Cheswold Main & Commerce Streets Pedestrian Railroad Crossing & Sidewalks

Prepared for:

Dover/Kent County MPO

&

Town of Cheswold

Prepared by:

Century Engineering, A Kleinfelder Company

May 2025

Contents

Executive Summary

This study was requested by the Town of Cheswold, Delaware, through the Dover/Kent County MPO to develop recommendations to improve the Delmarva Central Railroad crossing at Main Street (SR 42) and Commerce Street / Moorton Road and to improve safety for both vehicles and pedestrians using the crossing.

The Town of Cheswold is strategically located just north of Dover and just south of Smyrna and its Main Street (SR 42) provides an important regional link between US 13 and SR 300. While the original purpose and need of this study focused on the intersection of Main Street and Commerce Street / Moorton Road, the Town requested the study area be expanded to fill in numerous sidewalk gaps, as well as other pedestrian improvements throughout the center of Town.

Crash data between December 2021 and December 2024 was collected for the study area. During that period, eleven (11) crashes were reported in the study area, eight (8) of which occurred at the Main Street and Commerce Street / Moorton Road intersection.

As of 2021, the total population of Cheswold was 1,705 comprised primarily of White (Non-Hispanic) (48%) and Black or African American (Non-Hispanic) (32.9%) persons. Cheswold is proud of and celebrates its Lenape Indian Tribe history as part of their annual Heritage Day celebration. Medium property values in 2021 were $160,000. The three most common land uses that comprise the Town are residential (37%), agricultural (30%), and undeveloped land (20%).

Public outreach included a public workshop held on October 15, 2024, a presentation at a Planning Commission meeting on February 13, 2025, and numerous meetings with Town officials throughout the term of the study.

Conceptual improvements were developed in three phases. Phase 1 consists of improvements to a section along Main Street, the Main Street and Commerce Street / Moorton Road intersection, the rail crossing, and portions of Commerce Street and Moorton Road. Phase 2 consists of roadway and sidewalk improvements beginning at the western terminus of Phase 1 and continuing west along Main Street for 520 feet. Phase 3 consists of roadway and sidewalk improvements from the eastern terminus of Phase 1 for 495 feet east along Main Street, as well as roadway and sidewalk improvements from the southern terminus of Phase 1 south for one hundred seventy-nine (179) feet along Commerce Street.

Costs associated with each of the three phases are as follows:

- Phase 1 - $1.7 million
- Phase 2 - $621,000
- Phase 3 - $790,000
- **Total - $3.1 million**

All costs are based on conceptual designs and are rounded. Detailed cost estimates can be found in *Appendix A*.

Introduction

The Town of Cheswold, Delaware, through the Dover/Kent County MPO, requested recommendations for improvements to the railroad crossing at Main Street (SR 42) and Commerce Street / Moorton Road to provide safe vehicle and pedestrian crossing that is compliant with the federal Americans with Disabilities Act (ADA) requirements.

Project Location & Study Area

Cheswold is located between the City of Dover to the south and the Town of Smyrna to the north. SR 42 runs east to west through Town and connects US13 to the east with SR 300 to the west *(Figure1)*.

