



**Valley Pike/Shawnee Drive Intersection Improvement Study**  
**Selection of Preferred Alternative**

Prepared for:

Winchester Frederick County

Metropolitan Planning Organization

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January 29, 2016

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## 1.0 Introduction

The development of a 20-year transportation plan addressing the operation of the intersection of Valley Pike (US 11) and Shawnee Drive in Winchester, VA is critical to help shape the area's long-range economic health and quality of life. Stakeholders have identified impediments to smooth traffic flow through an approximately 0.2-mile section of Valley Pike (US 11) at the City of Winchester's southern corporate limit, where Valley Pike crosses the Hoge Run culvert. These include a southbound bottleneck as the roadway narrows from a two-lane to a one-lane section at the culvert; driveway access to a 7-Eleven convenience store at the intersection of Valley Pike and Shawnee Drive (SR-652); and impeded left-turn egress from Opequon Church Lane (SR-706) to northbound US 11, just south of Shawnee Drive. Opequon Church Lane serves the Opequon Presbyterian Church and Woodbrook Village residential development on the west side of US 11. The current congestion, queuing and mobility issues within the study area, more specifically at the intersection of Valley Pike and Shawnee Drive, make travel in the corridor difficult, and future conditions will only worsen.

The Winchester Frederick County Metropolitan Planning Organization (WinFred MPO) initiated the Valley Pike/Shawnee Drive Intersection Improvement Study to identify improvement alternatives for the Valley Pike/Shawnee Drive intersection and to US 11 immediately adjacent to the intersection. In coordination with the Winchester Frederick County Metropolitan Planning Organization (WinFred MPO) and a project management team, the study team also engaged the community to obtain stakeholder input.

This technical memorandum documents selection of a preferred alternative from potential Build Alternatives that will mitigate the identified operational, geometric, and safety deficiencies and accommodate projected traffic growth at the intersection of Valley Pike (US 11) and Shawnee Drive (Route 652), and of US 11 between the Creekside Station/Rubbermaid Entrance and Apple Valley Road intersections. The preferred alternative was chosen by the project management team based on the analysis of potential Build Alternatives and feedback received at two community Open House meetings.

The preferred alternative will be recommended to the MPO Technical Advisory Committee for recommendation to the MPO Policy Board.

