

Kick off Meeting
City Hall, 15 N. Cameron Street
24 January, 2020

Agenda

1. Introduction – Project Purpose
2. Roles and Responsibilities
3. Review Scope, Further Define as Necessary
4. List of Contacts
5. Public Meeting – 5 Ws (so much as possible)
6. Draft Schedule.

Attachments:

- List of Contacts.
- Scope
- Draft Schedule.



List of Contacts:

Position	Name	Phone	Email
Public Services Director	Perry Eisenach	540-667-2085	perry.eisenach@winchesterva.gov
City Project Manager			
Other City POC			
Other City POC			
Billing/Accounting			
NSVRC POC	John Madera	(540) 636-8800	jmadera@nsvregion.org
PRIME Principal	David Metcalf	703-853-8447	dmetcalf@primeeng.com
PRIME Project Manager	Amit Joshi	410-807-8226	ajoshi@primeeng.com
PRIME Water Resources	Li Gao	410-807-8264	lgao@primeeng.com
Billing/Accounting	Kiarra Zhang	614-591-0122	kzang@primeeng.com
PRIME Virginia Sr VP	Danny Davis	804-220-6196	ddavis@primeeng.com
ATCS Survey	Tami Lennox	(703) 430-7500	tlenox@atcsplc.com
Accumark Utility Survey	Aaron Blow	703-635-3074	ablow@accumark.us



I Scope of Services

A. TASK ORDER OBJECTIVES

Millwood Avenue (US Routes 17/50/522) just west of I-81 Exit 313 has several signals, intersections and driveways over a short section of roadway. In addition, Exit 313 is programmed to be improved with replacement of both bridge spans. The purpose of this project is to perform preliminary engineering of Millwood Avenue from the I-81 interchange to Apple Blossom Drive to set the design for future development of construction drawings, inform the public and set the project budget.

Principal elements of the proposed Improvement¹:

- Signals at Mall Boulevard will be removed, the existing intersection closed for left turns to/from Millwood Avenue westbound, and Mall Boulevard will be made right-in and right-out.
- A new median cut and unsignalized left turn lane serving the Clarion Inn/Lee-Jackson Conference Center/Perkins will be established west of the existing Mall Boulevard intersection for westbound Millwood Avenue ingress.
- An additional westbound left turn lane will be added on the approach to the Millwood Avenue/Apple Blossom Drive intersection; and the eastbound right-turn lane approaching the I-81 southbound on-ramp will be extended.

The Preliminary Engineering will facilitate design decisions and provide enough detail to define the project. This level of detail is normally referred to as 30% design and is performed on controlled survey. Details – such as retaining wall design, final drainage and storm water pond design, and xxyy are not normally included in Preliminary Engineering. Most analysis and plan details will be used in the 100% (for construction) plans.

B. SCOPE OF WORK

1. Data Collection / Project Management / Meetings.

This task consists of the upfront data collection, field visits and kick off meeting. In addition, ongoing Task Management and meetings are included in this subtask. Billing and project administration are included in this subtask.

The project duration is estimated to be 6 months. In addition to the Kick Off meeting, two progress meetings will be held. Monthly progress reports and invoices will be prepared.

2. Traffic Analysis.

The purpose of this task is to determine existing and proposed level of service of the intersection at Millwood Avenue / Apple Blossom Drive, Mall Blvd and the proposed new left turn from westbound Millwood Avenue. The analysis will also inform the design as to turn bay length, acceleration and

¹ Mall Boulevard and Millwood Avenue Access Management Plan: Right-of-way and Utilities Survey and Geometric Design, City of Winchester, August 28, 2019, page 1.



deceleration lanes and other geometric features. This task will determine which mast arms, controllers and other signal elements will need to be replaced, however signal plans sheets are not included.

Subtasks:

- 2.1. Traffic Data Collection. Gather existing traffic data, intersection signal timing plans and intersection counts. NOTE: New traffic counts will not taken.
- 2.2. Obtain Existing SYNCHRO network. Existing network will be used. Signal timing will match data provided. The SYNCHRO network is assumed to include Millwood / Pleasant Valley and Millwood and Exit 313 ramps.
- 2.3. Project Future Traffic. Determine an assumed growth and apply as appropriate. Smooth and balance volumes.
- 2.4. Create Future Network.
- 2.5. Design / Optimize Signal Timing. Phasing and timing for the signal at Apple Blossom will be developed in SYNCHRO format. Timing sheets will be produced. Although only the intersection at Apple Blossom will be modified, the analysis will incorporate 5 (five) adjacent intersections. The subtask assumes a design for one signal and not for the corridor. Timing plans will be prepared for 5 periods.
- 2.6. SIMTRAFFIC microsimulation. Create SIMTRAFFIC simulation based on SYNCHRO model. This microsimulation will show traffic flows but will not be fully calibrated with existing conditions.
- 2.7. Technical Appendix. This appendix will document methodology, data used, SYNCHRO worksheets and analysis results.