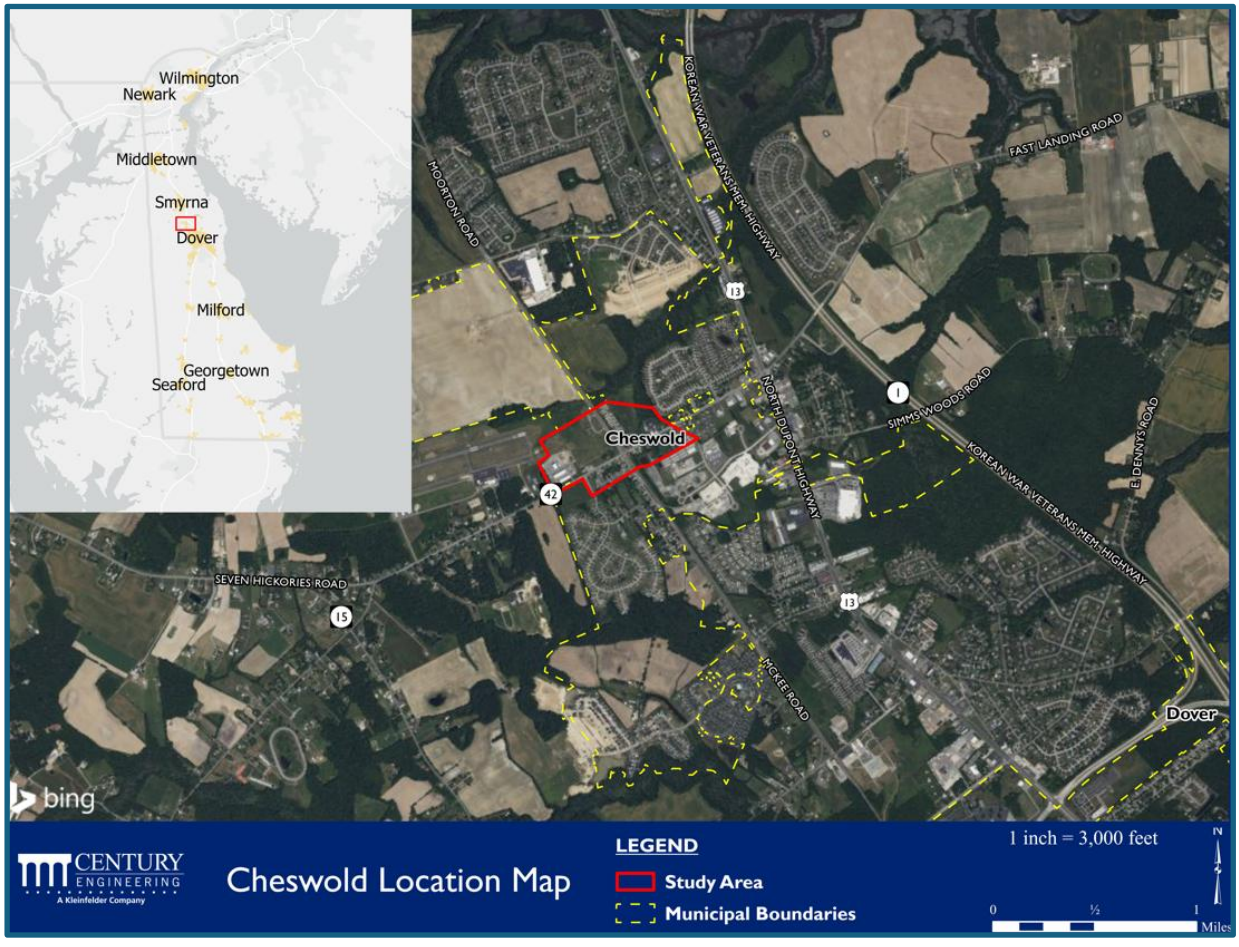


Figure 1 Project Location

Sidewalks exist in the new residential communities and the "Old Town" section, but they are almost non-existent in the mobile and manufactured home developments. Except for Main Street, there are no shoulders available for bicycling or leisurely walking throughout Town. *Figure 2* shows the original incorporated area in red, and the areas in green have been annexed into the Town.

Figure 2 Town Limits

Project Purpose & Need

The original project purpose and need was to develop recommendations to upgrade the railroad crossing at Main Street and Commerce Street / Moorton Road.

Improving this railroad crossing is one of the transportation goals identified in the *Town of Cheswold Kent County, Delaware 2020 Comprehensive Plan (Comprehensive Plan)*: "Continue to pursue improvement of the Main Street railroad pedestrian crossing."

In addition, through early and on-going coordination with Town officials, additional pedestrian improvements along Main Street were requested including improved sidewalks and pedestrian crosswalks. Therefore, improvement recommendations were developed to address all of these identified project needs.

Traffic

Crash Evaluation

Crash data for a three-year period, from December 2021 to December 2024, was obtained from DelDOT within the study limits. Eleven (11) total crashes were reported during this period in the study area. Crash locations, number, type, and severity are presented in *Figure 3*. As expected, the

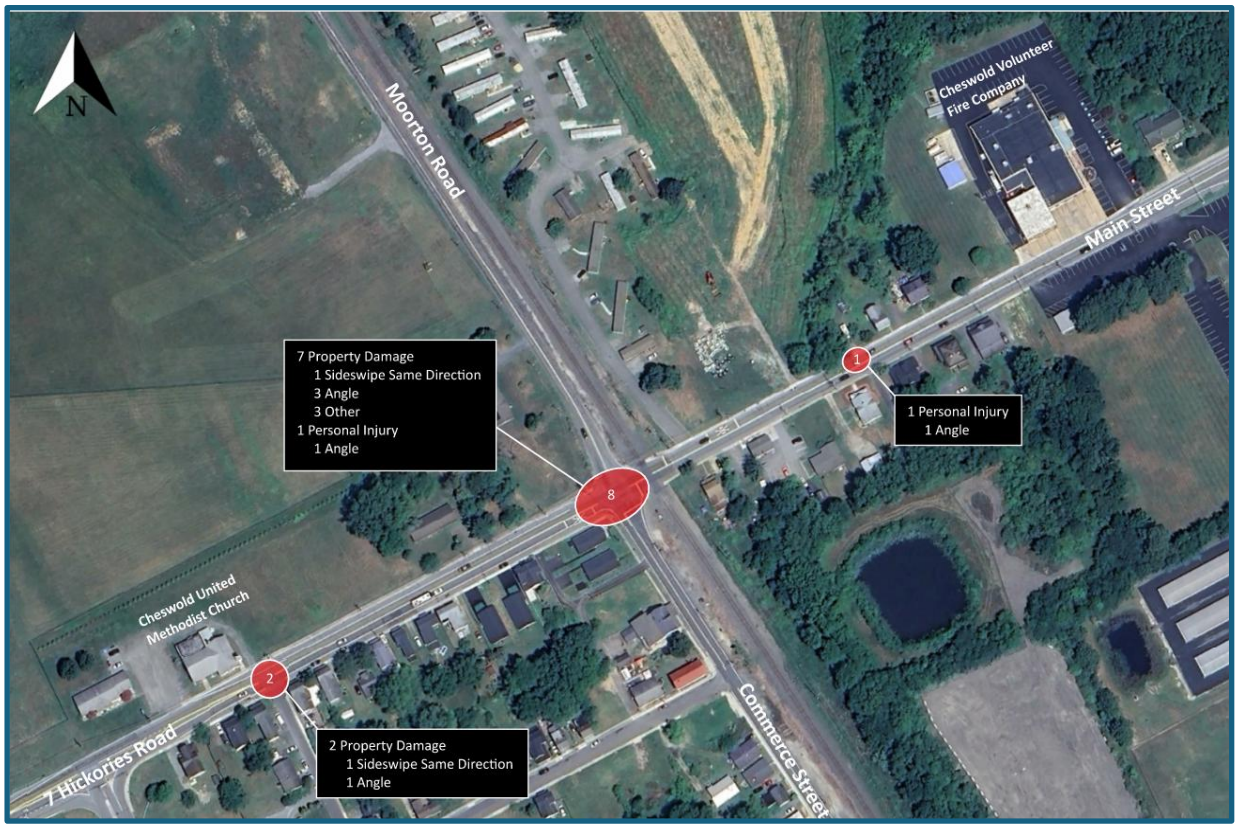


Figure 3 Crash Locations and Type

majority of the crashes (8) occurred at the Main Street and Commerce Street / Moorton Road intersection, seven (7) of these crashes resulted in property damage and one (1) resulted in personal injury. Two (2) additional crashes resulting in property damage occurred on Main Street west of the intersection, and one resulting in personal injury occurred east of the intersection.