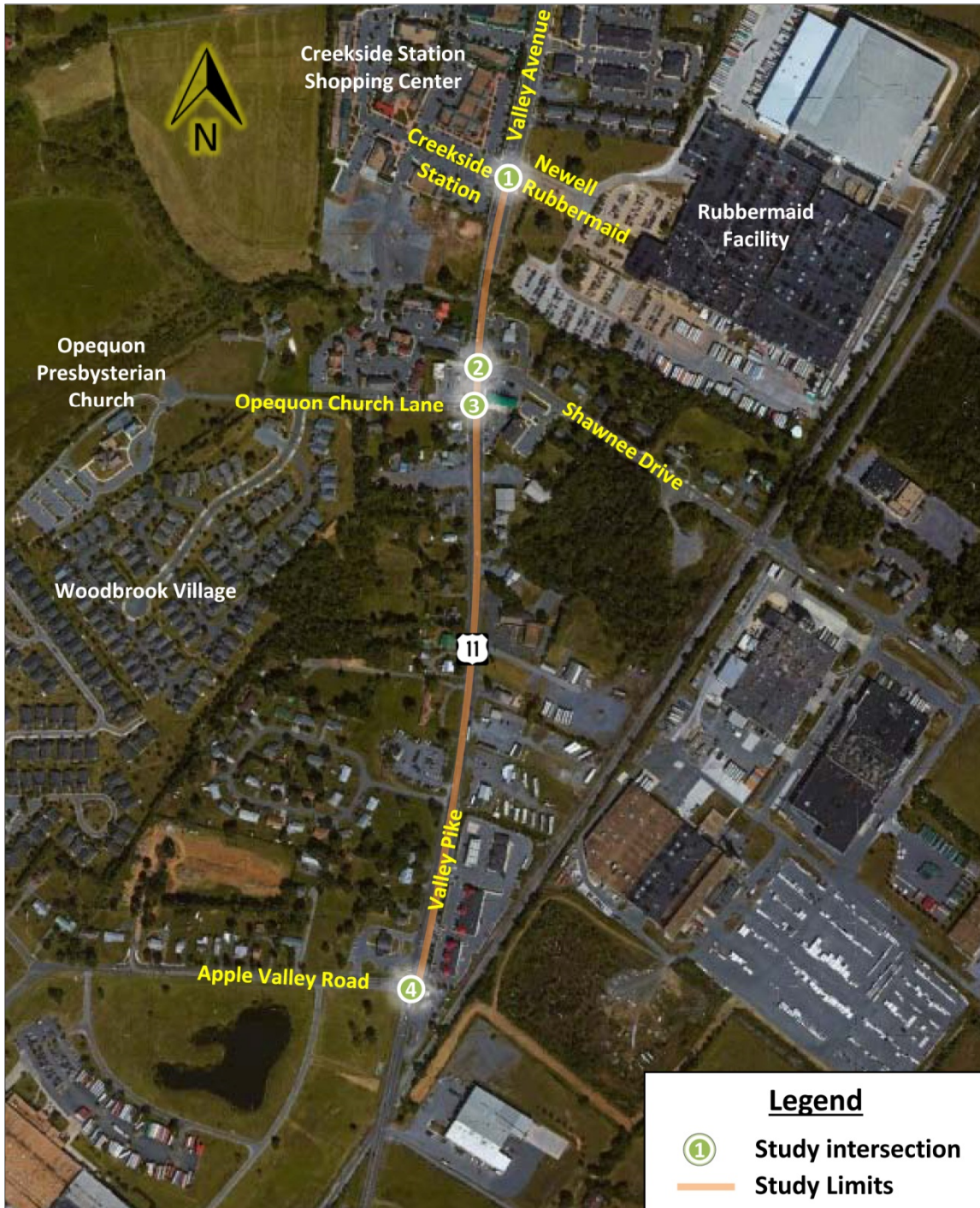
## 2.0 Study Area

The project study area was defined as the US 11 corridor between its intersection with Apple Valley Road (SR-651) and Newell Rubbermaid Entrance/Creekside Station. This study area includes the following intersections:

1. US 11 at Newell Rubbermaid Entrance/Creekside Station (signalized)
2. US 11 at Shawnee Drive (signalized)
3. US 11 at Opequon Church Lane (unsignalized)
4. US 11 at Apple Valley Road (signalized)

The existing study area intersections are shown in **Figure 1**. Within the study area, US 11 provides access to residential areas and major businesses adjacent to the corridor such as the Creekside Station Shopping Center, Rubbermaid Facility, Opequon Presbyterian Church, and the Woodbrook Village residential development.

Figure 1: Existing Study Area Intersections



### 3.0 Design Modification Alternatives

Three design modification alternatives were developed to address identified operational, geometric, and safety deficiencies of the intersection of Valley Pike (US 11) and Shawnee Drive (Route 652), and of US 11 between the Creekside Station/Rubbermaid and Apple Valley Road intersections. The design modification alternatives include:

#### Option 1 (Second Signal at Opequon Church Lane):

- Add a new signal at Valley Pike (US 11) and Opequon Church Lane – the signal would be timed to work simultaneously with the existing signal at Valley Pike (US 11) and Shawnee Drive (Route 652).
- Close north access to 7-Eleven property from Valley Pike (US 11).
- Restrict south access to First Bank from Valley Pike (US 11) to entrance only.

#### Option 2a (Second Signal at Opequon Church Lane with Additional Southbound Through Lane):

- Add a new signal at Valley Pike (US 11) and Opequon Church Lane – the new signal would be timed to work simultaneously with the existing signal at Valley Pike (US 11) and Shawnee Drive (Route 652).
- Close north access to 7-Eleven property from Valley Pike (US 11).
- Restrict south access to First Bank from Valley Pike (US 11) to entrance only.
- Add second southbound through lane on Valley Pike (US 11) from Creekside Station/Rubbermaid to south of Opequon Church Lane – requires widening of the bridge over Hoge Run only in the southbound direction.

