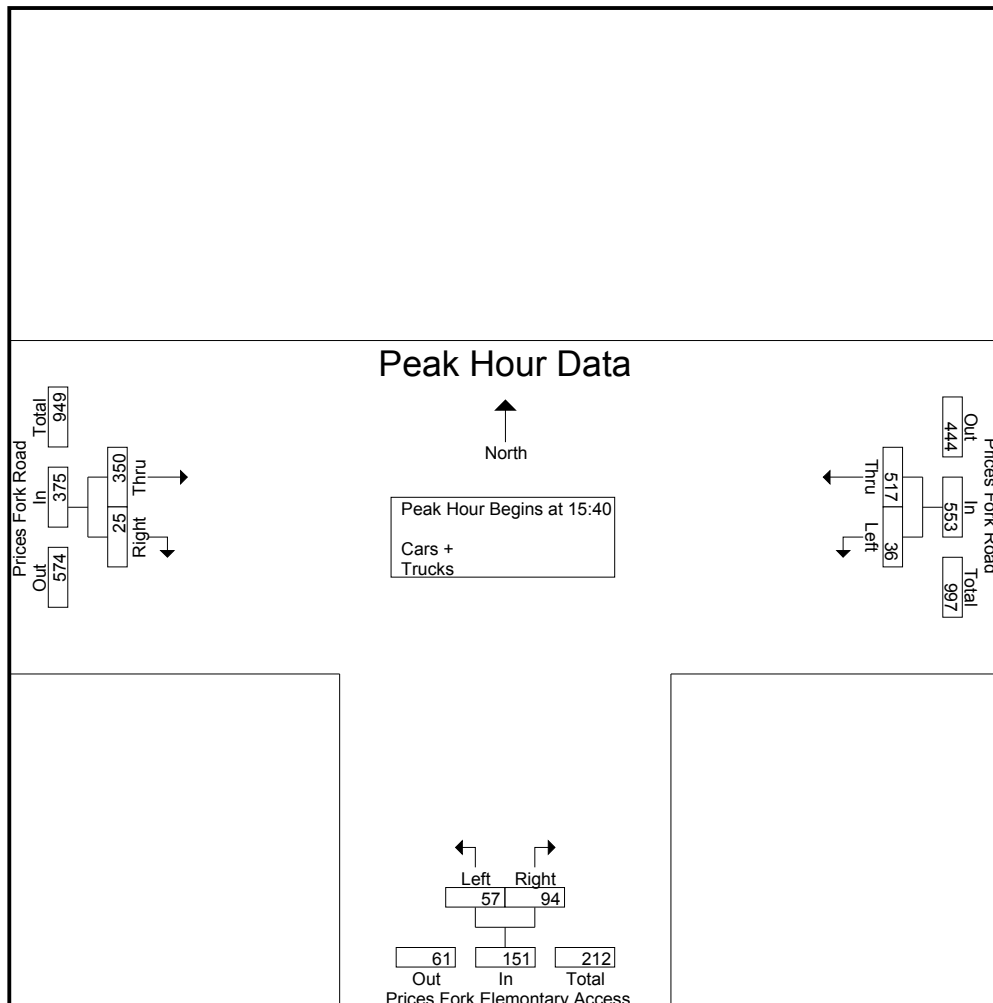
File Name : Blacksburg(Prices Fork and Elementary Access) PM Peak

Site Code :

Start Date : 11/29/2017

Page No : 2

Start Time	Prices Fork Road Westbound			Prices Fork Elementary Access Northbound			Prices Fork Road Eastbound			Int. Total
	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	
Peak Hour Analysis From 15:00 to 17:55 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 15:40										
15:40	46	5	51	10	7	17	11	34	45	113
15:45	44	6	50	17	8	25	5	29	34	109
15:50	34	8	42	17	14	31	1	12	13	86
15:55	28	4	32	10	11	21	1	23	24	77
16:00	32	1	33	8	1	9	1	29	30	72
16:05	45	0	45	12	3	15	1	38	39	99
16:10	57	3	60	2	2	4	0	23	23	87
16:15	45	1	46	6	3	9	1	32	33	88
16:20	48	0	48	3	1	4	2	38	40	92
16:25	44	1	45	2	1	3	0	30	30	78
16:30	51	4	55	2	3	5	2	33	35	95
16:35	43	3	46	5	3	8	0	29	29	83
Total Volume	517	36	553	94	57	151	25	350	375	1079
% App. Total	93.5	6.5		62.3	37.7		6.7	93.3		



APPENDIX C

APPROVED DEVELOPMENT INFORMATION

TAYLOR HOLLOW

Traffic Study
For
Proposed Development

Taylor Hollow

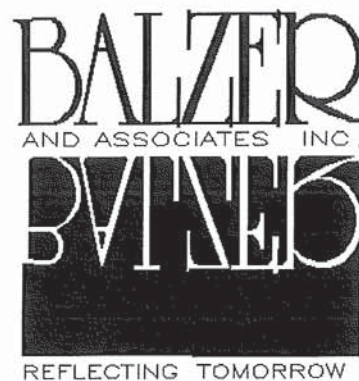
in

Montgomery County, Virginia

Date: February 21, 2014

Revised: April 23, 2015

~Job No. B1400003.00~



1208 Corporate Circle
Roanoke, VA 24018
540.772.9580
Fax: 540.772.8050

Time Period:

Average Rate:

% Entering / % Exiting:

Weekday
AM Peak Hr of Adj. Traffic
PM Peak Hr of Adj. Traffic

42.94 Trips / 1,000 s.f.
1.00 Trips / 1,000 s.f.
3.73 Trips / 1,000 s.f.

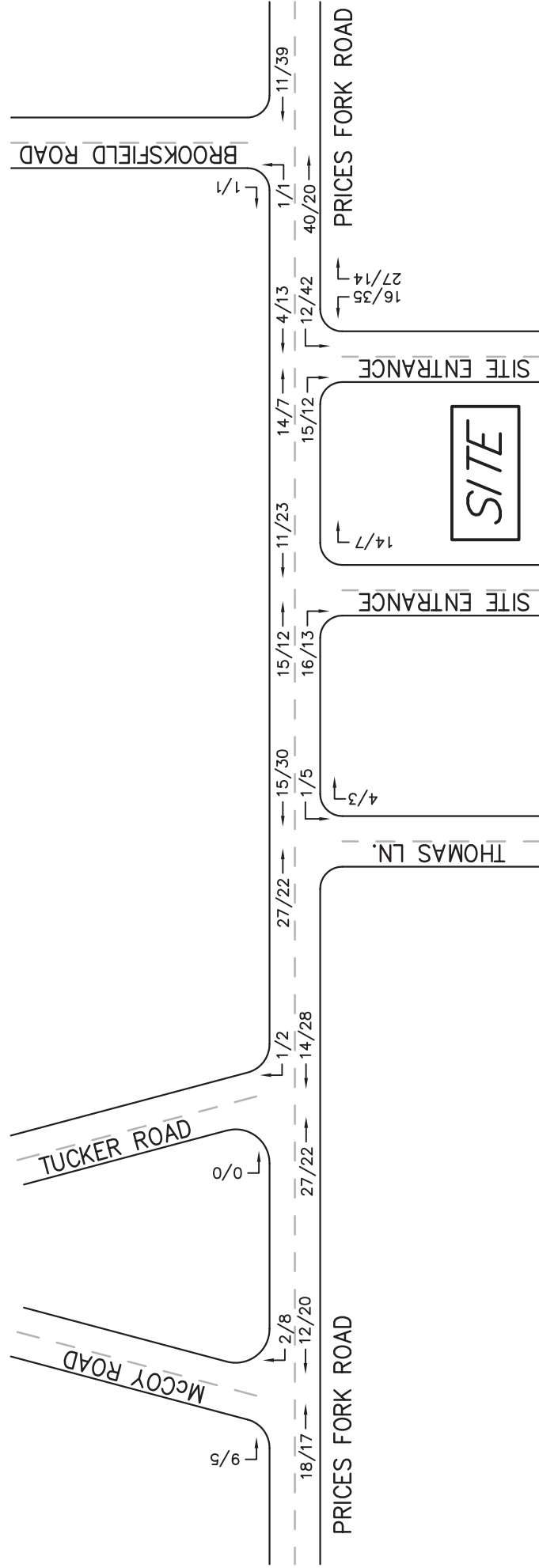
50% Enter / 50% Exit
61% Enter / 39% Exit
49% Enter / 51% Exit

Land Use			Trip Generation						
			AM Peak Hour			PM Peak Hour			Weekday
Proposed Development	ITE Code	Independent Variable	Enter	Exit	Total	Enter	Exit	Total	Total
Apartment	220	58 Dwelling Units	6	24	30	23	13	36	386
Senior Adult Housing – Attached	252	36 Dwelling Units	2	3	5	4	2	6	125
Daycare	565	4,900 s.f.	32	28	60	29	32	61	388
Shopping Center	820	4,888 s.f.	3	2	5	9	9	18	210
		Total	43	57	100	65	56	121	1,109

Table 4: Site-Generated Traffic

While it may be reasonable to apply a pass-by reduction to the daycare and/or shopping center uses, a pass-by reduction was not assumed for ease of analysis and to be conservative.

FIGURE 4: SITE GENERATED TRAFFIC



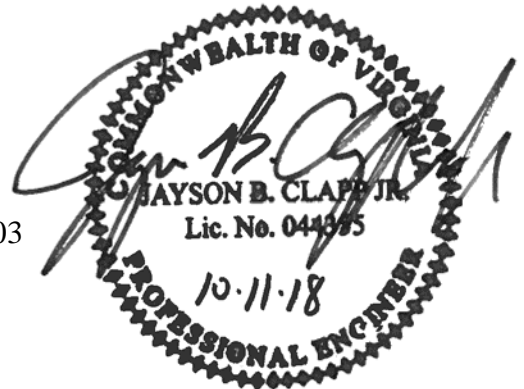
THE PRESERVE AT WALNUT SPRINGS

TRAFFIC IMPACT ANALYSIS
FOR
THE PRESERVE AT WALNUT SPRINGS

LOCATED
IN
MONTGOMERY COUNTY, VIRGINIA

Prepared for:
SHAH Development, LLC
Agent: Gay and Neel, Inc.
1260 Radford Street
Christiansburg, Virginia 24073

Prepared by:
Ramey Kemp & Associates, Inc.
621 Jonestown Road
Suite 221
Winston-Salem, North Carolina 27103



October 2018

RKA Project – 17352

4.4. Analysis of Future (2033) ‘No-Build’ Peak Hour Traffic Conditions

Utilizing the future (2033) ‘no-build’ traffic volumes (Figure 7), the study intersection was analyzed using the same methodology as previously noted for the existing traffic conditions with the only exception being the use of a PHF of 0.92. The results of the future (2033) ‘no-build’ analysis are presented in Section 9 of this report.