Existing Conditions

Demographics

According to Data USA, in 2021, Cheswold, DE had a population of 1,705 people with a median age of 43.5 and a median household income of $60,766. Between 2020 and 2021 the population of Cheswold, DE grew from 1,673 to 1,705, a 1.91% increase and its median household income grew from $55,625 to $60,766, a 9.24% increase. The 5 largest ethnic groups in Cheswold, DE are White (Non-Hispanic) (48%), Black or African American (Non-Hispanic) (32.9%), White (Hispanic) (6.74%), Two+ (Non-Hispanic) (4.34%), and Asian (Non-Hispanic) (2.7%). None of the households in Cheswold, DE reported speaking a non-English language at home as their primary shared language.

The Lenape Indian Tribe of Delaware are an important part of the rich history of the Town of Cheswold *(Figure 4)*. The *Cheswold Comprehensive Plan* states "The tribe is the source of the historical structure of the Town every effort will be made to acknowledge and retain that relationship as evidenced by yearly Heritage Day celebrations."

In 2021, the median property value in Cheswold, DE was $160,000, and the homeownership rate was 85.4%. Most people in Cheswold, DE drove alone to work, and the average commute time was 29.2 minutes. The average car ownership in Cheswold, DE was two (2) cars per household.

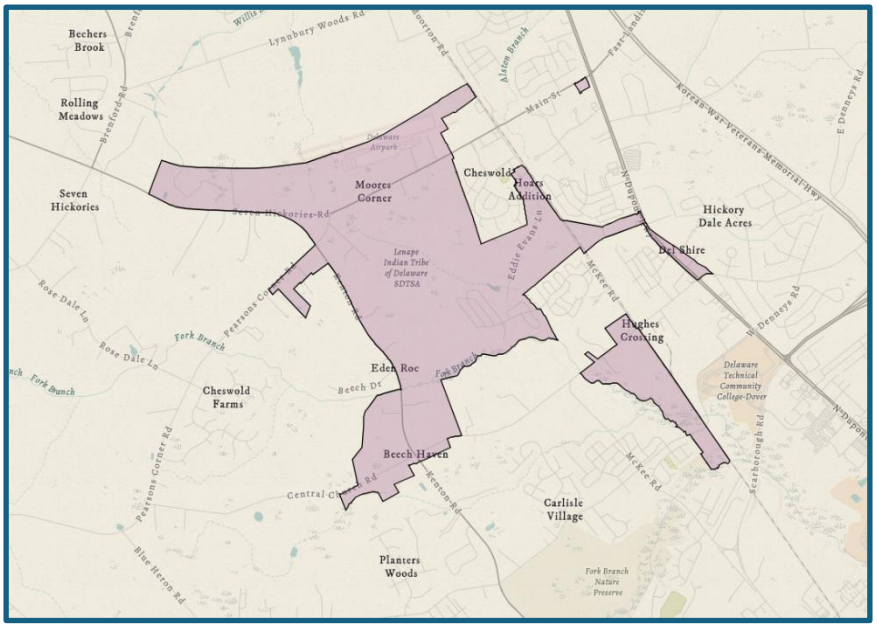


Figure 4 Lenape Tribal Areas

Land Use

Historically, land use in Cheswold was heavily influenced by the railroad which traverses north to south through the Town. The Delmarva Central Railroad, which operates the Norfolk Southern Railway lines on the Delmarva Peninsula since 2016, primarily hauls bulk commodities through the state. Together with Main Street, which intersects with the railroad tracks near the center of Cheswold, most development has occurred adjacent to these two primary transportation features in the Town.

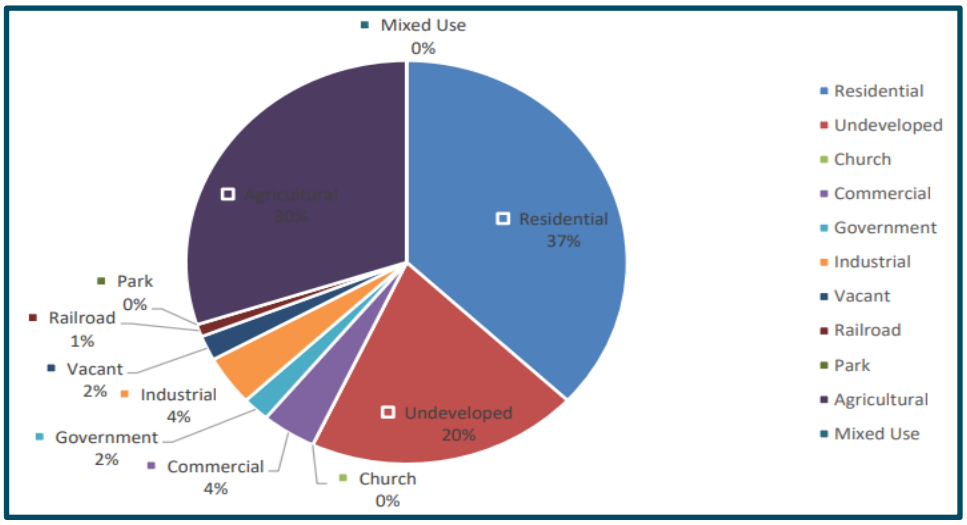


Figure 5 Existing Land Use Categories

According to the Town of Cheswold Kent County, Delaware 2020 Comprehensive Plan, land use in Town is dominated by three categories, residential, agricultural, and undeveloped lands, as shown in *Figure 5*.

With an abundance of undeveloped land, Cheswold has the opportunity to structure future land use decisions to meet the vision and goals of the Town. However, to fully realize these goals, it will be imperative for the Town to ensure that sufficient infrastructure is in place to accommodate any future development.

Public Outreach

Public outreach is an important element of any successful planning study. To ensure the community was informed, and their input was considered, the Cheswold study included a public workshop, meetings with Town officials, and meeting with the Cheswold Planning Commission.

Public Workshop

A public workshop was held on October 15, 2024 at the Cheswold Fire Company Hall at 371 Main Street in Cheswold. The format of the workshop was a drop-in, open house, plans display between 5:00 pm – 7:00 pm. A flyer advertising the workshop was posted on the Town and MPO websites *(Figure 6)*, and over 500 were distributed through direct mailings. Despite these efforts, the turnout at the workshop was light, however those that did attend were in support of the proposed recommendations.