*Note that Option 2a includes all the Option 1 improvements with additional improvements as listed above.*

#### Option 2b (Second Signal at Opequon Church Lane with Additional North- and Southbound Through Lanes):

- Add a new signal at Valley Pike (US 11) and Opequon Church Lane – the new signal would be timed to work simultaneously with the proposed signal at Valley Pike (US 11) and Shawnee Drive (Route 652).
- Close north access to 7-Eleven property from Valley Pike (US 11).
- Restrict south access to First Bank from Valley Pike (US 11) to entrance only.
- Add second southbound through lane on Valley Pike (US 11) from Creekside Station/Rubbermaid to south of Opequon Church Lane.
- Add second northbound lane on Valley Pike (US 11) from Shawnee Drive to Creekside Station/Rubbermaid – requires relocation of signal pole.

- Requires widening of the bridge over Hoge Run for both northbound and southbound directions.

*Note that Option 2b includes all the Option 1 and Option 2a improvements with additional improvements as listed above.*

Option 3 (Realignment Option):

- Realign intersection of Valley Pike (US 11) and Shawnee Drive (Route 652) – realigns Shawnee Drive leg of intersection with Opequon Church Lane.
- New signal at Valley Pike (US 11) and Shawnee Drive (Route 652)/Opequon Church Lane intersection.
- Realignment will require relocation of one business, impact to several properties, slight impact to 7-Eleven access from Opequon Church Lane, and require reconfiguration of access to the First Bank property from Shawnee Drive.
- Circulation will be maintained for Creekside Village through a new access to Opequon Church Lane.
- Close south access to 7-Eleven property from Valley Pike (US 11).
- Restrict south access to First Bank from Valley Pike (US 11) to entrance only.
- Add sidewalk along south side of Shawnee Drive.

Planning concepts for the alternatives are included as **Attachment A**.

## 4.0 Selection of the Preferred Alternative

A project management team consisting of the consultant's project manager, the established WinFred MPO Project Steering Committee, and the MPO project manager, met during the course of the study to review and provide input to study deliverables. The Project Steering Committee is comprised of representatives of the City of Winchester, the Town of Stephens City, the County of Frederick, and the Virginia Department of Transportation - Staunton District.

Stakeholder outreach included regular project management team meetings, two open house events and other opportunities for the community to provide input throughout the course of the study. The design modification alternatives, along with a no build alternative, were presented to the Project Steering Committee for review and input and then to the community as part of Open House #2 held on July 30, 2015.

Based on the study team's analysis and feedback from the community, the project management team selected Option 2b (Second Signal at Opequon Church Lane with Additional North- and Southbound Through Lanes) as the preferred alternative.

Rationale for selection of Option 2b as the preferred alternative include:

- Improvements address impeded left-turn egress from Opequon Church Lane (SR-706) to northbound US 11.
- Improvements can be phased to allow the new signal at Opequon Church Lane to be constructed before widening improvements also included as part of Option 2b.
  - Community input favored alternatives that could be implemented more quickly.
- Improvements address identified conflicts with accesses to 7-Eleven convenience store.
- Widening improvements to US 11 address the existing bottleneck and longer-term congestion issues in the corridor.
- Improvements limit impacts to adjacent properties and businesses.