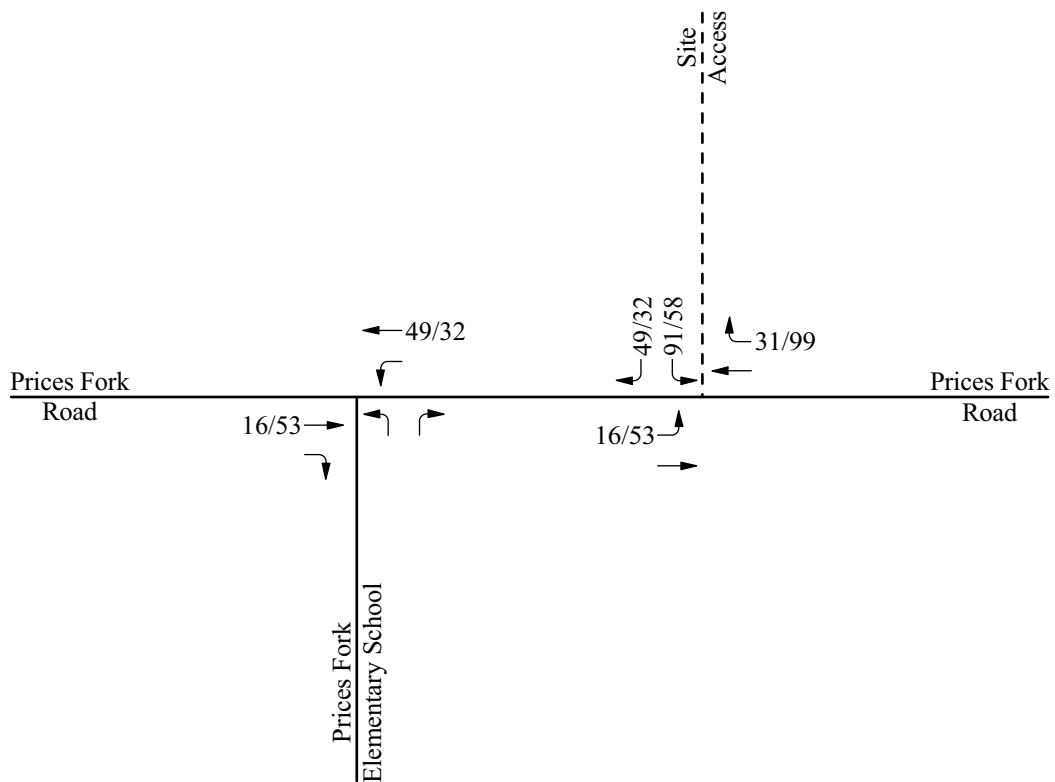
5. PROJECT TRAFFIC

5.1. Trip Generation

The proposed residential development is expected to consist of 131 single family homes, 126 townhomes, and 84 apartments. Average weekday daily as well as AM and PM peak hour site trips for this analysis were calculated utilizing methodology contained within the 10th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual. Traffic was generated according to the peak hour of adjacent street traffic for the land uses of single-family detached (ITE Code 210), low-rise multifamily housing (ITE Code 220) for the townhomes, and mid-rise multifamily housing (ITE Code 221) for the apartments. Utilizing the number of dwelling units as the independent variable and equations, trips were generated for each of the proposed land uses. Table 2 provides a summary of the trip generation calculations.

TABLE 2
TRIP GENERATION


ITE Land Use (ITE Code)	Density	Average Daily Traffic (vpd)	AM Peak Hour (vph)		PM Peak Hour (vph)	
			Enter	Exit	Enter	Exit
Single-Family Detached Housing (210)	131 Dwelling Units	1,333	25	74	83	49
Multifamily Housing (Low-rise) (220)	126 Dwelling Units	912	14	45	46	27
Multifamily Housing (Mid-rise) (221)	84 Dwelling Units	456	8	21	23	14
Total		2,701	47	140	152	90



LEGEND

X/Y AM/PM Peak Hour Site Traffic



	
<i>The Preserve at Walnut Springs Montgomery County, Virginia</i>	
<i>Site Trip Assignment</i>	
Not to Scale	Figure 9

NORTHSTAR MINISTRY CENTER



Traffic Narrative

FOR

NORTHSTAR MINISTRY CENTER
AND
PRICES FORK ROAD (ROUTE 685)

Tax Map# 052-(A)-127; 052-(A)-127A
3929 Prices Fork Road
Blacksburg, VA 24060

Montgomery County, Virginia

June 21, 2019



Project No. 16103



1.0 INTRODUCTION AND PROJECT BACKGROUND

This Narrative contains descriptions of data collected and utilized for determination of right and left turn treatment warrants for a proposed commercial entrance serving the proposed Northstar Ministry Center site from Prices Fork Road (Route 685) in Montgomery County, Virginia.

The project site is currently permitted for mass grading operations under Montgomery County permit number ES-2018-16816. A temporary construction entrance for mass grading operations is permitted under VDOT Land Use permit number 211-13964. The mass grading plans explicitly disallow the contractor from performing grading operations in the vicinity of Prices Fork Road right-of-way. The Phase 2 – Comprehensive Development Plan set for the project and this Narrative are intended to provide appropriate design information in order to obtain VDOT approval for work within the right-of-way.

This Narrative makes reference to Ramey Kemp & Associates, Inc.’s Traffic Impact Analysis (TIA) for The Preserve at Walnut Springs dated October 2018. The TIA will be referred to as the Walnut Springs TIA within this Narrative.

The Phase 2 – Comprehensive Development Plan set accompanies this report and may be used to reference the existing conditions as compared to the proposed conditions.

Right and left turn lane warrants are met for the site. Additional information is provided in the following sections.

2.0 DESIGN CRITERIA

Per VDOT, for the purposes of turn lane warrants, the site is considered to be located in an urban area.

3.0 EXISTING TRAFFIC

Traffic counts on Prices Fork Road were recorded on Sunday, November 11, 2018 during the hours of 9:00 AM – 2:00 PM. The data is included as an attachment.

The raw data was analyzed and the maximum peak hour is determined as 9:30 – 10:30 AM, where 479 vehicles were recorded heading toward Blacksburg (eastbound) and 409



vehicles were recorded heading toward Radford (westbound). Per VDOT 25 vehicles per hour are added to the toward Blacksburg trips in associated with an approved re-zoning of the old Prices Fork Elementary School.

The Walnut Springs TIA did not evaluate Sunday traffic. However, based on the AM weekday site trips generated by the Walnut Springs full buildout, this analysis will include an additional 90 eastbound trips and 30 westbound trips into the Sunday peak hour turn lane analysis.

Therefore, the baseline traffic on Prices Fork Road for this analysis is:

- 594 vehicles per hour (vph) eastbound (58%)
- 439 vph westbound (42%)

The Walnut Springs TIA established 2017 weekday AM and PM peak hour traffic on Prices Fork Road and 2033 No Build and Build weekday AM and PM peak hour traffic. The 2033 baseline traffic was determined from 2017 by applying a compounded annual growth rate of 0.5% (per VDOT). For the purposes of determining turn lane warrants and geometry with respect to weekday trips, this analysis will utilize the PM peak hour 2033 Build traffic volumes as shown on Figure 10 in the Walnut Springs TIA. Figure 10 is included in the Attachments. Refer to Section 4.1 for more information.

4.0 PROPOSED CONDITIONS TRAFFIC

Per the current ITE Trip Generation Manual Land Use Type 560 – Church, the site will generate 267 trips with 131 trips entering and 136 exiting during a Sunday, peak hour of the generator. These trips are considered new to the road network.

The analysis assumes a 50/50 site trip distribution for entering and exiting trips.

A schematic sketch of the of the trip breakdown is provided on sheet 2 of the Attachment B.

The Northstar site will also be utilized by members and the surrounding community on days other than Sunday. Northstar leadership has provided alternate uses of the facility as described in Section 4.1.



4.1 ALTERNATE TRAFFIC GENERATING USES

Northstar leadership provided a table indicating anticipated other semi-regular uses of the facility. See table below:

Day	Time Period	Event	Recurrence	Anticipated Traffic
Monday	6:00 PM -7:30 PM	Training Meeting	Weekly	15
Tuesday	6:00 PM -7:30 PM	Small Group	Weekly	18
Tuesday	6:00 PM -8:00 PM	Community Organizational meeting	Monthly	25
Wednesday	6:00 PM -8:00 PM	Discovering Northstar	Monthly	20
Thursday	6:00 PM -7:30 PM	Small Group	Weekly	6
Friday	6:00 PM -9:00 PM	Youth Group Event	Weekly	30
Saturday	3:00 PM - 6:00 PM	Wedding	Monthly	150
Weekend	6:00 PM -10:00 PM	Concert	Biannually	700
Weekdays	7:00 AM - 8:00 PM	Coffee Shop	Daily	4 to 5 per hour

The anticipated weekday (Monday – Friday) regularly recurring events all occur after 6:00 PM, with the exception of use of the coffee shop. For the purpose of evaluating turn lane warrants and geometry, this Narrative will consider a Tuesday evening where Small Group and a Community Organizational meeting is occurring at the same time. Summing the anticipated trips from each event yields 43 trips. The analysis will assume that all of these trips arrive in a single hour between 5:30 and 6:30 PM and all trips will be entering the site evenly from either direction. Tuesday evening was selected to derive the alternate site use generated traffic because it resulted in the greatest number of anticipated trips.

Weekday PM peak hour trips at the proposed entrance are combined with the Walnut Springs TIA 2033 build PM peak hour traffic. The resultant trips are evaluated for right turn lane and left turn lane warrants and geometry as described in Section 5.0 and 6.0 below. Additional information is provided in Attachment C.

The noted Wedding and Concert events are not considered in the turn lane warrant analysis. Northstar leadership has indicated that these events will be infrequent and will be coordinated with VDOT and local authorities as part of event planning. Utilization of public safety officials at the entrance to Prices Fork Road for traffic control may be utilized.



SPECTRUM DESIGN, P.C.

Plaza Suite 1
10 Church Avenue, SE
Roanoke, Virginia 24011-2104
PH: 540-342-6001
FAX: 540-342-6055

JOB 16103

SHEET NO. 1

OF 1

CALCULATED BY THL

DATE 6/17/19

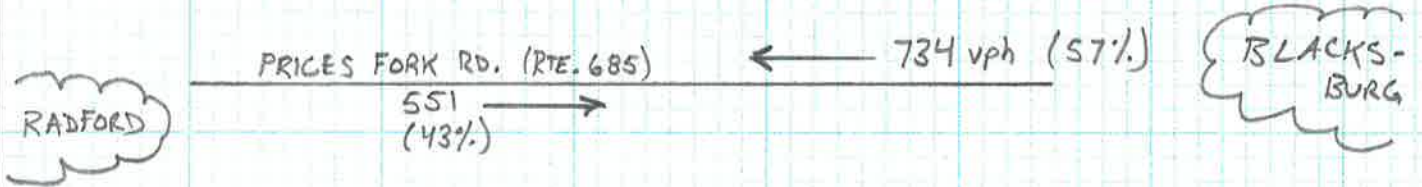
CHECKED BY

DATE

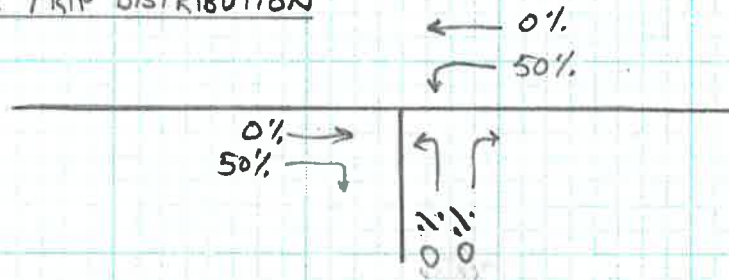
SCALE

ATTACHMENT C

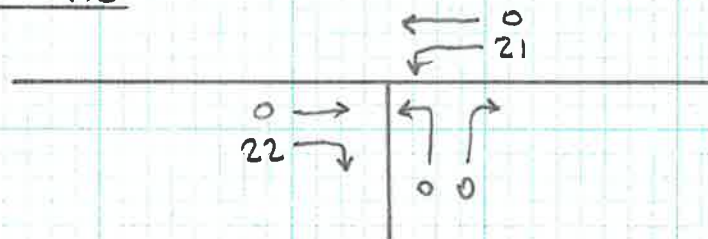
BASELINE TRAFFIC - PM PEAK HOUR WEEKDAY
FOR YEAR 2033 WITH FULL BUILDOUT
PER FIGURE 10 OF WALNUT SPRINGS TIA



SITE TRIP DISTRIBUTION

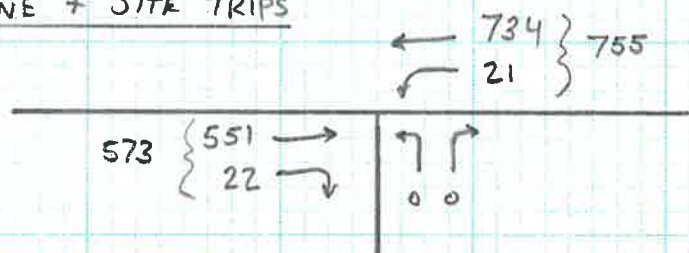


SITE TRIPS



TUESDAY PM
43 trips

BASELINE + SITE TRIPS



%L = 2.8% → USE 5%
Fig. 3-5

FIG. 3-26 - WARRANTS FOR RIGHT TURN TREATMENT (2-LANE)