Main & Commerce Streets RR Crossing
Cheswold
Public Workshop

PLEASE JOIN US FOR A PUBLIC WORKSHOP

Date: October 15, 2024
Time: 5:00 pm – 7:00 pm
Location: Cheswold Fire Company
371 Main Street
Cheswold, DE 19936

The format of the workshop will be a drop-in open house plans display from 5:00 PM to 7:00 PM.

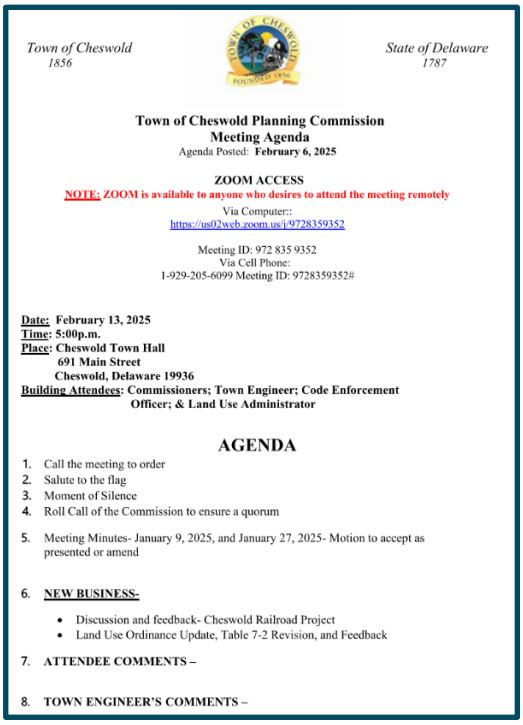
Please join the Dover/Kent County MPO and their planning partners DelDOT, the Town of Cheswold, and Century Engineering, a Kleinfelder Company, to provide feedback on:

- Improved Pedestrian RR Crossings at Main Street
- Improved & New Sidewalks along Main Street and Commerce Street.

Figure 6 Workshop 1 Flyer

Planning Commission Meeting

Due to the light turnout at the workshop, Town officials recommended meeting with the Town Planning Commission to solicit their input on the proposed recommendations, and as another means of getting the word out to the public about this study. The Planning Commission Meeting, which was open to the public to attend both live and via Zoom, was held on February 13, 2025. The meeting agenda was posted on the Town website and included the date, time and location of the meeting, as well as instructions for joining the meeting using Zoom (*Figure 7)*. For those who attended this meeting, including Planning Commission members, Town officials, and members of the public, the proposed recommendations were supported.



Town of Cheswold 1856 — *State of Delaware* 1787

Town of Cheswold Planning Commission
Meeting Agenda
Agenda Posted: **February 6, 2025**

ZOOM ACCESS
NOTE: ZOOM is available to anyone who desires to attend the meeting remotely
Via Computer::
https://us02web.zoom.us/j/9728359352

Meeting ID: 972 835 9352
Via Cell Phone:
1-929-205-6099 Meeting ID: 9728359352#

Date: February 13, 2025
Time: 5:00p.m.
Place: Cheswold Town Hall
691 Main Street
Cheswold, Delaware 19936
Building Attendees: Commissioners; Town Engineer; Code Enforcement Officer; & Land Use Administrator

AGENDA

1. Call the meeting to order
2. Salute to the flag
3. Moment of Silence
4. Roll Call of the Commission to ensure a quorum
5. Meeting Minutes- January 9, 2025, and January 27, 2025- Motion to accept as presented or amend
6. **NEW BUSINESS-**
   - Discussion and feedback- Cheswold Railroad Project
   - Land Use Ordinance Update, Table 7-2 Revision, and Feedback
7. **ATTENDEE COMMENTS –**
8. **TOWN ENGINEER'S COMMENTS –**

Figure 7 Planning Commission Meeting Agenda

Meetings with Town

Regular coordination with Town officials was another important element of ensuring the recommendations of this study accurately reflected the goals and vision of the Town. To date, the study team met with Town officials on the following dates, July 10, 2024, August 26, 2024, October 8, 2024, and January 23, 2025. These meetings included the initial kick-off meeting,

review of draft recommendations, workshop dry run, and Planning Commission meeting dry run. Through all of these meetings, Town officials provided their input on the proposed recommendations as well as input on the feedback received at the various meetings.

Concept Recommendations

Through coordination with Town officials, and to adequately address the project purpose and need, the study area was expanded beyond its original limits extending east and west of the intersection along Main Street, as well as portions of Commerce Street and Moorton Road. Concepts were developed in three phases.

Phase 1

Phase 1 includes a section along Main Street, the Main Street and Commerce Street / Moorton Road intersection, the rail crossing, and portions of Commerce Street and Moorton Road. *Figure 8* shows the Phase 1 Concept and *Figure 9* provides a rendering of the Phase 1 Concept. Recommendations associated with Phase 1 include:

- **Roadway** - Overlay of the surface of: the Main Street and Commerce Street / Moorton Road intersection; along Main Street one hundred seventy-nine (179) feet east of the intersection to include two eleven (11) foot travel lanes, and two five (5) foot shoulders/bicycle lanes, and fifty four (54) feet west of the intersection to include two twelve (12) foot travel lanes, curb, and two eight (8) foot shoulders/bicycle lanes; along Commerce Street seventy (70) feet south of the intersection to include two twelve and one half (12.5) foot travel lanes; and along Moorton Road twenty seven (27) feet north of the intersection to include two eighteen (18) foot travel lanes.

- **Sidewalk** - Six (6) foot sidewalk and curb along the north and south sides of Main Street east from the intersection with Commerce Street / Moorton Road for 176 feet - the northern sidewalk would tie into the proposed sidewalk for Alston's Walk, a newly proposed subdivision, and the southern sidewalk would tie into the existing sidewalk of the western driveway of the US Post Office; and five (5) foot sidewalks and curb along the north and south side of Main Street west from the intersection with for sixty six (66) feet (sidewalk on the north side of Main Street would be separated from the shoulder/bicycle lane by a two (2) foot grass buffer); and five (5) foot sidewalks and curb along Commerce Street thirty-seven feet (37) south of the intersection with Commerce Street / Moorton Road separated by a three (3) foot grass buffer. All new curb ramps will be ADA compliant.