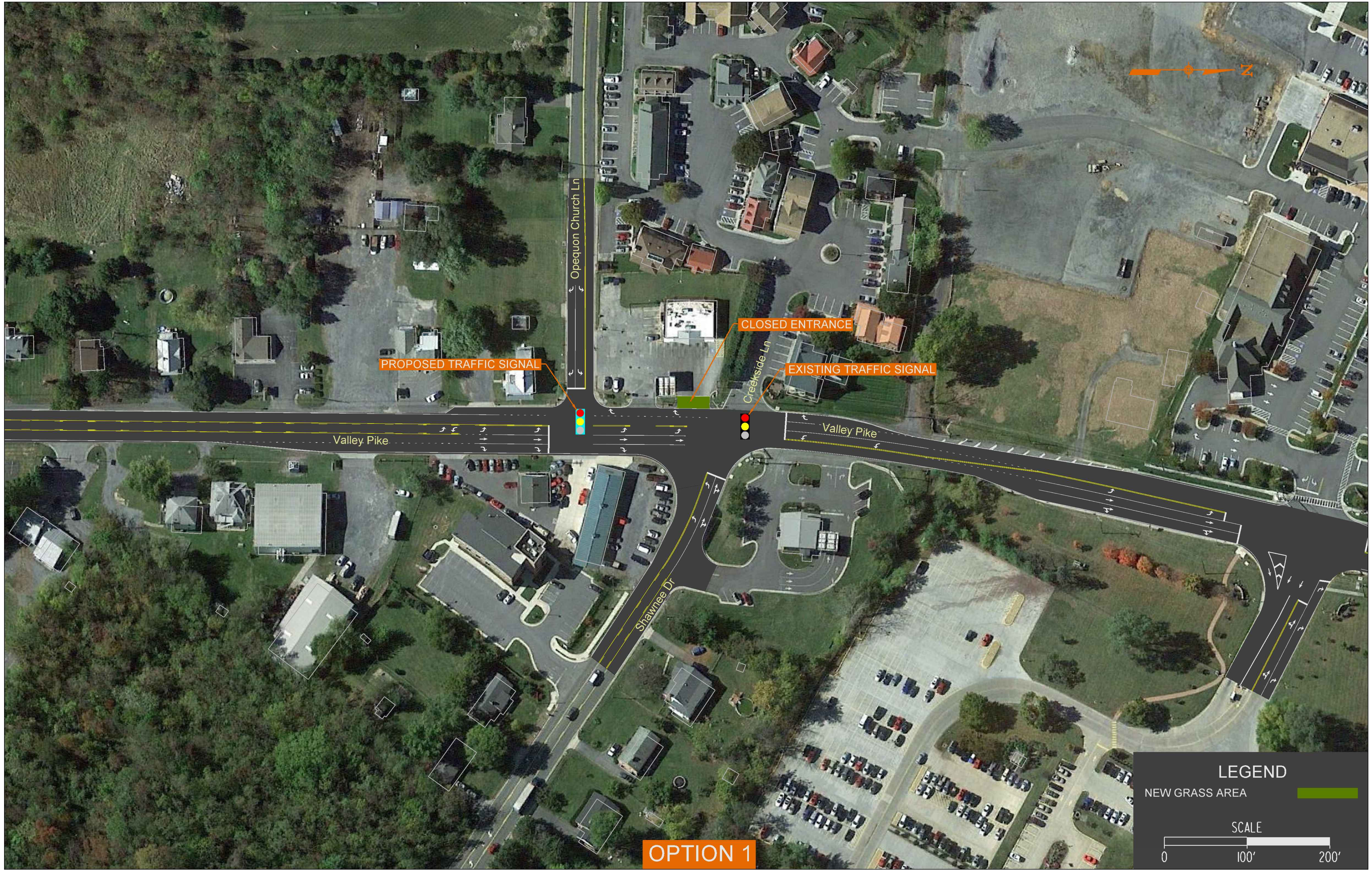
As design for the Option 2b preferred alternative is advanced, the project management team recommends that bicycle and pedestrian infrastructure be provided for. Existing bicycle and pedestrian infrastructure should be extended and additional opportunities to provide for bicyclists and pedestrians should be explored. This recommendation to include bicycle and pedestrian improvements in the project is consistent with Frederick County goals and is consistent with recommendations in the recent WinFred MPO Bicycle & Pedestrian Master Plan Update completed in February 2014.