TAPER ONLY IS WARRANTED

TABLE 3-1 - WARRANT FOR LEFT TURN LANES ON TWO-LANE HIGHWAYS

• ADV. VOL: 755 vph / % Left Turns: 2.8%
40 mph Speed
Opposing Vol: 573 vph

LEFT TURN LANE IS WARRANTED
AND PER FIG. 3-5, S = 100'

APPENDIX D

VDOT TURN LANE WARRANTS

EASTERN ACCESS

PRICES FORK ROAD + EASTERN ACCESS [WBL]

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

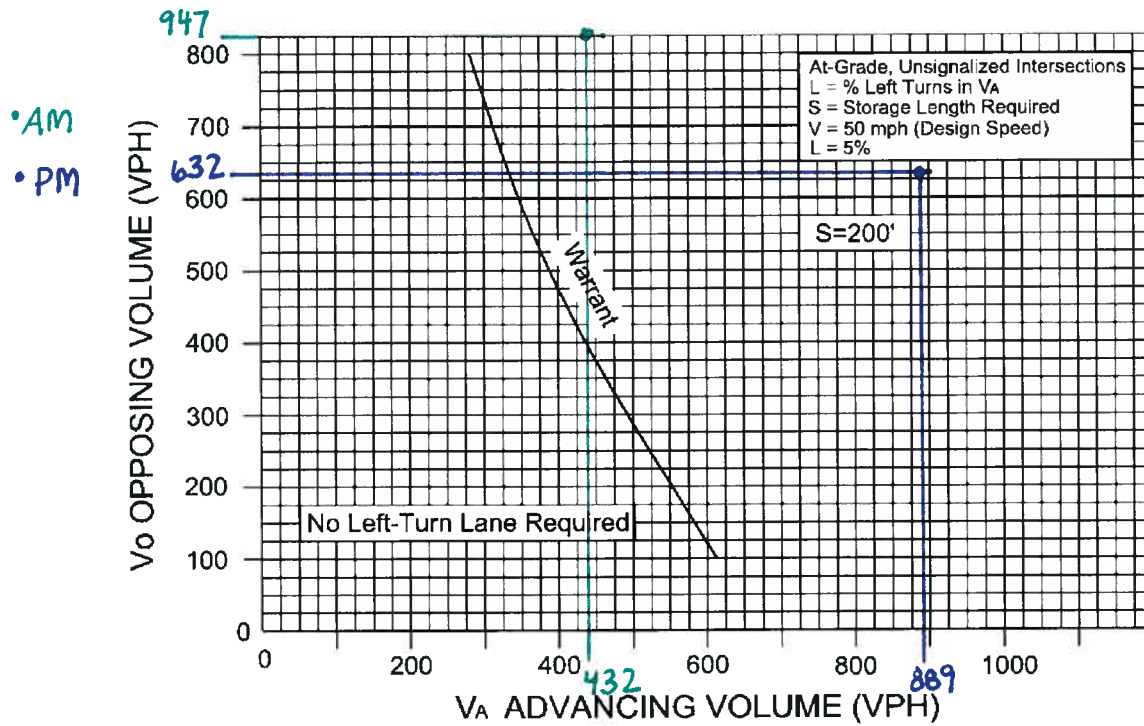


FIGURE 3-11

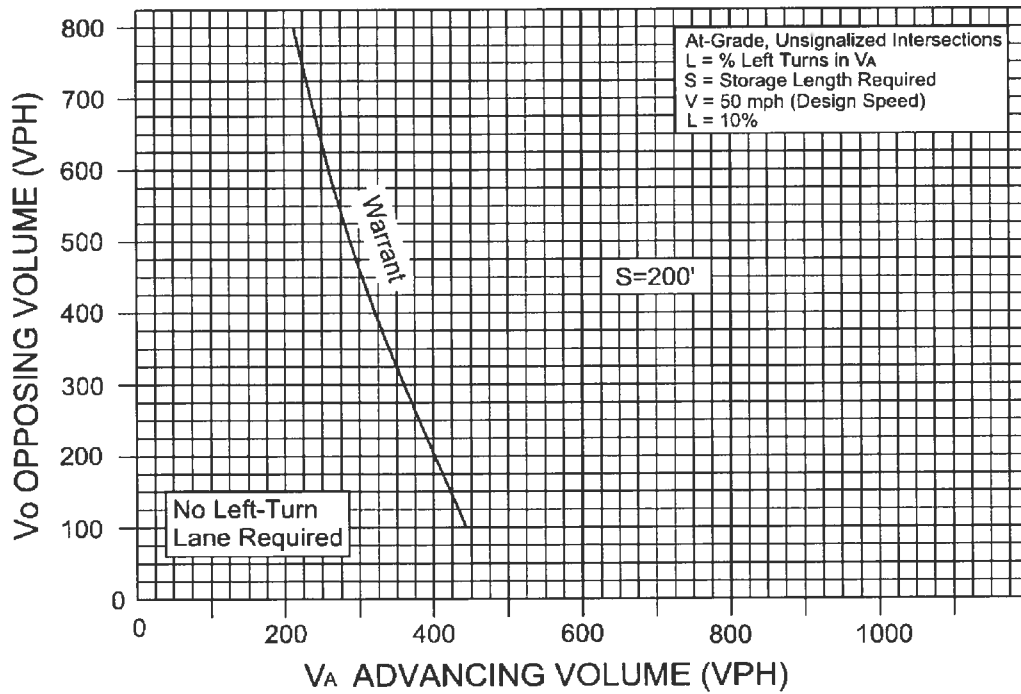
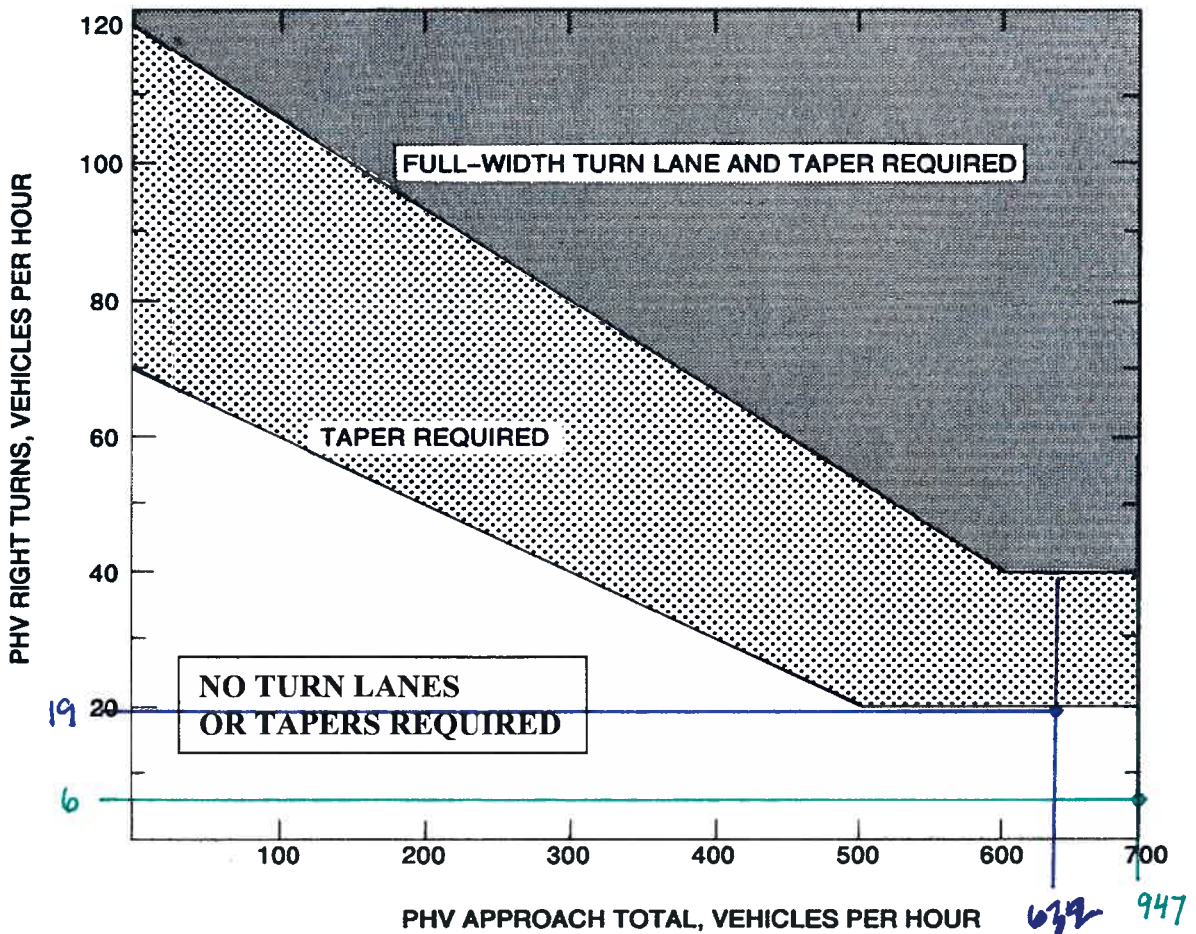


FIGURE 3-12

PRICES FORK ROAD + EASTERN ACCESS
[EBR]

• AM
• PM



Appropriate Radius required at all Intersections and Entrances (Commercial or Private).

LEGEND

PHV - Peak Hour Volume (also Design Hourly Volume equivalent)

Adjustment for Right Turns

For posted speeds at or under 45 mph, PHV right turns > 40, and PHV total < 300.

Adjusted right turns = PHV Right Turns - 20

If PHV is not known use formula: $PHV = ADT \times K \times D$

K = the percent of AADT occurring in the peak hour

D = the percent of traffic in the peak direction of flow

Note: An average of 11% for K x D will suffice.

When right turn facilities are warranted, see Figure 3-1 for design criteria.*

FIGURE 3-26 WARRANTS FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY)

* Rev. 1/15

WESTERN ACCESS

[WBL]