- **Railroad Crossing** – The Delmarva Central Railroad crossing of Main Street will be improved and will include a full reconstruction of the railroad crossing that will including new rail, ties

and ballast to support drainage along the track and a smooth crossing. The roadway approaches to the crossing will be reconstructed to help reduce the "hump" and create a more rideable surface for vehicles. Sidewalks on both sides of the road will be improved, and an ADA compliant connection across the railroad will be established to provide connectivity along Main Street. New railroad warning lights and gates will be installed with updated signage and striping to enhance safety at the crossing.

- **Pedestrian Crosswalks** – Along the north and south sides of Main Street at Commerce Street and Morton Road; and across Main Street from the west sides of Commerce Street and Moorton Road.

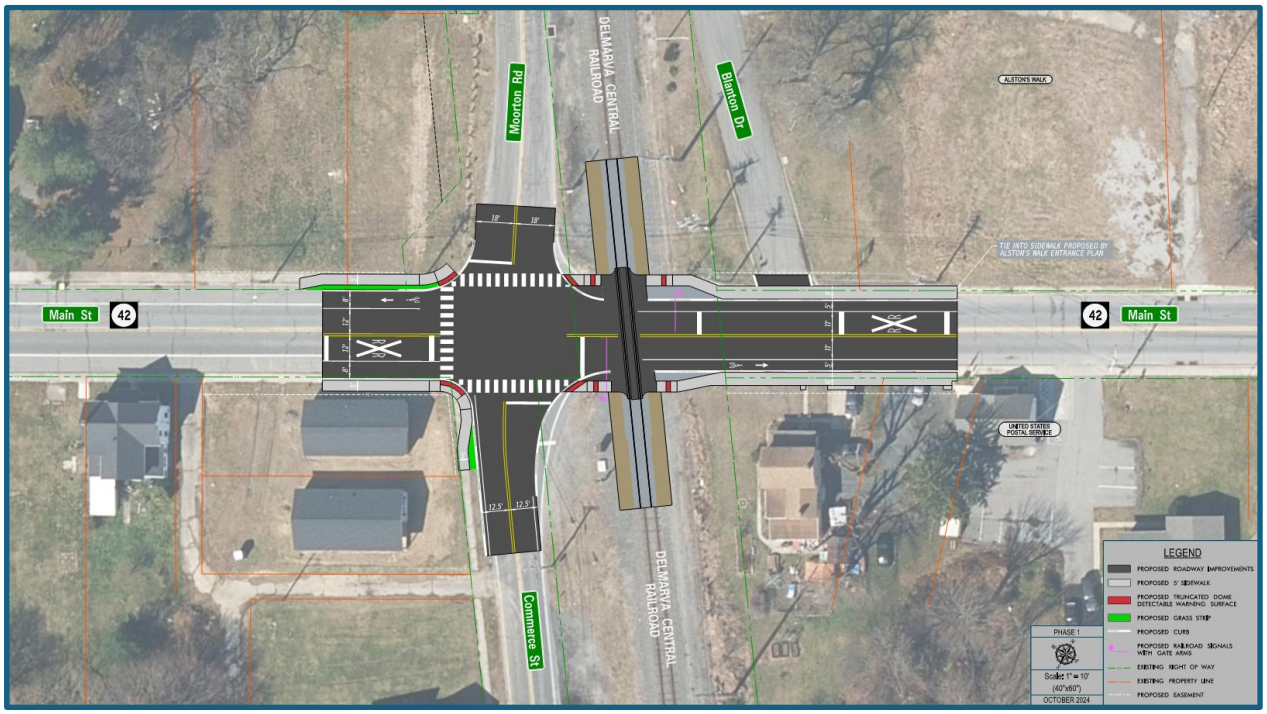


Figure 8 Phase 1 Concept

Figure 9 Phase 1 Rendering

An additional pedestrian crosswalk from the proposed Alston's Walk Development across Main Street to the US Post Office was evaluated**.** However, a crosswalk at this location would be somewhat problematic. Given the close proximity of this location with the railroad tracks, and the with the tracks proposed to be raised to facilitate pedestrian crossings, the sight distance for drivers to identify pedestrians using the crosswalk would not be optimal. In addition, there are two other proposed crosswalks on Main Street near this location, one at the intersection with Commerce Street / Moorton Road twenty-eight (28) feet to the west, and a mid-block crossing at the Fire Company thirty-two (32) feet to the east. For these reasons, this additional crossing is **not recommended** at this time as part of this study.

Phase 2

Phase 2 consists of roadway and sidewalk improvements beginning at the western terminus of Phase 1 and continuing west along Main Street for five hundred twenty (520) feet *(Figure 10)*. Recommendations associated with Phase 2 include:

Roadway – Surface overlay of Main Street from the western terminus of Phase 1 west for five hundred twenty (520) feet to eastern driveway of Cheswold United Methodist Church / West Street to include two twelve (12) foot travel lanes, and two eight (8) foot shoulders/bicycle lanes.

Sidewalks – Five (5) foot sidewalk, two (2) feet grass buffer, and curb on the north side of Main Street from the western terminus of Phase 1 west for five hundred eight (508) feet to the eastern driveway of Cheswold United Methodist Church / West Street; and five (5) foot sidewalks and curb on the south side of Main Street from the western terminus of Phase 1 west for one hundred seventeen (117) feet to tie into existing new sidewalk.