3. Highway Plans and Cost Estimate

The purpose of this task is to develop the new typical section and design the plan and profile of the roadway. Design decisions that define that roadway will be made through the course of this task.

3.1. Task 1: 30% Design Development

3.1.1. Project Initiation. Site Review – PRIME AE will conduct an initial site review to become familiar with the project and to better understand the physical constraints. Photographs will be prepared along the project limits and at special interest points. This field work will occur after the field survey is completed (to validate the survey).

3.1.2. Roadway Design

- Review the design (horizontal and vertical) of the VDOT bridge replacement project.
- Develop typical section for the proposed improvement.
- Establish roadway baseline and layout horizontal alignment to accommodate the additional turn lanes, widening, sidewalk layout, median extension and construction of islands along Millwood Road.
- Set vertical alignment to comply with the AASHTO requirement and tie-in with the vertical grade of the adjacent bridge project.
- Develop all roadway, curb line, sidewalk, and sidewalk ramp designs in the roadway design file.
- Model the roadway typical section, set superelevation criteria using InRoads and establish cut, fill limits.



- Identify the need for retaining walls and layout the proposed alignment.
 - Develop proposed contours/grading for the roadway corridor.
 - Develop roadway cross sections using InRoads at 50 ft. intervals.
 - Layout overhead proposed pedestrian bridge crossing.
 - Parking lot impact analysis
- 3.2. 30% Plan Development. PRIME AE will begin developing the plans required for the 30% design submittal. All plans will be developed in accordance with VDOT CAD standards.
- 3.2.1. Prepare Roadway Design Files for 30% Design
 - 3.2.2. Attach all base topographic mapping and files to the plan cut sheets and create a nested file based on VDOT CAD standards.
 - 3.2.3. Develop and plot mainline baseline of construction and proposed geometries.
 - 3.2.4. Plot cut/fill lines and establish the limit of disturbance.
 - 3.2.5. Identify and analyze ADA impacts at all street crossings, signalized intersections, and entrances that cross a curb.
 - 3.2.6. Field review proposed design for possible conflicts and address any issues prior to finalizing the 30% design.
 - 3.2.7. Develop and finalize layout files and cut plans sheets for the PI Meeting.
 - 3.2.8. Develop all roadway, curb line, sidewalk, and sidewalk ramp designs in the roadway design file.
 - 3.2.9. Develop proposed shading (SH) files showing roadway reconstruction, carbide grinding and resurfacing, concrete sidewalk, and driveway entrances and to assist with quantity development.
 - 3.2.10. Incorporate all design files from support divisions into the base plans (or nested file).
 - 3.2.11. Calculate preliminary earthwork analysis and phasing requirements.
 - 3.2.12. Develop preliminary right of way and/or easements and determine impacts.
- 3.3. Plan Sheets for 30% Design (Deliverables). PRIME AE will prepare and plot PI level plans and prepare an engineer's cost estimate (in Excel) for the 30% design. The following (number of sheets) sheets will be delivered at part of the 30% design submittal:
- Title Sheet (1)
 - Location Map (1)
 - Index of Sheets (1)
 - Preliminary Right-of-Way Data Sheet (1)
 - Survey Alignment Data (1)
 - Geometry Data (1)
 - ~~General Notes (1)~~
 - Typical Section Sheets (2)
 - ~~Miscellaneous Detail Sheets (1) – One sheet showing the ADA sidewalk ramp details.~~
 - Roadway Plan Sheets (3) – Plan Sheets will be prepared at 20 scale
 - Roadway Profile Sheets (2) - Roadway profiles will be generated using InRoads to show the existing ground and proposed grade.



- Preliminary Cross Sections (12) - Preliminary Cross Sections will be developed to show the existing information including the existing ground, proposed roadway typical section, environmental features, existing utilities, and right-of-way. Cross-sections will be plotted at 50 ft. intervals.
- Construction Cost Estimate will be prepared using VDOT category codes.

4. ~~Signing and Marking Plans~~ NEXT PHASE

~~This task will create a separate layer to show the revised markings and signs for the project and for the project approaches. Next Phase.~~

5. ~~Work Zone Traffic Control Plan~~ NEXT PHASE

~~This task will prepare preliminary scrolls of Temporary Traffic Control Plans. Two phase construction is assumed. Subtasks:~~

~~5.1 Set up and import design files.~~

~~5.2 Design Sequence of Construction. The two phases will be developed as concepts for review.~~

~~5.3 Develop Plans. Plans will show locations of temporary traffic control devices IAW the Virginia Work Area Protection Manual and MUTCD.~~

~~5.4 Notes and Details.~~

6. Roadway Drainage and Storm Water Management

This Task will evaluate drainage impacts due to the proposed closure of the Millwood Avenue/Mall Boulevard and the extension of the eastbound right-turn lane approaching the I-81 southbound on-ramp. We will develop a new storm drain layout and provide all necessary inlet/hydraulic drainage computations (rational method, design flows, freeboard, flow depths, velocities, spreads, etc.). Analysis or assessment of the existing storm drain systems will not be included in this scope.