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

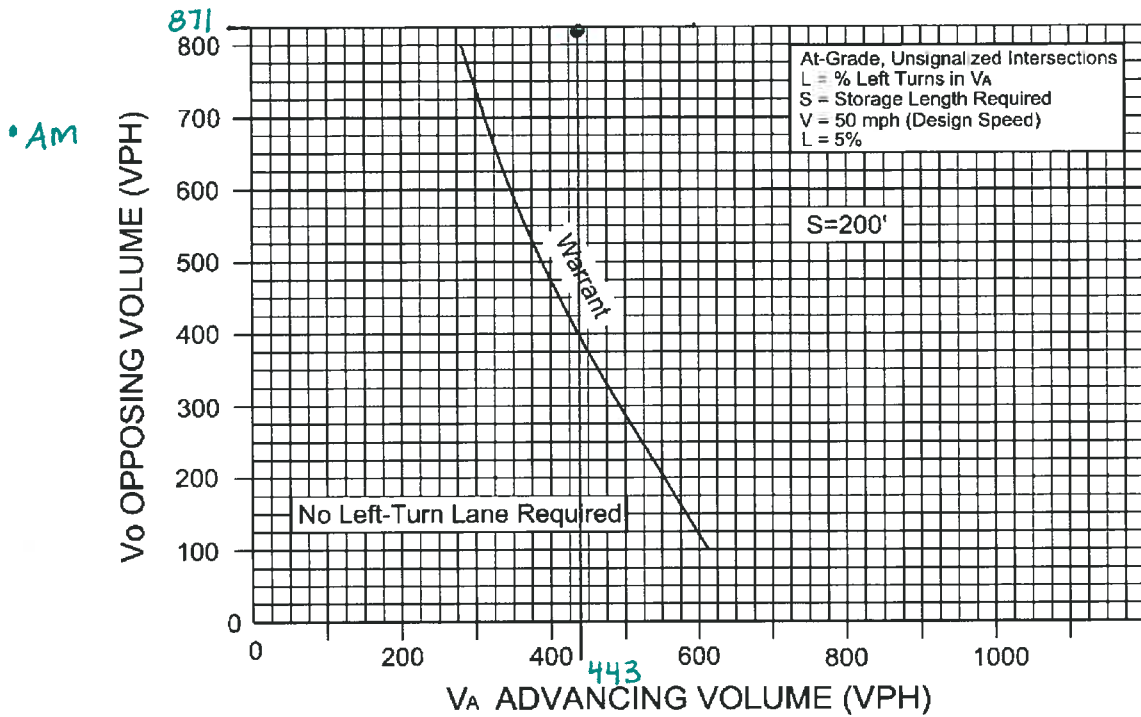


FIGURE 3-11

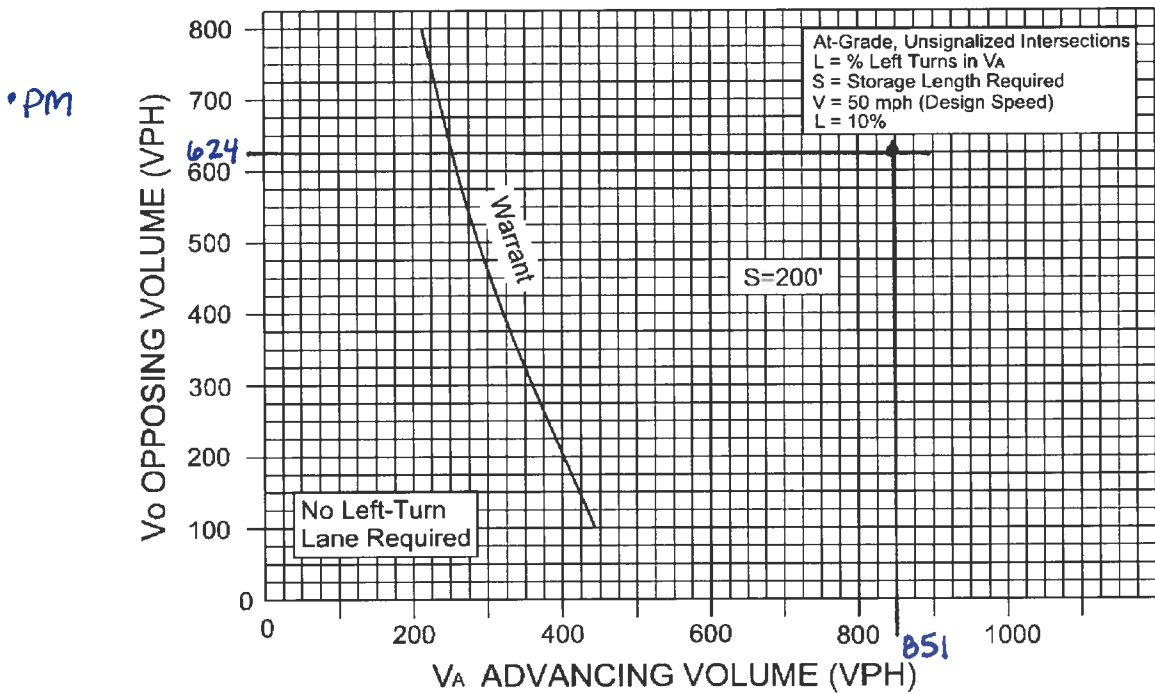
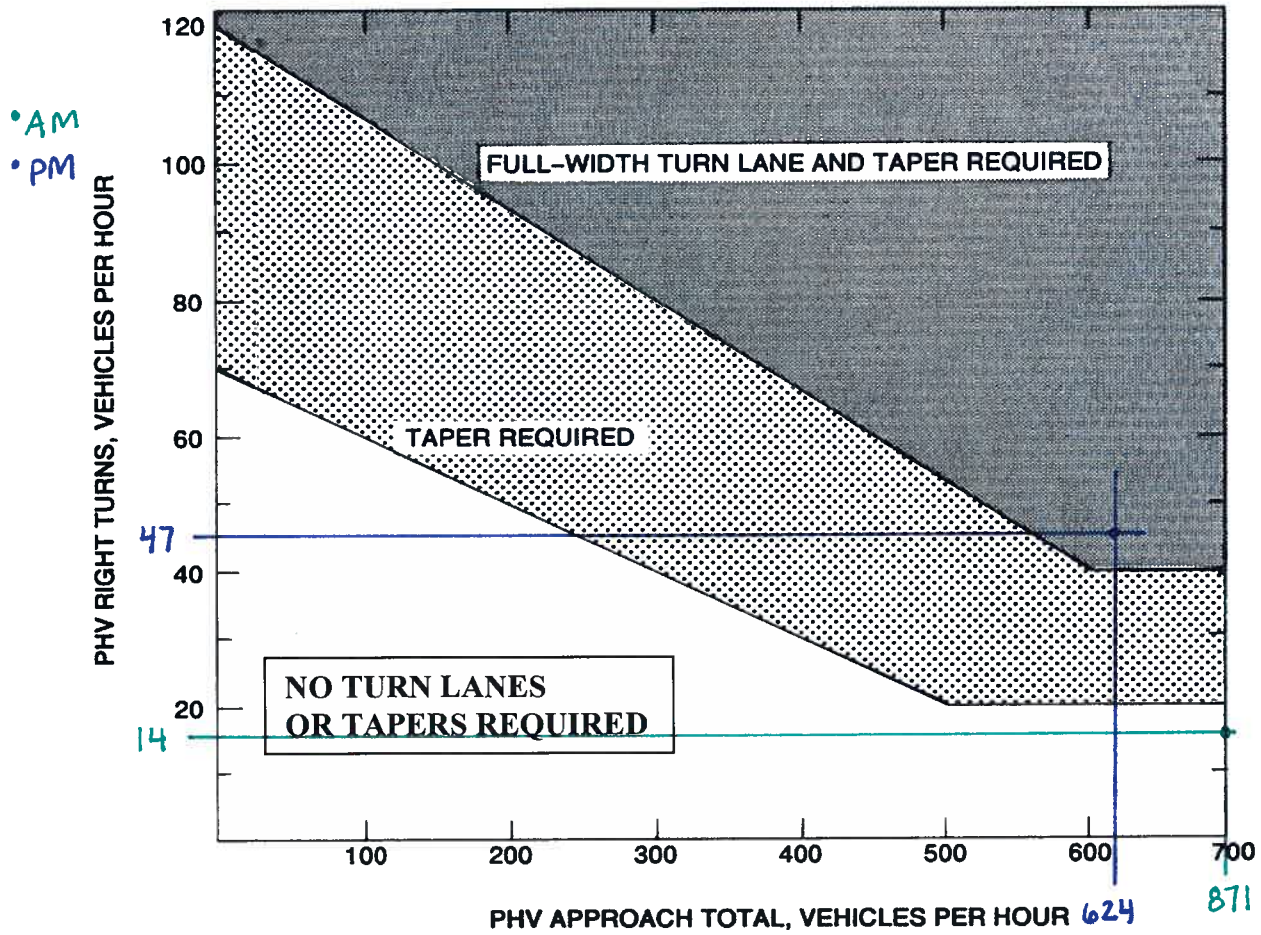


FIGURE 3-12

PRICES FORK ROAD + WESTERN SITE ACCESS
[EBR]



Appropriate Radius required at all Intersections and Entrances (Commercial or Private).

LEGEND

PHV - Peak Hour Volume (also Design Hourly Volume equivalent)

Adjustment for Right Turns

For posted speeds at or under 45 mph, PHV right turns > 40, and PHV total < 300.

Adjusted right turns = PHV Right Turns - 20

If PHV is not known use formula: $PHV = ADT \times K \times D$

K = the percent of AADT occurring in the peak hour
D = the percent of traffic in the peak direction of flow

Note: An average of 11% for K x D will suffice.

When right turn facilities are warranted, see Figure 3-1 for design criteria.*

FIGURE 3-26 WARRANTS FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY)

* Rev. 1/15

APPENDIX E

CAPACITY ANALYSIS REPORTS

Westhill Rezoning
 1: Eastern Access/Stratford View Drive & Prices Fork Road

Build (2030)
 Timing Plan: AM

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↖	↗	↖		↖	↖		↔	
Traffic Vol, veh/h	3	938	6	11	416	5	18	0	36	16	0	9
Future Vol, veh/h	3	938	6	11	416	5	18	0	36	16	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	50	300	-	150	-	-	150	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	3	1020	7	12	452	5	20	0	39	17	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	457	0	0	1027	0	0	1510	1507	1020	1525	1509	452
Stage 1	-	-	-	-	-	-	1026	1026	-	476	476	-
Stage 2	-	-	-	-	-	-	484	481	-	1049	1033	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1104	-	-	676	-	-	99	121	287	96	120	608
Stage 1	-	-	-	-	-	-	283	312	-	570	557	-
Stage 2	-	-	-	-	-	-	564	554	-	275	310	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1104	-	-	676	-	-	96	118	287	82	117	608
Mov Cap-2 Maneuver	-	-	-	-	-	-	96	118	-	82	117	-
Stage 1	-	-	-	-	-	-	282	311	-	568	547	-
Stage 2	-	-	-	-	-	-	545	544	-	237	309	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.3			30.3			44		
HCM LOS							D			E		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	96	287	1104	-	-	676	-	-	119
HCM Lane V/C Ratio	0.204	0.136	0.003	-	-	0.018	-	-	0.228
HCM Control Delay (s)	51.9	19.5	8.3	-	-	10.4	-	-	44
HCM Lane LOS	F	C	A	-	-	B	-	-	E
HCM 95th %tile Q(veh)	0.7	0.5	0	-	-	0.1	-	-	0.8

Westhill Rezoning
1: Eastern Access/Stratford View Drive & Prices Fork Road

Build (2030)
Timing Plan: PM

Intersection

Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗		↘	↗		↔	
Traffic Vol, veh/h	9	604	19	37	835	17	11	0	22	10	0	5
Future Vol, veh/h	9	604	19	37	835	17	11	0	22	10	0	5
Conflicting Peds, #/hr	0	0	50	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	100	300	-	150	-	-	150	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	1	2	2	2	2	2	2	2
Mvmt Flow	10	657	21	40	908	18	12	0	24	11	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	926	0	0	728	0	0	1727	1733	707	1688	1736	908
Stage 1	-	-	-	-	-	-	727	727	-	988	988	-
Stage 2	-	-	-	-	-	-	1000	1006	-	700	748	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	738	-	-	876	-	-	70	88	435	74	87	334
Stage 1	-	-	-	-	-	-	415	429	-	297	325	-
Stage 2	-	-	-	-	-	-	293	319	-	430	420	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	738	-	-	834	-	-	63	79	414	66	78	334
Mov Cap-2 Maneuver	-	-	-	-	-	-	63	79	-	66	78	-
Stage 1	-	-	-	-	-	-	390	403	-	293	309	-
Stage 2	-	-	-	-	-	-	274	304	-	400	394	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.4			34.5			53.6		
HCM LOS							D			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	63	414	738	-	-	834	-	-	90
HCM Lane V/C Ratio	0.19	0.058	0.013	-	-	0.048	-	-	0.181
HCM Control Delay (s)	75.1	14.2	9.9	-	-	9.5	-	-	53.6
HCM Lane LOS	F	B	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.6	0.2	0	-	-	0.2	-	-	0.6

EASTERN ACCESS

Westhill Rezoning
2: Western Access & Prices Fork Road

Build (2030)
Timing Plan: AM

Intersection

Int Delay, s/veh 2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	857	14	29	414	46	90
Future Vol, veh/h	857	14	29	414	46	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	300	-	0	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	3	2	2
Mvmt Flow	932	15	32	450	50	98

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	947
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	725
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	725
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	29
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	139	323	-	-	725	-
HCM Lane V/C Ratio	0.36	0.303	-	-	0.043	-
HCM Control Delay (s)	44.8	20.9	-	-	10.2	-
HCM Lane LOS	E	C	-	-	B	-
HCM 95th %tile Q(veh)	1.5	1.2	-	-	0.1	-

Westhill Rezoning
2: Western Access & Prices Fork Road

Build (2030)
Timing Plan: PM

Intersection

Int Delay, s/veh 2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	577	47	92	759	27	55
Future Vol, veh/h	577	47	92	759	27	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	300	-	0	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	1	2	2
Mvmt Flow	627	51	100	825	29	60

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	678
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	914
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	914
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	28.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	96	484	-	-	914	-
HCM Lane V/C Ratio	0.306	0.124	-	-	0.109	-
HCM Control Delay (s)	58.2	13.5	-	-	9.4	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	1.2	0.4	-	-	0.4	-