Figure 10 Phase 2 Concept

Phase 3

Phase 3 consists of roadway and sidewalk improvements from the eastern terminus of Phase 1 for four hundred ninety-five (495) feet east along Main Street, as well as roadway and sidewalk improvements, and from the southern terminus of Phase 1 south for one hundred seventy-nine (179) feet along Commerce Street. *Figure 11* shows the Phase 3 Concept and *Figure 12* provides a rendering of the Phase 3 Concept. Recommendations associated with Phase 3 include:

Roadway - Surface overlay of Main Street from the eastern terminus of Phase 1 east for four hundred ninety-five (495) feet to the Cheswold Volunteer Fire Company to include two eleven (11) foot lanes and two five (5) foot shoulders/bicycle lanes. Surface overlay of Commerce Street from the southern terminus of Phase 1 for one hundred seventy-nine (179) feet to include two twelve- and one-half foot (12.5) travel lanes.

Sidewalk – Six (6) foot sidewalk and curb along the northern side of Main Street from the eastern edge of the proposed sidewalk at Alston's Walk for three hundred (300) feet east to the existing sidewalk at the western edge of the Cheswold Volunteer Fire Company (a separate DelDOT project would extend the sidewalk in front of the Fire Department east for two hundred twenty-seven (227) feet to the eastern edge of their parking lot); and six (6) foot sidewalk and curb on the southern side of Main Street from the eastern terminus of Phase 1 four hundred ninety-five (495) feet east to the western edge of the Fire Company's parking lot on the south side of Main Street (a separate DelDOT project would extend the sidewalk in front of the parking lot east for two hundred eight (208) feet to about the center of the Fire Company parking lot).

Figure 11 Phase 3 Concept

Figure 12 Phase 3 Rendering

Cost Estimates

Conceptual cost estimates were developed for each of the three phases of improvements *(Figures 13, 14 & 15)*. The following provides a summary of those costs. All costs are based on conceptual designs and are rounded.

Phase 1

Design	$150,000
ROW	$50,000
Construction	$1.6 million
Total	**$1.7 million**

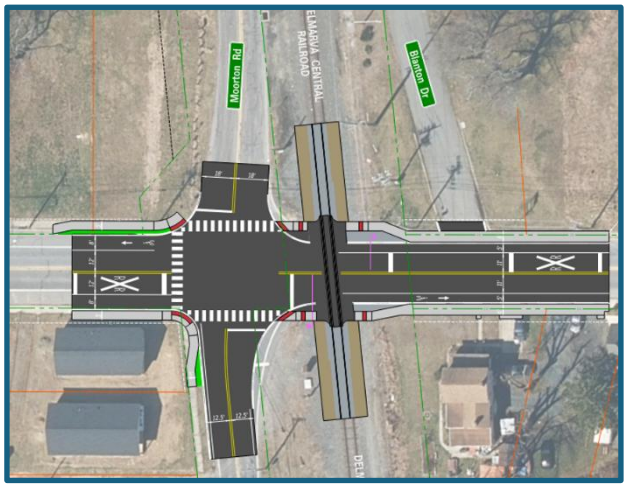


Figure 13 Phase 1 Concept

Phase 2

Design	$78,000
ROW	$80,000
Construction	$464,000
Total	**$621,000**

Figure 14 Phase 2 Concept

Phase 3

Design	$105,000
ROW	$75,000
Construction	$604,000
Total	**$790,000**

Figure 15 Phase 3 Concept

The grand total for all three phases is $3.1 million. Detailed cost estimates are provided in *Appendix A*.

	Design	ROW	Construction	Total
Phase 1	$150,000	$50,000	$1.6 Million	$1.7 Million
Phase 2	$78,000	$80,000	$464,000	$621,000
Phase 3	$105,000	$75,000	$604,000	$790,000
Total	$333,000	$205,000	$2.7 Million	$3.1 Million