ATTACHMENT

A

Design Modification Alternative Planning Concepts



PROPOSED TRAFFIC SIGNAL

CLOSED ENTRANCE

EXISTING TRAFFIC SIGNAL

Valley Pike

Valley Pike

Opequon Church Ln

Creekside Ln

Shawnee Dr

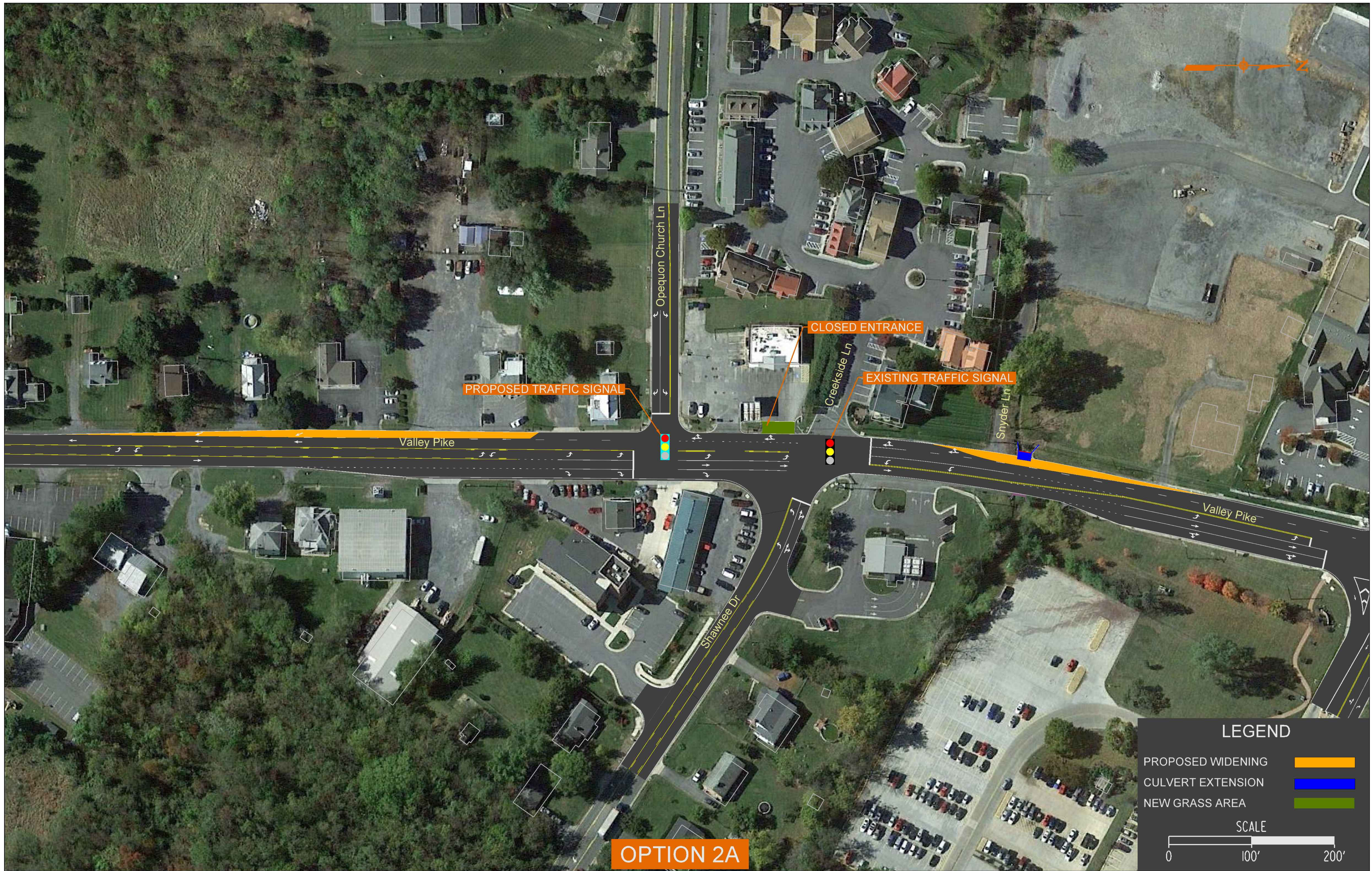
LEGEND

NEW GRASS AREA 

SCALE



OPTION 1



Opequon Church Ln

CLOSED ENTRANCE

EXISTING TRAFFIC SIGNAL