WESTERN ACCESS

APPENDIX F

QUEUEING ANALYSIS REPORTS

Intersection: 1: Eastern Access/Stratford View Drive & Prices Fork Road

Movement	EB	EB	WB	NB	NB	SB
Directions Served	L	R	L	LT	R	LTR
Maximum Queue (ft)	10	1	24	60	90	55
Average Queue (ft)	1	0	4	15	25	19
95th Queue (ft)	6	1	18	48	60	47
Link Distance (ft)				446		490
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150	50	300		150	
Storage Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	

Intersection: 2: Western Access & Prices Fork Road

Movement	EB	EB	WB	NB	NB
Directions Served	T	R	L	L	R
Maximum Queue (ft)	2	2	46	81	94
Average Queue (ft)	0	0	16	30	39
95th Queue (ft)	2	2	41	64	70
Link Distance (ft)	805			419	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		200	300		150
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Eastern Access/Stratford View Drive & Prices Fork Road

Movement	EB	EB	WB	NB	NB	SB
Directions Served	L	R	L	LT	R	LTR
Maximum Queue (ft)	18	5	42	45	34	55
Average Queue (ft)	2	0	12	10	15	16
95th Queue (ft)	12	3	33	34	38	46
Link Distance (ft)				446		367
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150	100	300		150	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Western Access & Prices Fork Road

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	4	61	67	64
Average Queue (ft)	0	25	21	28
95th Queue (ft)	2	50	52	53
Link Distance (ft)			419	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	200	300		150
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

APPENDIX G

SIGNAL WARRANT ANALYSIS

Period	Existing (2017)					Projected (2030)					Adjacent Development					No-Build					Proposed Site Traffic					Old Fort Road Redirection					Build (2030)												
	7-8 AM	8-9 AM	3-4 PM	4-5 PM	5-6 PM	7-8 AM	8-9 AM	3-4 PM	4-5 PM	5-6 PM	7-8 AM	8-9 AM	3-4 PM	4-5 PM	5-6 PM	7-8 AM	8-9 AM	3-4 PM	4-5 PM	5-6 PM	7-8 AM	8-9 AM	3-4 PM	4-5 PM	5-6 PM	7-8 AM	8-9 AM	3-4 PM	4-5 PM	5-6 PM	7-8 AM	8-9 AM	3-4 PM	4-5 PM	5-6 PM								
Eastern Access																																											
SBR	8	8	5	5	5	9	9	5	5	5						9	9	5	5	5													9	9	5	5	5						
SBT																																				0	0	0	0	0			
SBL	15	15	9	9	9	16	16	10	10	10						16	16	10	10	10																16	16	10	10	10			
WBR	5	5	16	16	16	5	5	17	17	17						5	5	17	17	17																5	5	17	17	17			
WBT	285	338	512	576	616	304	361	546	615	657	44	44	61	61	61	348	405	607	676	718	26	26	84	84	84											374	431	691	760	802			
WBL																					11	11	37	37	37												11	11	37	37	37		
NBR																					36	36	22	22	22												36	36	22	22	22		
NBT																					0	0	0	0	0												0	0	0	0	0		
NBL																					18	18	11	11	11												18	18	11	11	11		
EBR																					6	6	19	19	19												6	6	19	19	19		
EBT	664	556	348	425	405	708	593	371	453	432	133	133	80	80	80	841	726	451	533	512	82	82	50	50	50												923	808	501	583	562		
EBL	3	3	8	8	8	3	3	9	9	9						3	3	9	9	9	0	0	0	0	0													3	3	9	9	9	
Western Access																																											
WBT	293	346	517	581	621	313	370	551	620	662	44	44	61	61	61	357	414	612	681	723	18	18	11	11	11	-3	-3	-8	-8	-8							372	429	615	684	726		
WBL																					26	26	84	84	84	3	3	8	8	8									29	29	92	92	92
NBR																					82	82	50	50	50	8	8	5	5	5									90	90	55	55	55
NBL																					46	46	27	27	27													46	46	27	27	27	
EBR																					14	14	47	47	47													14	14	47	47	47	
EBT	667	559	356	433	413	711	596	380	462	441	133	133	80	80	80	844	729	460	542	521	6	6	19	19	19	-8	-8	-5	-5	-5								842	727	474	556	535	

Traffic Signal Warrant Calculation

Eastern Access

Period	major								minor		major	minor ²	2	3
	ebl	ebr	total	wbl	wbr	total	nb ¹	sb						
7 to 8	3	923	6	932	11	374	5	390	18	25	1322	25	N	N
8 to 9	3	808	6	817	11	431	5	447	18	25	1264	25	N	N
3 to 4	9	501	19	529	37	691	17	745	11	15	1274	15	N	N
4 to 5	9	583	19	611	37	760	17	814	11	15	1425	15	N	N
5 to 6	9	562	19	590	37	802	17	856	11	15	1446	15	N	N
met												0	0	
needed												4	1	
warranted?												NO	NO	

Notes

- The northbound approach of the site access is proposed to consist of a shared left-through and an exclusive right turn lane. Because an exclusive right turn lane is proposed, the northbound right turn volumes can be eliminated from the warrant calculation.
- For an intersection with two minor street approaches, the minor street volume that is utilized for the purpose of the warrant analysis is the approach with the heavier volume for each one hour period.

Western Access

Period	major						minor		major	minor ¹	2	3
	ebr	total	wbr	total	nbl	nbr						
7 to 8	842	14	856	29	372	401	46	90	1257	46	N	N
8 to 9	727	14	741	29	429	458	46	90	1199	46	N	N
3 to 4	474	47	521	92	615	707	27	55	1228	27	N	N
4 to 5	556	47	603	92	684	776	27	55	1379	27	N	N
5 to 6	535	47	582	92	726	818	27	55	1400	27	N	N
met											0	0
needed											4	1
warranted?											NO	NO

Notes

- The northbound approach of the site access is proposed to consist of a shared left-through and an exclusive right turn lane. Because an exclusive right turn lane is proposed, the northbound right turn volumes can be eliminated from the warrant calculation.

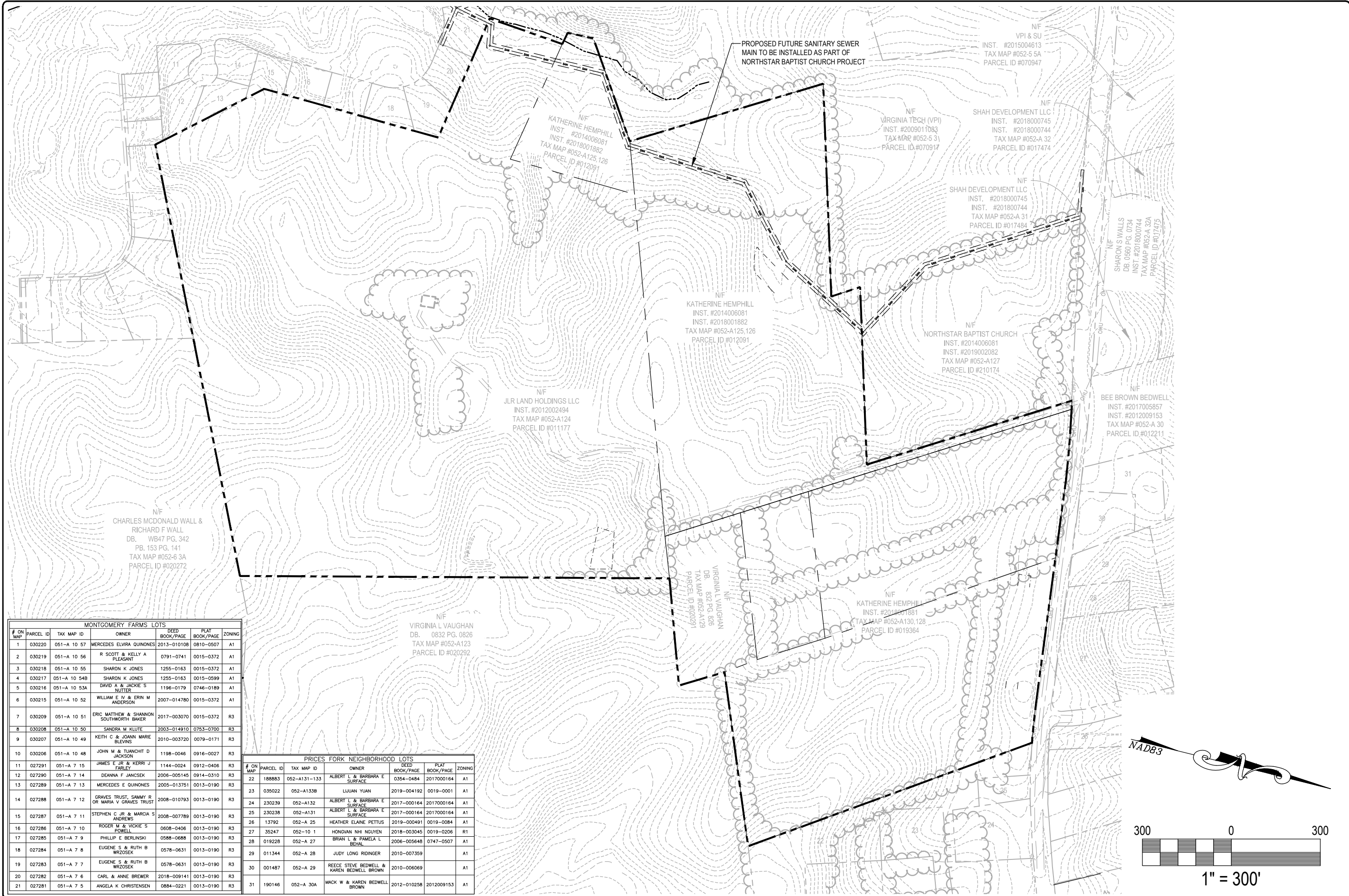


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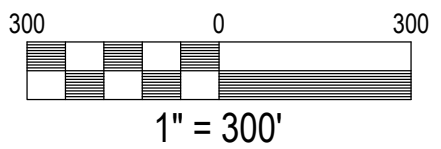


WESTHILL SUBDIVISION

EXISTING CONDITIONS

PRICES FORK MAGISTERIAL DISTRICT
MONTGOMERY COUNTY, VIRGINIA

DRAWN BY: GLM
DESIGNED BY: GLM
CHECKED BY: SMS
DATE: 9/3/19
SCALE: 1" = 300'
REVISIONS:



MONTGOMERY FARMS LOTS						
# ON MAP	PARCEL ID	TAX MAP ID	OWNER	DEED BOOK/PAGE	PLAT BOOK/PAGE	ZONING
1	030220	051-A 10 57	MERCEDES ELVIRA QUINONES	2013-010108	0810-0507	A1
2	030219	051-A 10 56	R SCOTT & KELLY A PLEASANT	0791-0741	0015-0372	A1
3	030218	051-A 10 55	SHARON K JONES	1255-0163	0015-0372	A1
4	030217	051-A 10 54B	SHARON K JONES	1255-0163	0015-0599	A1
5	030216	051-A 10 53A	DAVID A & JACKIE S NUTTER	1196-0179	0746-0189	A1
6	030215	051-A 10 52	WILLIAM E IV & ERIN M ANDERSON	2007-014780	0015-0372	A1
7	030209	051-A 10 51	ERIC MATTHEW & SHANNON SOUTHWORTH BAKER	2017-003070	0015-0372	R3
8	030208	051-A 10 50	SANDRA M KLUTE	2003-014910	0753-0760	R3
9	030207	051-A 10 49	KEITH C & JOANN MARIE BLEVINS	2010-003720	0079-0171	R3
10	030206	051-A 10 48	JOHN M & TUANCHIT D JACKSON	1198-0046	0916-0027	R3
11	027291	051-A 7 15	JAMES E JR & KERRI J FARLEY	1144-0024	0912-0406	R3
12	027290	051-A 7 14	DEANNA F JANCSEK	2006-005145	0914-0310	R3
13	027289	051-A 7 13	MERCEDES E QUINONES	2005-013751	0013-0190	R3
14	027288	051-A 7 12	GRAVES TRUST, SAMMY R OR MARIA V GRAVES TRUST	2008-010793	0013-0190	R3
15	027287	051-A 7 11	STEPHEN C JR & MARCIA S ANDREWS	2008-007789	0013-0190	R3
16	027286	051-A 7 10	ROGER M & VICKIE S POWELL	0608-0406	0013-0190	R3
17	027285	051-A 7 9	PHILIP E BERLINSKI	0588-0688	0013-0190	R3
18	027284	051-A 7 8	EUGENE S & RUTH B WRZOSEK	0578-0631	0013-0190	R3
19	027283	051-A 7 7	EUGENE S & RUTH B WRZOSEK	0578-0631	0013-0190	R3
20	027282	051-A 7 6	CARL & ANNE BREWER	2018-009141	0013-0190	R3
21	027281	051-A 7 5	ANGELA K CHRISTENSEN	0884-0221	0013-0190	R3