Figure 16 Cost Estimates

Appendix A

Cost Estimates

Railroad Crossing Upgrade

Phase 1 **Conceptual Cost Extimate May 2025**

ITEM #	TITLE	UNIT	ESTIMATE COST	UNIT QUANTITY	TOTAL
201000	CLEARING AND GRUBBING	LS	$50,000.00	1.00	$50,000.00
202000	EXCAVATION AND EMBANKMENT	CY	$35.00	7660.00	$268,100.00
202003	UNDERCUT EXCAVATION	CY	$35.00	730.00	$25,550.00
204000	TEST HOLE	CY	$200.00	6.00	$1,200.00
207000	STRUCTURAL EXCAVATION AND BACKFILL	CY	$35.00	1001.00	$35,035.00
207021	STRUCTURAL BACKFILL, (BORROW TYPE C)	CY	$30.00	701.00	$21,030.00
209001	BORROW, TYPE A	CY	$30.00	1100.00	$33,000.00
209006	BORROW, TYPE F	CY	$25.00	330.00	$8,250.00
211000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	$0.00	1.00	$0.00
211001	REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT, CURB AND SIDEWALK	SY		280.00	$0.00
301001	GABC	CY	$75.00	407.00	$30,525.00
302002	DELAWARE NO. 3 STONE	TON	$60.00	27.00	$1,620.00
401006	SUPERPAVE TYPE C, PG 70-22 (CARBONATE STONE)	TON	$140.00	191.00	$26,740.00
401014	SUPERPAVE TYPE B, PG 64-22	TON	$125.00	291.00	$36,375.00
401021	SUPERPAVE TYPE BCBC, PG 64-22	TON	$100.00	574.00	$57,400.00
601032	REINFORCED CONCRETE PIPE, 15", CLASS IV	LF	$70.00	1500.00	$105,000.00
601033	REINFORCED CONCRETE PIPE, 18", CLASS IV	LF	$80.00	400.00	$32,000.00
601035	REINFORCED CONCRETE PIPE, 24", CLASS IV	LF	$100.00	700.00	$70,000.00
601037	REINFORCED CONCRETE PIPE, 30", CLASS IV	LF	$120.00	0.00	$0.00
601141	REINFORCED CONCRETE FLARED END SECTION, 15"	EACH	$1,200.00	0.00	$0.00
601142	REINFORCED CONCRETE FLARED END SECTION, 18"	EACH	$1,500.00	4.00	$6,000.00
601144	REINFORCED CONCRETE FLARED END SECTION, 24"	EACH	$1,800.00	4.00	$7,200.00
401046	SUPERPAVE TYPE C, PG 76-22 (NON-CARBONATE STONE)	TON	$245.00	350.00	$85,750.00
602003	DRAINAGE INLET, 34" X 24"	EACH	$4,000.00	4.20	$16,800.00
602005	DRAINAGE INLET, 48" X 48"	EACH	$4,500.00	5.00	$22,500.00
701013	PCC CURB, TYPE 1-8	LF	$40.00	4811.00	$192,440.00
705001	PCC SIDEWALK, 4"		$12.00	0.00	$0.00
705002	PCC SIDEWALK, 6"	SF	$15.00	2525.00	$37,875.00
705005	PCC SIDEWALK, 8"		$16.00	0.00	$0.00
705007	DETECTABLE WARNING SURFACE	SF	$40.00	120.00	$4,800.00
762000	SAW CUTTING, BITUMINOUS CONCRETE	LF	$2.00	6435.00	$12,870.00
817002	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, ALKYD-THERMOPLASTIC	SF	$7.00	805.00	$5,635.00
817015	PREFORMED RETROREFLECTIVE THERMOPLASTIC MARKINGS, BIKE SYMBOL	EACH	$400.00	54.00	$21,600.00
817042	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 6"	LF	$0.80	1071.00	$856.80
905001	SILT FENCE	LF	$2.00	13365.00	$26,730.00
905004	INLET SEDIMENT CONTROL, DRAINAGE INLET	EACH	$150.00	10.00	$1,500.00
908004	TOPSOIL, 6" DEPTH	SY	$8.00	14850.00	$118,800.00
908014	PERMANENT GRASS SEEDING, DRY GROUND	SY	$1.00	14850.00	$14,850.00
908017	TEMPORARY GRASS SEEDING	SY	$0.75	46778.00	$35,083.50
908023	STABILIZED CONSTRUCTION ENTRANCE	SY	$45.00	120.00	$5,400.00
908024	STABILIZED CONSTRUCTION ENTRANCE, TOPDRESSING	TON	$78.00	10.00	$780.00
850003	LUMINAIRE (HPS), 150 WATTS	EACH	$13,000.00	0.00	$0.00
999999	MAINTENANCE OF TRAFFIC	LS	$200,000.00	1.00	$200,000.00
0	RAILROAD CROSSING UPGRADE			#REF!	
	Subtotal				**$1,619,295.30**
763000	Initial Expense (5%)	L.S.	$80,964.77	1	$80,964.77
763501	Construction Engineering (2.5%)	L.S.	$40,482.38	1	$40,482.38
	TOTAL BASE FOR PROJECT				**$1,740,742.45**
	CONSTRUCTION CONTINGENCY	15%	$261,111.37	1	$261,111.37
	TRAFFIC (FROM TRAFFIC STATEMENT)	L.S.	$0.00	1	$0.00
	UTILITY	L.S.	$150,000.00	1	$150,000.00
	PLANTING	L.S.	$0.00	1	$0.00
	QA/QC for HMA	L.S.	$369.60	1	$369.60
	Asphalt Cost Adj	L.S.	$3,410.40	1	$3,410.40
	CONSTRUCTION ENGINEERING - (INSPECTION, CE, ETC)	L.S.	$182,444.55	1	$182,444.55
	TOTAL CONSTRUCTION COST				**$2,338,078.36**
	PROJECT DEVELOPMENT	L.S.	$0.00	1	$0.00
	PRELIMINARY ENGINEERING (DESIGN)	L.S.	$104,440.00	1	$104,440.00
	ROW COSTS	L.S.	$450,000.00	1	$450,000.00
	TOTAL BASE CONSTRUCTION COST				**$2,892,518.36**

Railroad Crossing Upgrade

TBD

Phase 2 Cost Estimate

ITEM #	TITLE	UNIT	ESTIMATE COST	UNIT QUANTITY	TOTAL
201000	CLEARING AND GRUBBING	LS	$10,000.00	1.00	$10,000.00
202000	EXCAVATION AND EMBANKMENT	CY	$35.00	206.00	$7,210.00
202003	UNDERCUT EXCAVATION	CY	$40.00	20.00	$800.00
204000	TEST HOLE	CY	$200.00	3.00	$600.00
209001	BORROW, TYPE A	CY	$40.00	110.00	$4,400.00
209006	BORROW, TYPE F	CY	$25.00	55.00	$1,375.00
211000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	$10,000.00	1.00	$10,000.00
211001	REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT, CURB AND SIDEWALK	SY	$28.00	377.00	$10,556.00
301001	GABC	CY	$90.00	90.00	$8,100.00
302002	DELAWARE NO. 3 STONE	TON	$70.00	27.00	$1,890.00
401014	SUPERPAVE TYPE B, PG 64-22	TON	$120.00	26.00	$3,120.00
401021	SUPERPAVE TYPE BCBC, PG 64-22	TON	$120.00	50.00	$6,000.00
401046	SUPERPAVE TYPE C, PG 76-22 (NON-CARBONATE STONE)	TON	$120.00	410.00	$49,200.00
602130	ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET	EACH	$1,200.00	3.00	$3,600.00
602132	ADJUSTING AND REPAIRING EXISTING MANHOLE	EACH	$1,200.00	1.00	$1,200.00
701013	PCC CURB, TYPE 1-8	LF	$50.00	655.00	$32,750.00
705001	PCC SIDEWALK, 4"	SF	$15.00	3066.00	$45,990.00
705002	PCC SIDEWALK, 6"	SF	$20.00	216.00	$4,320.00
762000	SAW CUTTING, BITUMINOUS CONCRETE	LF	$5.00	719.00	$3,595.00
817015	PREFORMED RETROREFLECTIVE THERMOPLASTIC MARKINGS, BIKE SYMBOL	EACH	$1,000.00	1.00	$1,000.00
817042	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 6"	LF	$2.00	1969.00	$3,938.00
905001	SILT FENCE	LF	$6.00	1103.00	$6,618.00
905004	INLET SEDIMENT CONTROL, DRAINAGE INLET	EACH	$150.00	3.00	$450.00
908004	TOPSOIL, 6" DEPTH	SY	$12.00	591.00	$7,092.00
908016	PERMANENT GRASS SEEDING, SUBDIVISION	SY	$3.00	231.00	$693.00
908017	TEMPORARY GRASS SEEDING	SY	$0.50	728.00	$364.00
908023	STABILIZED CONSTRUCTION ENTRANCE	SY	$100.00	120.00	$12,000.00
908024	STABILIZED CONSTRUCTION ENTRANCE, TOPDRESSING	TON	$100.00	10.00	$1,000.00
999999	MAINTENANCE OF TRAFFIC	LS	$50,000.00	1.00	$50,000.00
	Subtotal				**$287,861.00**
763000	Initial Expense (5%)	L.S.	$14,393.05	1	$14,393.05
763501	Construction Engineering (2.5%)	L.S.	$7,196.53	1	$7,196.53
	TOTAL BASE FOR PROJECT				**$309,450.58**
	CONSTRUCTION CONTINGENCY	15%	$46,417.59	1	$46,417.59
	TRAFFIC (FROM TRAFFIC STATEMENT)	L.S.	$0.00	1	$0.00
	UTILITY	L.S.	$40,000.00	1	$40,000.00
	PLANTING	L.S.	$0.00	1	$0.00
	QA/QC for HMA	L.S.	$170.10	1	$170.10
	Asphalt Cost Adj	L.S.	$3,369.60	1	$3,369.60
	CONSTRUCTION ENGINEERING - (INSPECTION, CE, ETC)	L.S.	$64,181.32	1	$64,181.32
	TOTAL CONSTRUCTION COST				**$463,589.18**
	PROJECT DEVELOPMENT	L.S.	$0.00	1	$0.00
	PRELIMINARY ENGINEERING (DESIGN)	L.S.	$77,360.00	1	$77,360.00
	ROW COSTS	L.S.	$80,000	1	$80,000.00
	TOTAL BASE CONSTRUCTION COST				**$620,949.18**