PROPOSED TRAFFIC SIGNAL

Valley Pike

Creekside Ln




Snyder Ln

Valley Pike

Shawnee Dr

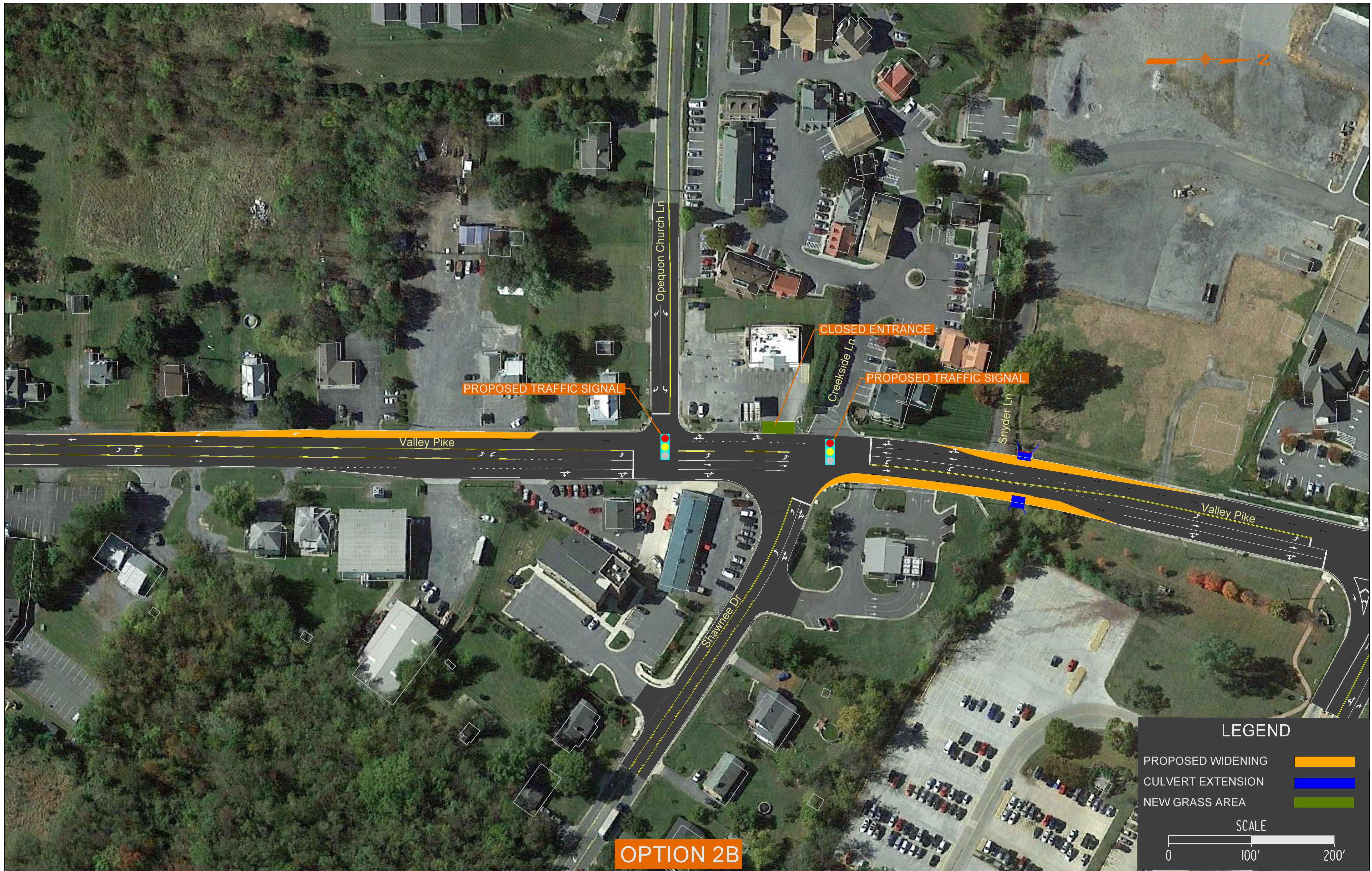
OPTION 2A

LEGEND

- PROPOSED WIDENING 
- CULVERT EXTENSION 
- NEW GRASS AREA 

SCALE





PROPOSED TRAFFIC SIGNAL

CLOSED ENTRANCE

PROPOSED TRAFFIC SIGNAL

Valley Pike

Opequon Church Ln

Creekside Ln



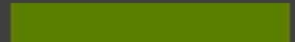