PRICES FORK NEIGHBORHOOD LOTS						
# ON MAP	PARCEL ID	TAX MAP ID	OWNER	DEED BOOK/PAGE	PLAT BOOK/PAGE	ZONING
22	188883	052-A131-133	ALBERT L & BARBARA E SURFACE	0354-0484	2017000164	A1
23	035022	052-A133B	LUUAN YUAN	2019-004192	0019-0001	A1
24	230239	052-A132	ALBERT L & BARBARA E SURFACE	2017-000164	2017000164	A1
25	230238	052-A131	ALBERT L & BARBARA E SURFACE	2017-000164	2017000164	A1
26	13792	052-A 25	HEATHER ELAINE PETTUS	2019-000491	0019-0084	A1
27	35247	052-10 1	HONGVAN NHI NGUYEN	2018-003045	0019-0206	R1
28	019228	052-A 27	BRIAN L & PAMELA L BEHAL	2006-005648	0747-0507	A1
29	011344	052-A 28	JUDY LONG RIDINGER	2010-007359		A1
30	001487	052-A 29	RECE STEVE BEDWELL & KAREN BEDWELL BROWN	2010-006069		A1
31	190146	052-A 30A	MACK W & KAREN BEDWELL BROWN	2012-010258	2012009153	A1



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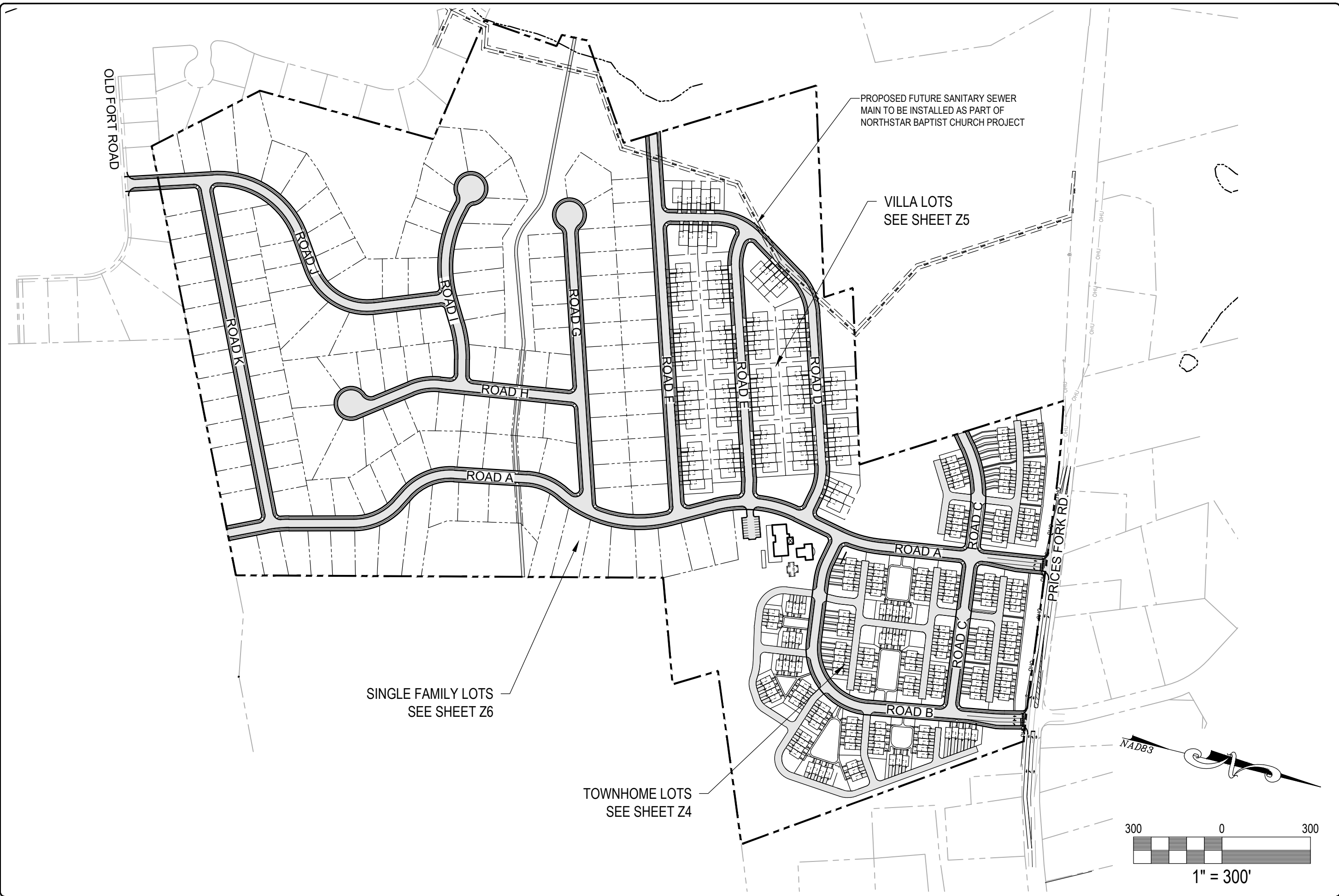
WESTHILL SUBDIVISION

CONCEPTUAL MASTER PLAN

PRICES FORK MAGISTERIAL DISTRICT
 MONTGOMERY COUNTY, VIRGINIA

DRAWN BY	GLM
DESIGNED BY	GLM
CHECKED BY	SMS
DATE	9/3/19
SCALE	1" = 300'
REVISIONS	

Z2
 PROJECT NO. 24190010.00

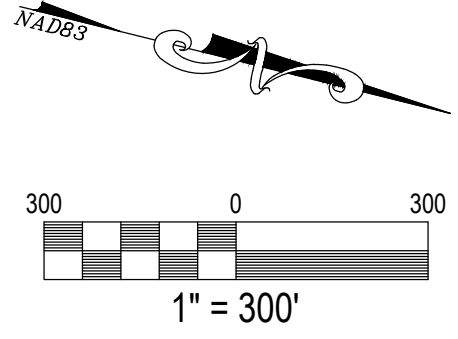


PROPOSED FUTURE SANITARY SEWER
 MAIN TO BE INSTALLED AS PART OF
 NORTHSTAR BAPTIST CHURCH PROJECT

VILLA LOTS
 SEE SHEET Z5

SINGLE FAMILY LOTS
 SEE SHEET Z6

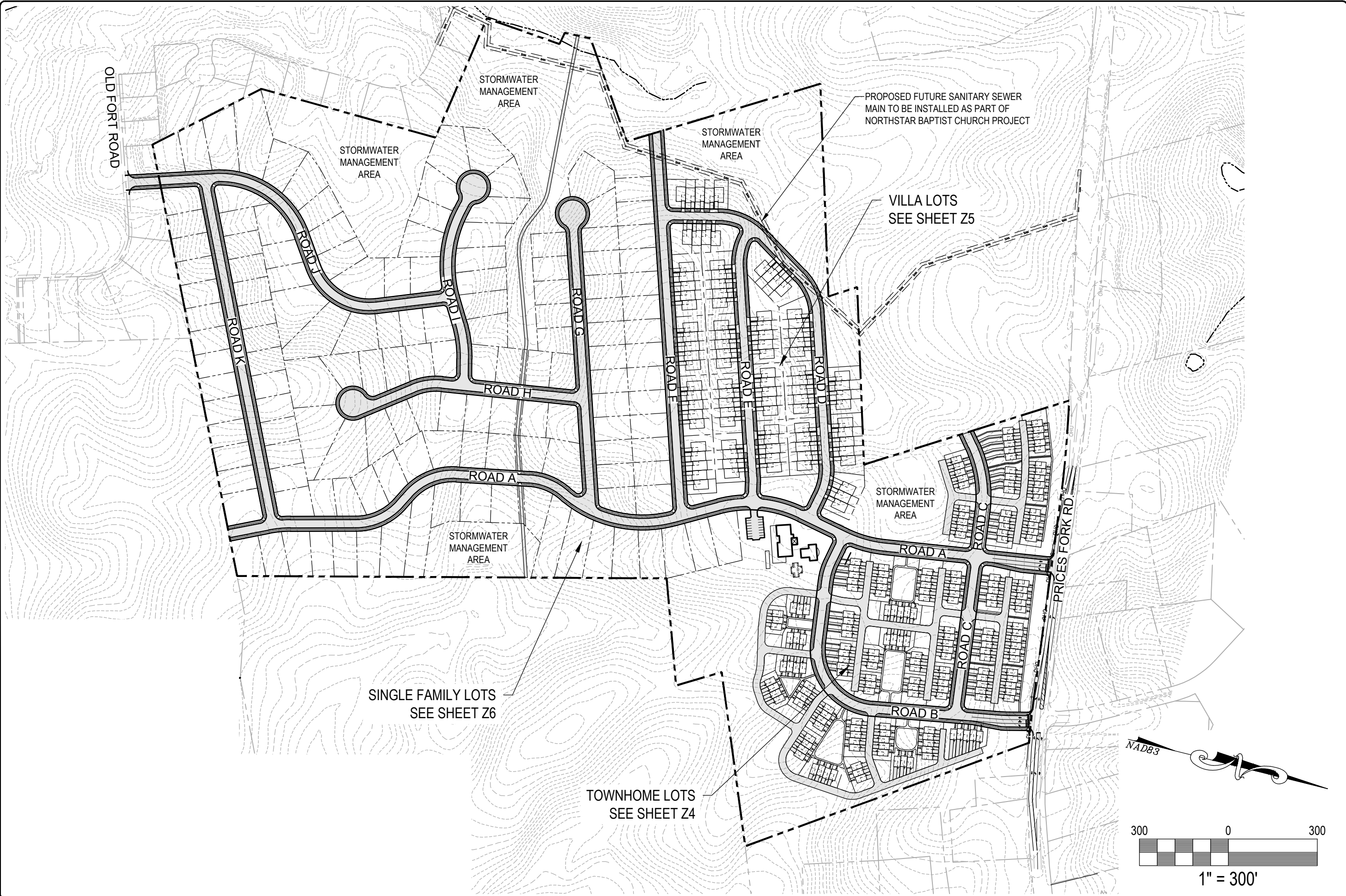
TOWNHOME LOTS
 SEE SHEET Z4





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WESTHILL SUBDIVISION
TOPOGRAPHICAL MASTER PLAN

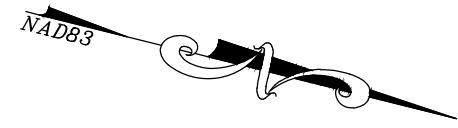
PRICES FORK MAGISTERIAL DISTRICT
 MONTGOMERY COUNTY, VIRGINIA

DRAWN BY	GLM
DESIGNED BY	GLM
CHECKED BY	SMS
DATE	9/3/19
SCALE	1" = 300'
REVISIONS	

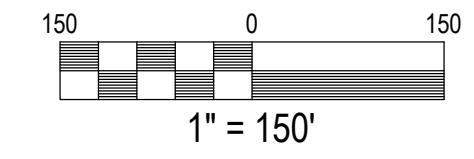


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TOTAL NUMBER OF TOWNHOME LOTS AS SHOWN=190



WESTHILL SUBDIVISION

TOWNHOMES

PRICES FORK MACRESTERAL DISTRICT
 MONTGOMERY COUNTY, VIRGINIA

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DATE	9/3/19
SCALE	1" = 150'
REVISIONS	