Railroad Crossing Upgrade

TBD

Phase 3 Cost Estimate

ITEM #	TITLE	UNIT	ESTIMATE COST	UNIT QUANTITY	TOTAL
201000	CLEARING AND GRUBBING	LS	$10,000.00	1.00	$10,000.00
202000	EXCAVATION AND EMBANKMENT	CY	$35.00	354.00	$12,390.00
202003	UNDERCUT EXCAVATION	CY	$40.00	34.00	$1,360.00
204000	TEST HOLE	CY	$200.00	3.00	$600.00
209001	BORROW, TYPE A	CY	$40.00	110.00	$4,400.00
209006	BORROW, TYPE F	CY	$25.00	55.00	$1,375.00
211000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	$10,000.00	1.00	$10,000.00
211001	REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT, CURB AND SIDEWALK	SY	$28.00	732.00	$20,496.00
301001	GABC	CY	$90.00	155.00	$13,950.00
302002	DELAWARE NO. 3 STONE	TON	$70.00	27.00	$1,890.00
401014	SUPERPAVE TYPE B, PG 64-22	TON	$120.00	40.00	$4,800.00
401021	SUPERPAVE TYPE BCBC, PG 64-22	TON	$120.00	78.00	$9,360.00
401046	SUPERPAVE TYPE C, PG 76-22 (NON-CARBONATE STONE)	TON	$120.00	390.00	$46,800.00
602130	ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET	EACH	$1,200.00	5.00	$6,000.00
701013	PCC CURB, TYPE 1-8	LF	$50.00	1020.00	$51,000.00
705001	PCC SIDEWALK, 4"	SF	$15.00	5512.00	$82,680.00
705002	PCC SIDEWALK, 6"	SF	$20.00	634.00	$12,680.00
762000	SAW CUTTING, BITUMINOUS CONCRETE	LF	$5.00	1187.00	$5,935.00
817042	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 6"	LF	$2.00	2688.00	$5,376.00
905001	SILT FENCE	LF	$6.00	2489.00	$14,934.00
905004	INLET SEDIMENT CONTROL, DRAINAGE INLET	EACH	$150.00	5.00	$750.00
908004	TOPSOIL, 6" DEPTH	SY	$12.00	830.00	$9,960.00
908016	PERMANENT GRASS SEEDING, SUBDIVISION	SY	$2.00	0.00	$0.00
908017	TEMPORARY GRASS SEEDING	SY	$0.50	293.00	$146.50
908023	STABILIZED CONSTRUCTION ENTRANCE	SY	$100.00	120.00	$12,000.00
908024	STABILIZED CONSTRUCTION ENTRANCE, TOPDRESSING	TON	$100.00	10.00	$1,000.00
999999	MAINTENANCE OF TRAFFIC	LS	$50,000.00	1.00	$50,000.00
	Subtotal				**$389,882.50**
763000	Initial Expense (5%)	L.S.	$19,494.13	1	$19,494.13
763501	Construction Engineering (2.5%)	L.S.	$9,747.06	1	$9,747.06
	TOTAL BASE FOR PROJECT				**$419,123.69**
	CONSTRUCTION CONTINGENCY	15%	$62,868.55	1	$62,868.55
	TRAFFIC (FROM TRAFFIC STATEMENT)	L.S.	$0.00	1	$0.00
	UTILITY	L.S.	$40,000.00	1	$40,000.00
	PLANTING	L.S.	$0.00	1	$0.00
	QA/QC for HMA	L.S.	$177.80	1	$177.80
	Asphalt Cost Adj	L.S.	$3,306.00	1	$3,306.00
	CONSTRUCTION ENGINEERING - (INSPECTION, CE, ETC)	L.S.	$77,890.46	1	$77,890.46
	TOTAL CONSTRUCTION COST				**$603,366.50**
	PROJECT DEVELOPMENT	L.S.	$0.00	1	$0.00
	PRELIMINARY ENGINEERING (DESIGN)	L.S.	$104,780.00	1	$104,780.00
	ROW COSTS	L.S.	$75,000.00	1	$75,000
	TOTAL BASE CONSTRUCTION COST				**$783,146.50**