Snyder Ln

Valley Pike

Shawnee Dr

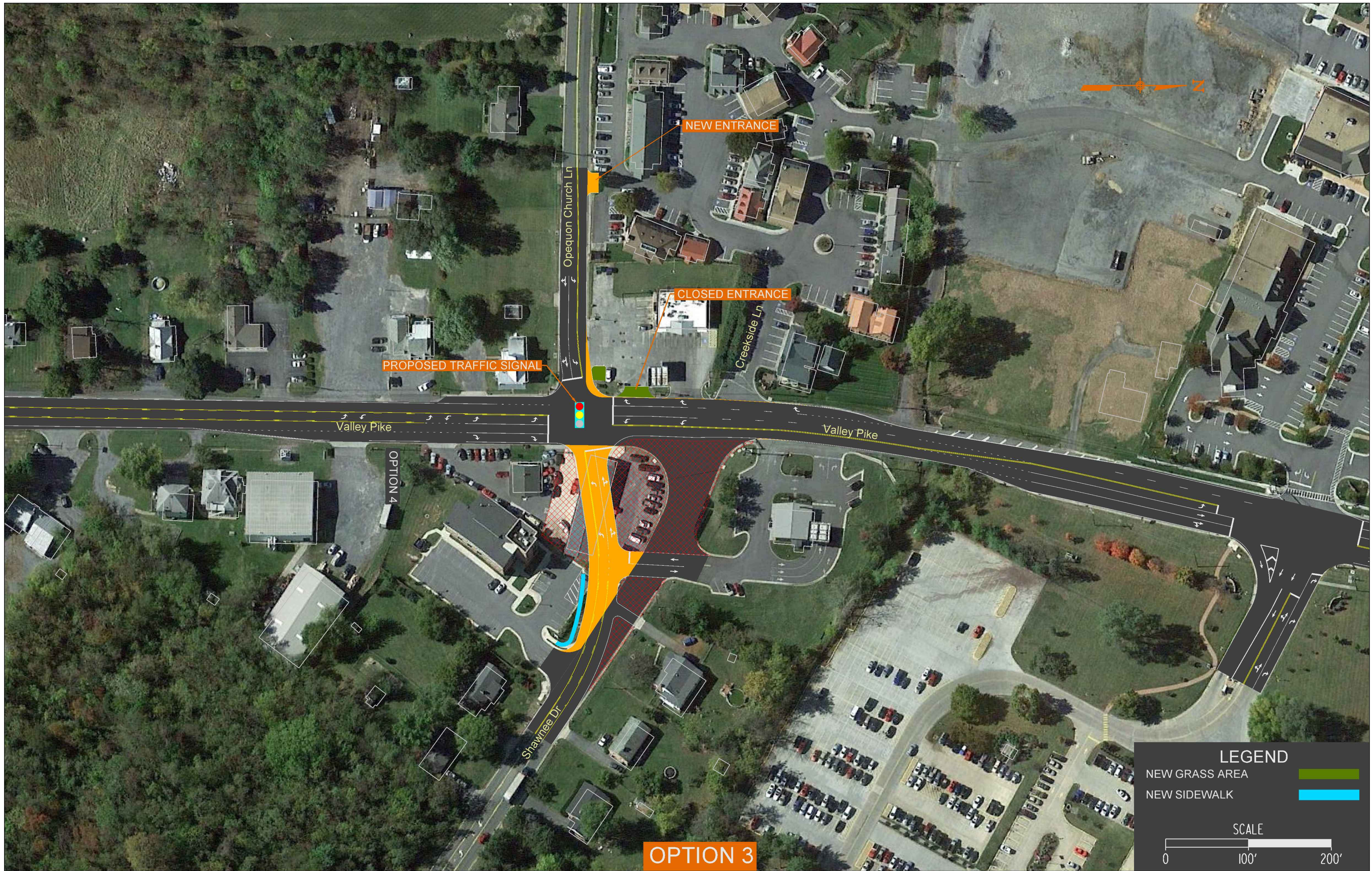
OPTION 2B

LEGEND

- PROPOSED WIDENING 
- CULVERT EXTENSION 
- NEW GRASS AREA 

SCALE





NEW ENTRANCE

CLOSED ENTRANCE

PROPOSED TRAFFIC SIGNAL

Valley Pike

Valley Pike



OPTION 4

Shawnee Dr

Creekside Ln

OPTION 3

LEGEND

- NEW GRASS AREA 
- NEW SIDEWALK 

SCALE