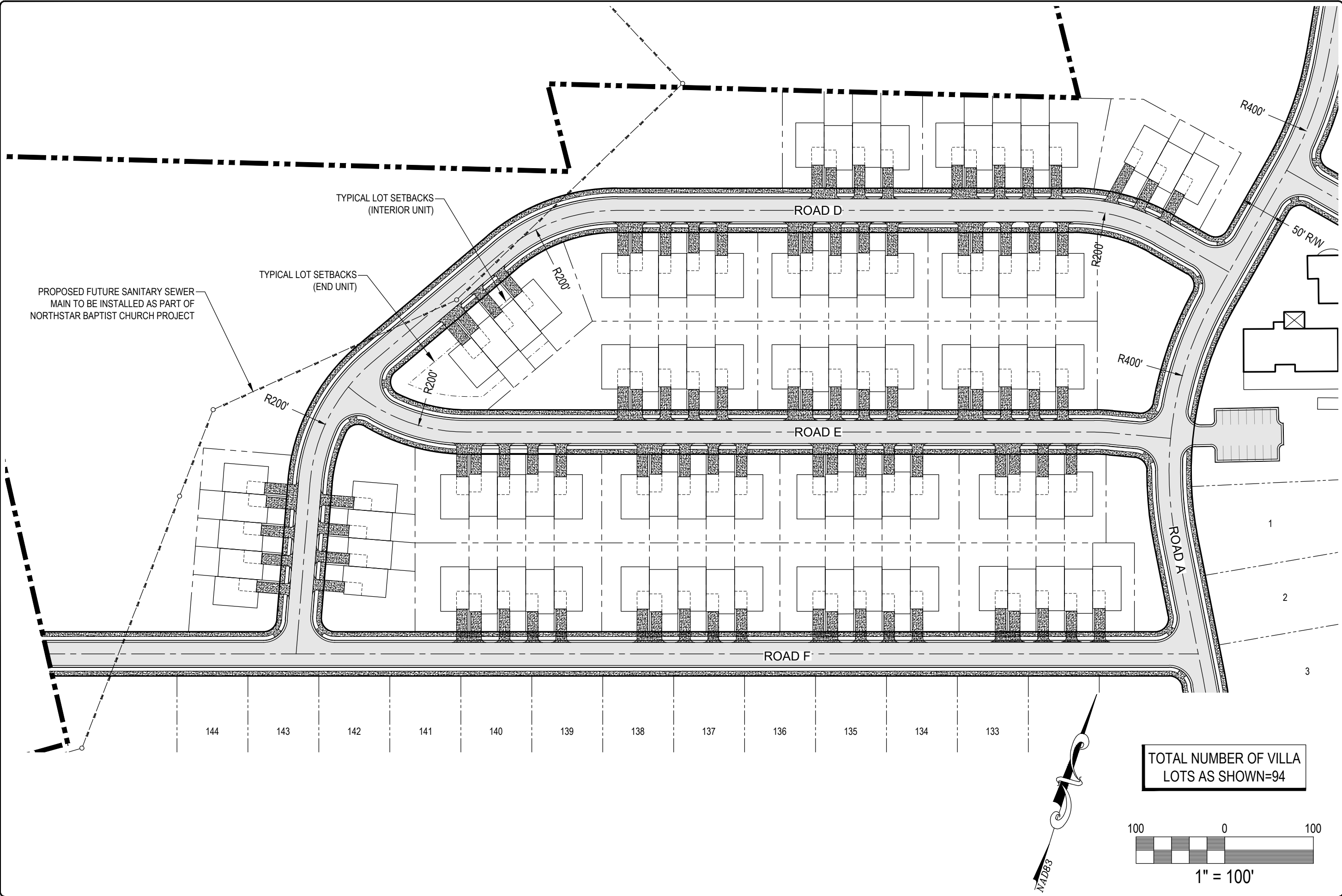
Z4

PROJECT NO. 2419010.00



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WESTHILL SUBDIVISION

VILLAS

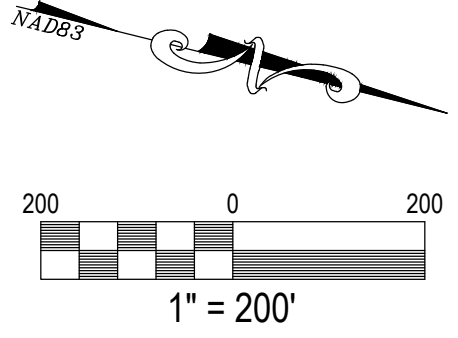
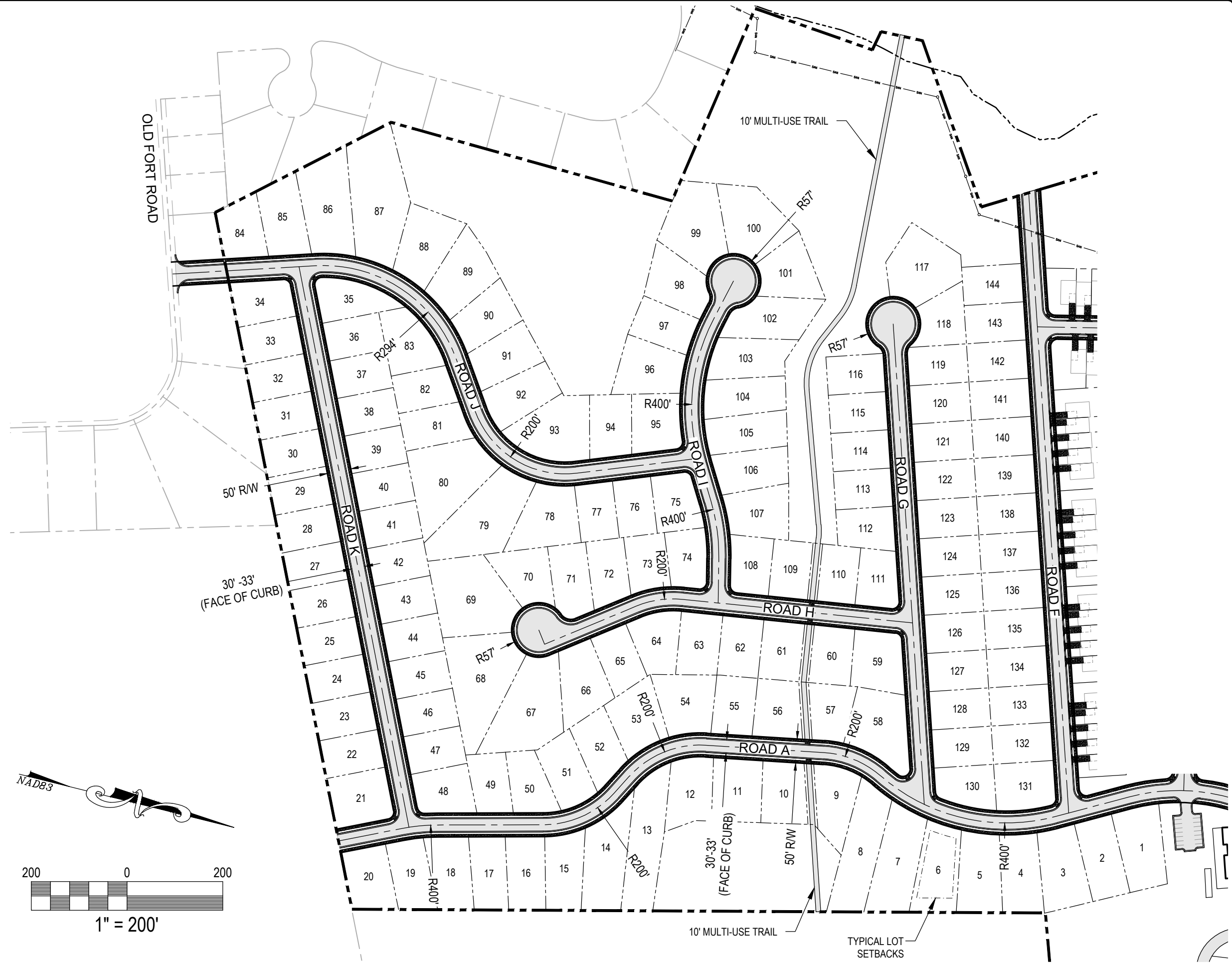
PRICES FOR MAGISTERIAL DISTRICT
 MONTGOMERY COUNTY, VIRGINIA

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 CHECKED BY SMS
 DATE 9/3/19
 SCALE 1" = 100'
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WESTHILL SUBDIVISION

SINGLE FAMILY LOTS

PRICES FOR MAGISTERIAL DISTRICT
 MONTGOMERY COUNTY, VIRGINIA

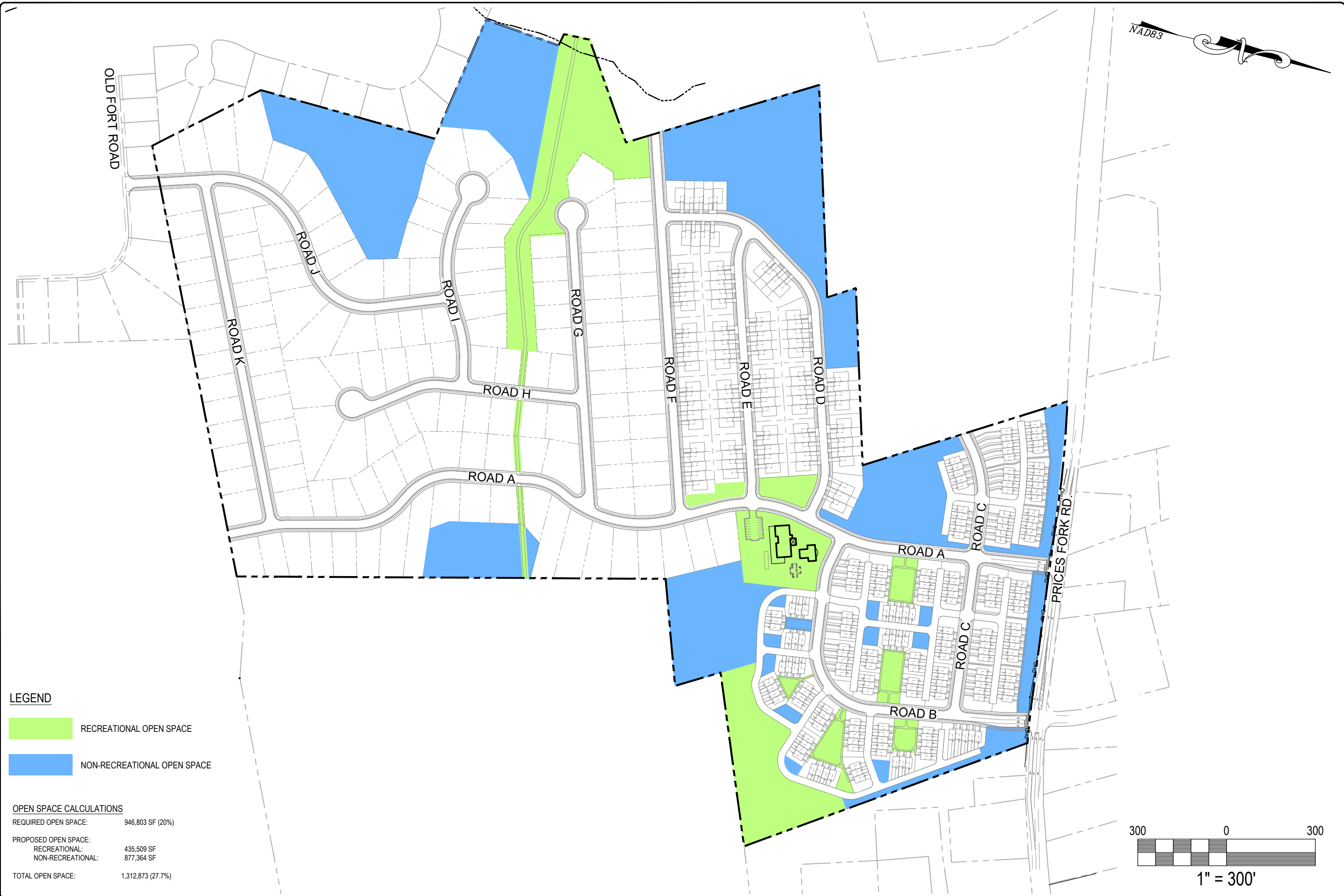
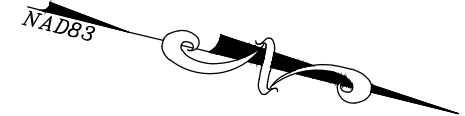
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CHECKED BY	SMS
DATE	9/3/19
SCALE	1" = 200'
REVISIONS	