6.1 Roadway Drainage. PRIME will perform the following activities:

- A. Develop drainage area maps and hydrologic computations for inlets, storm drain pipes, culvert, and ditches, as needed.
- B. Perform inlet spacing computations. Determine inlet type, spacing, capacity, and spread.
- C. Perform Abrams Creek watershed hydrology study at the Millwood Ave culvert based on the VDOT Hydraulic Application software utilizing the appropriate methodology for the project site.
- D. Perform the Millwood Ave culvert analyses by using the HY-8 program for both existing and proposed conditions.
- E. Perform storm drain design computations. Determine the type, size, capacity, and hydraulic gradients.
- F. Perform computations for roadside ditch capacity, freeboard, and stabilization.
- G. Perform independent QAQC.



6.2 Stormwater Management.

Stormwater management (SWM) design will include both quantity and quality controls. Two SWM BMPs will be proposed in this project. One is a detention pond to limit the peak discharges to existing conditions. Another storm management facility (TYPE TBD) will be proposed to achieve water quality requirements. PRIME will perform the following activities:

- A. Define site boundary and prepare existing and proposed land-use maps per VA recognized land-use types and soil maps.
- B. Determine the SWM requirements by fill in the VRRM spreadsheet.
- C. Locate the potential locations of SWM BMP and determine
- D. Develop a drainage area map for each BMP.
- E. Determine Water Quality credits by fill in the VRRM spreadsheet. Only onsite credit can be claimed as treatment credit for the project.
- F. Define outfall points.
- G. Delineate drainage area for each outfall points.
- H. Calculate peak flow rates, parameters of channel protection, flood protection, and energy balance.
- I. Develop rough grading for the detention pond.
- J. Perform a detention pond routing by using a VDOT approved hydrology model.
- K. Prepare a waiver for energy balance if needed.
- L. Ensure that the tentative location and footprint of SWM facilities are properly referenced to roadway plans with proper labels.
- M. Perform independent QAQC.

6.3 Erosion and Sediment Control Design Services. PRIME will develop the limit of disturbance through the entire site. PRIME will perform the following during the design:

- A. Natural resource protection and enhancement.
- B. Maintenance of natural flow patterns.
- C. Integration of erosion and sediment controls into the stormwater strategy.

No E&S plans will be provided at 30% submittal.

Exclusion

Drainage report, SWM report, H&H report, and floodplain study for Abrams Creek.
Permits or applications related to SWM, E&S and US waterway.
Wetland delineation.



7. Citizen Information Meeting.

This Task will consist of support to a Citizen’s Information Meeting. PRIME will produce posters showing typical section, construction sequence (ie MOT) and a plan of the improvements. The displays will be created using the 30% plans with some of the layers turned off. PRIME will also develop a project brochure and continuous loop powerpoint.

C. EXCLUSIONS AND MATERIALS TO BE PROVIDED BY NSVRC OR CITY

Exclusions. The following items are excluded from this scope of work.

1. Signal Optimization plan for entire corridor. This scope includes integrating the upgraded signal into an existing phasing and timing plan.
2. Signing, Pavement Marking and Lighting Plans.
3. Work Zone Traffic Control Plans.
4. H&H report for the culvert analysis
5. Permit approvals for culvert analysis, stormwater management
6. Temporary traffic control analysis
7. Development of alternative analysis – Only one design alternate will be developed for the 30% design
8. Erosion and Sediment Control Design
9. Landscape Design
10. Property Appraisals.
11. Drainage report, SWM report, H&H report, and floodplain study for Abrams Creek.
12. Permits or applications related to SWM, E&S and US waterway.
13. Wetland delineation.

To be provided by NSVR or City of Winchester

1. Traffic volumes, counts for all intersections within the limits of work.
2. Existing SYNCHRO files with signal phasing and timing.
3. CAD files for the US 50 bridge replacement project. It is our assumption that the bridge design has been finalized and additional changes are not anticipated.
4. Raster imagery dated February 2019, that can be referenced in CAD
5. Existing Right-of-Way information (in CAD format)
6. It is our understanding that all overhead utilities will be buried.
7. As-built plans for all utilities within the project area (water, sewer, electric, telecom, interconnect, gas).