Z6
 PROJECT NO. 2419010.00



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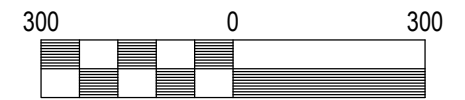


LEGEND

- RECREATIONAL OPEN SPACE
- NON-RECREATIONAL OPEN SPACE

OPEN SPACE CALCULATIONS

REQUIRED OPEN SPACE:	946,803 SF (20%)
PROPOSED OPEN SPACE:	
RECREATIONAL:	435,509 SF
NON-RECREATIONAL:	877,364 SF
TOTAL OPEN SPACE:	1,312,873 (27.7%)



1" = 300'

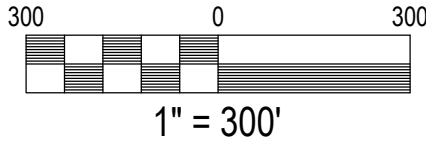
WESTHILL SUBDIVISION
OPEN SPACE PLAN

PRICES FORK MACRESTRAL DISTRICT
 MONTGOMERY COUNTY, VIRGINIA

DRAWN BY	GLM
DESIGNED BY	GLM
CHECKED BY	SMS
DATE	9/3/19
SCALE	1" = 300'
REVISIONS	

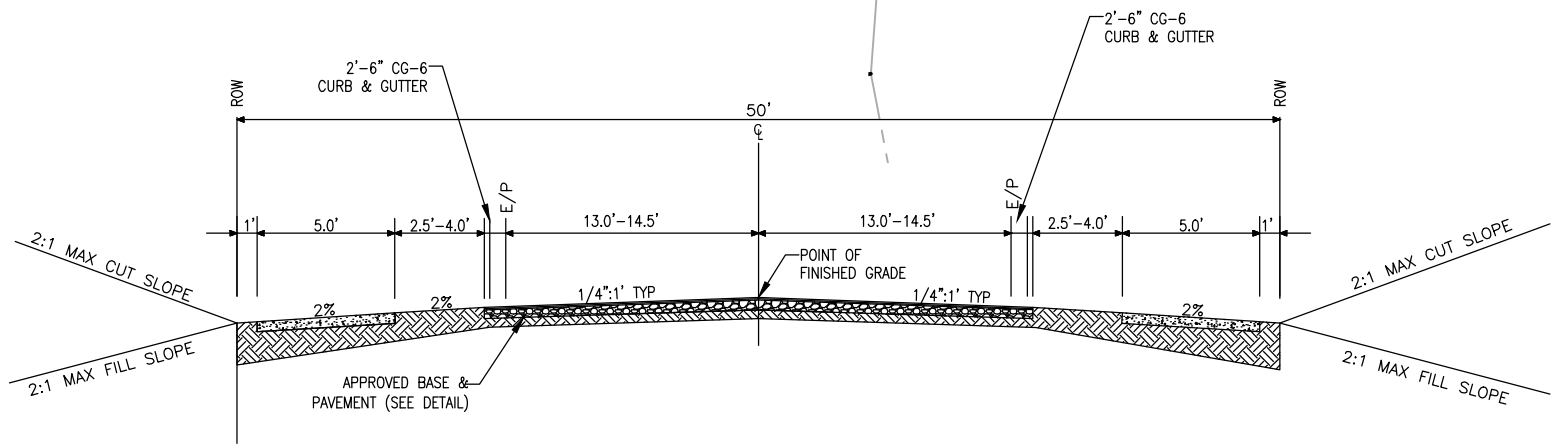
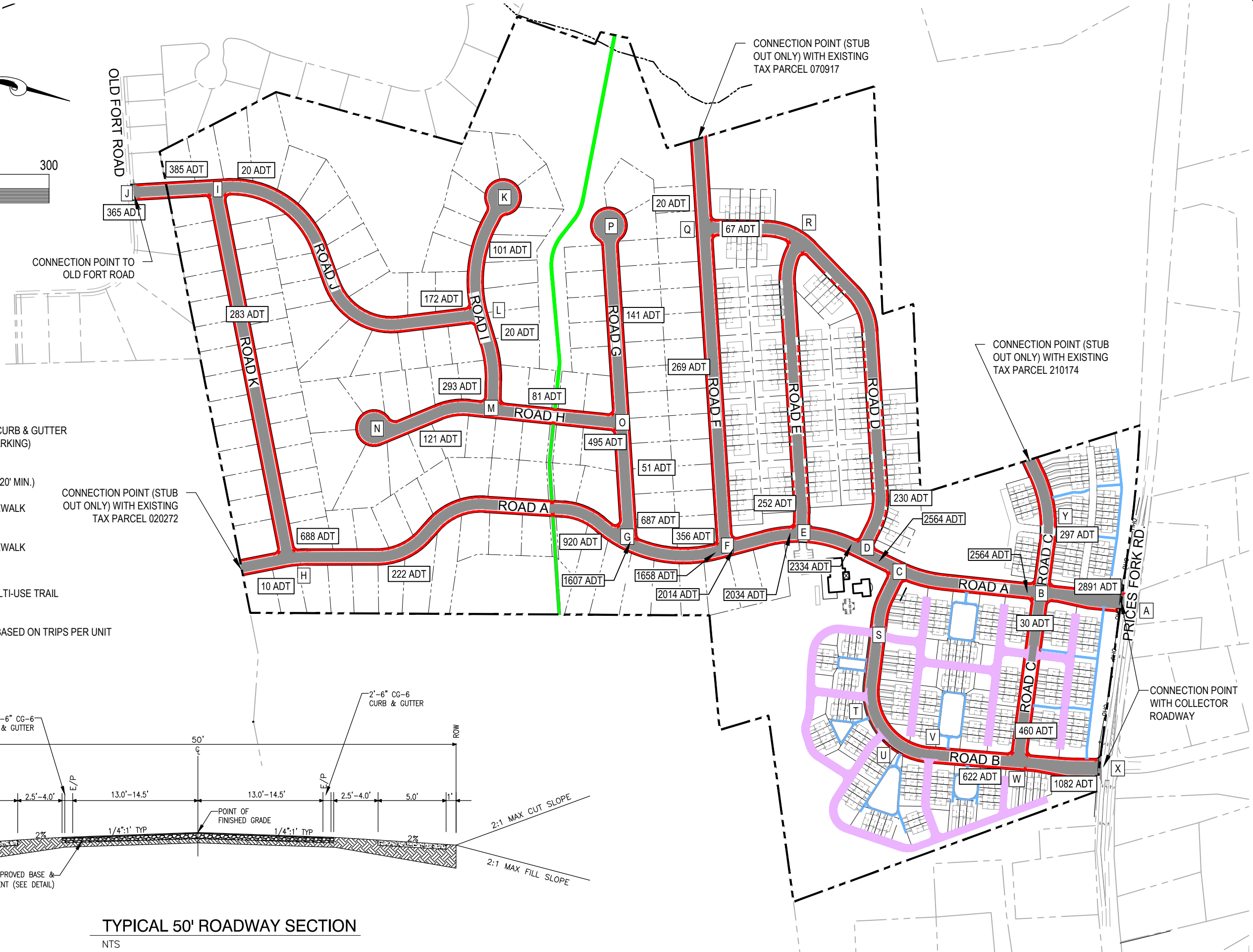
Z7

PROJECT NO. 24190010.00

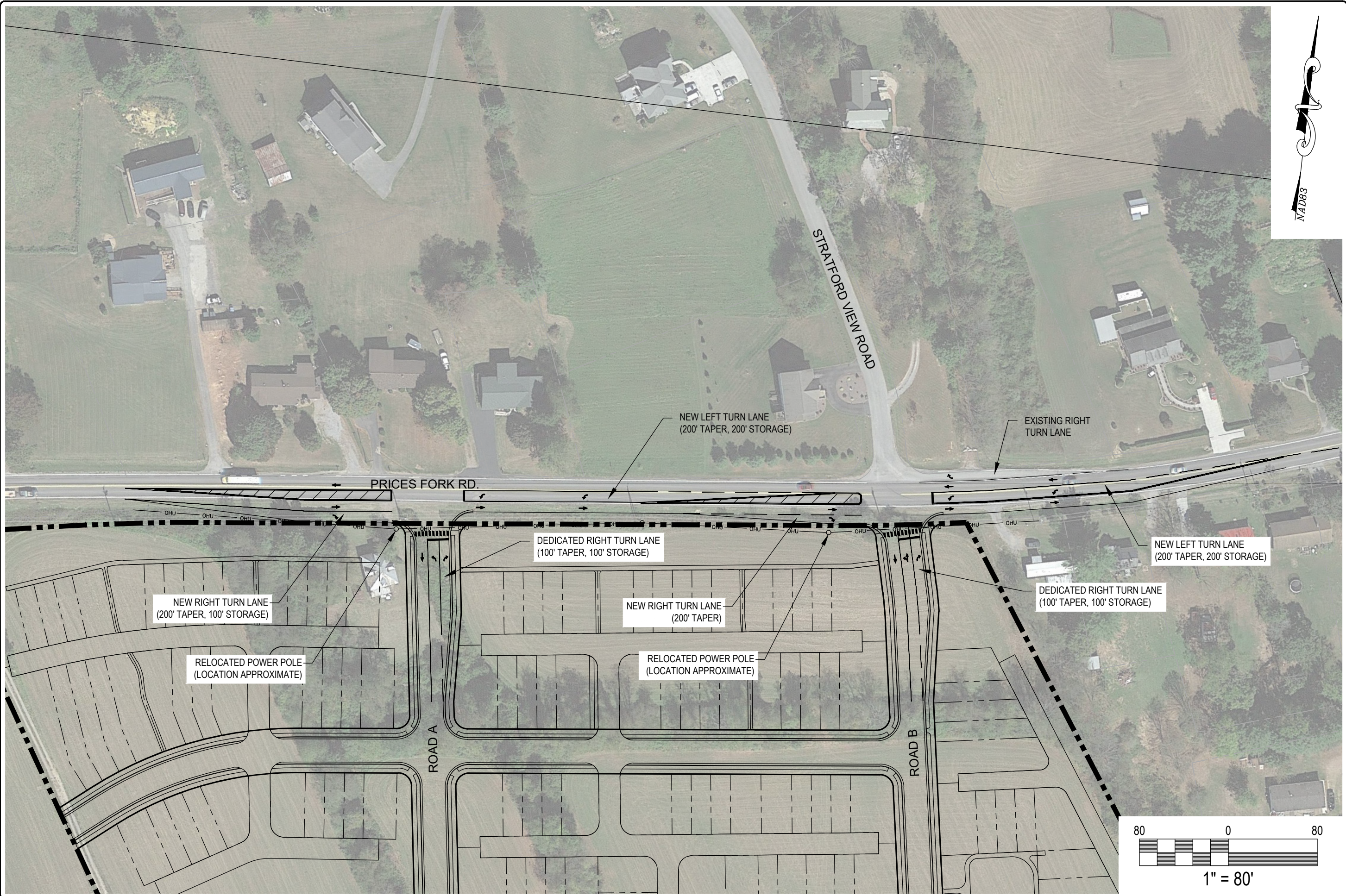


LEGEND

- PUBLIC ROAD - CURB & GUTTER SECTION (NO PARKING)
- PRIVATE ALLEY (WIDTH VARIES, 20' MIN.)
- CONCRETE SIDEWALK (PUBLIC)
- CONCRETE SIDEWALK (PRIVATE)
- 10' ASPHALT MULTI-USE TRAIL
- ADT ADT ESTIMATE BASED ON TRIPS PER UNIT



TYPICAL 50' ROADWAY SECTION
NTS



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WESTHILL SUBDIVISION
PROPOSED ROAD IMPROVEMENTS
 PRICES FORK MACRESTERAL DISTRICT
 MONTGOMERY COUNTY, VIRGINIA

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SCALE	1" = 80'
REVISIONS	

Z9
 PROJECT NO. 24190010.00