



**SR 219**  
**SECTIONS 046 AND 44M**  
**CARROLLTOWN, CAMBRIA COUNTY**

April 18, 2022

# SR 219 CARROLLTOWN Presentation Outline

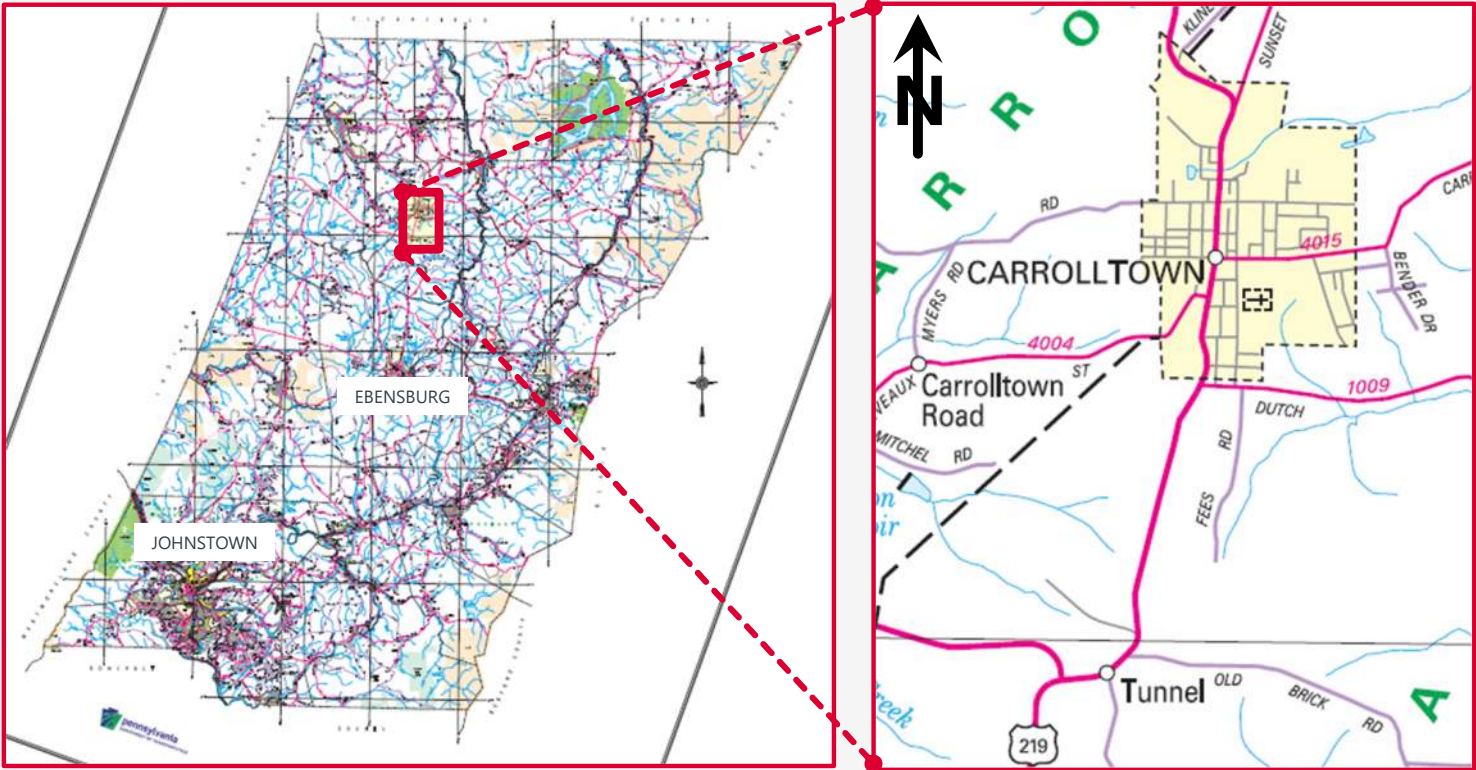


1. Project Overview
2. Project Needs/ Solutions
3. Lessons Learned
4. Before / After Pics



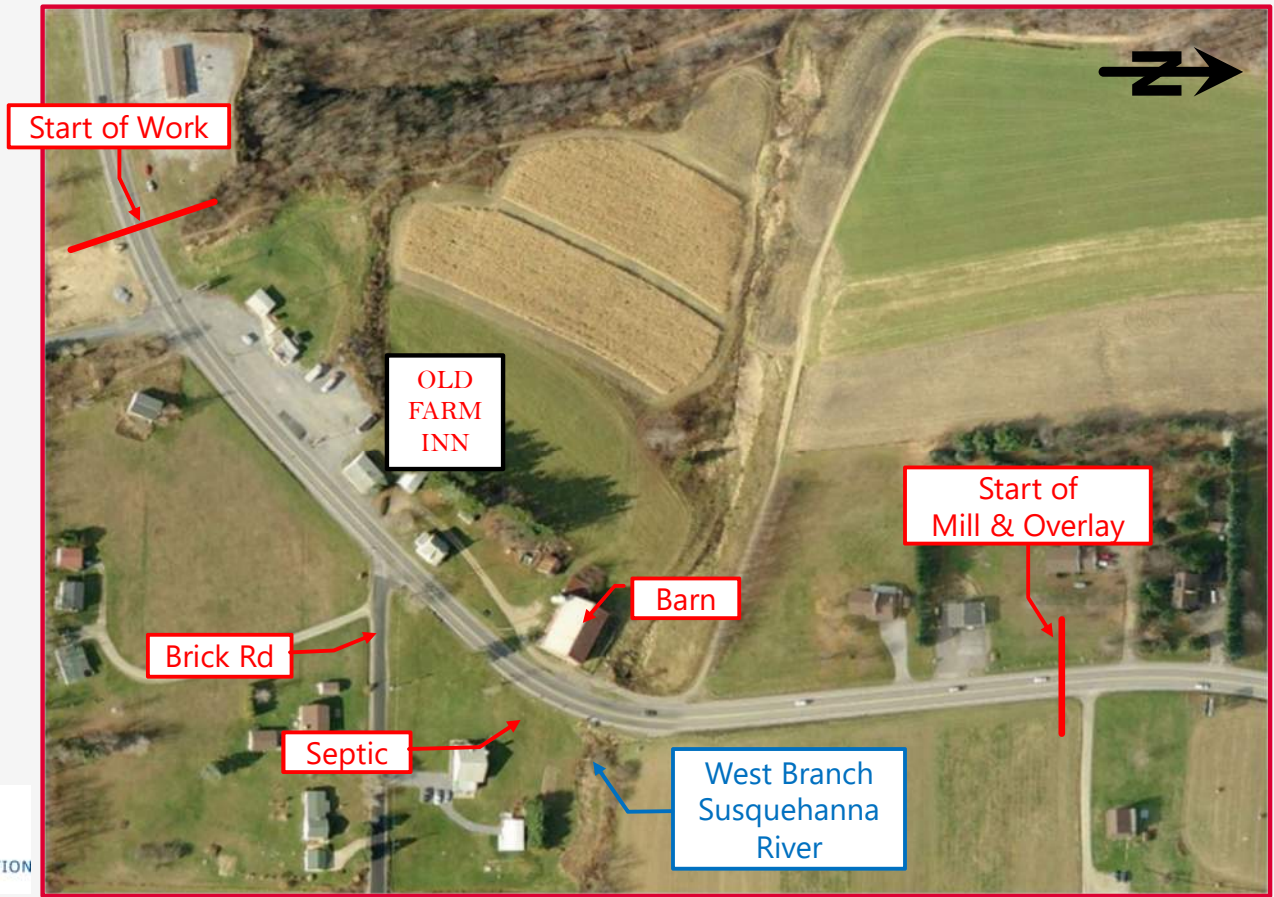
# SR 219 CARROLLTOWN

## Project Location – Cambria County



# SR 219 CARROLLTOWN

## Project Location – Section 046 - Barn Curve



# SR 219 CARROLLTOWN

## Project Location – Section 046 - Mill & Overlay



# SR 219 CARROLLTOWN

## Project Location – Section 44M - Borough



# SR 219 CARROLLTOWN Project Needs



# SR 219 CARROLLTOWN

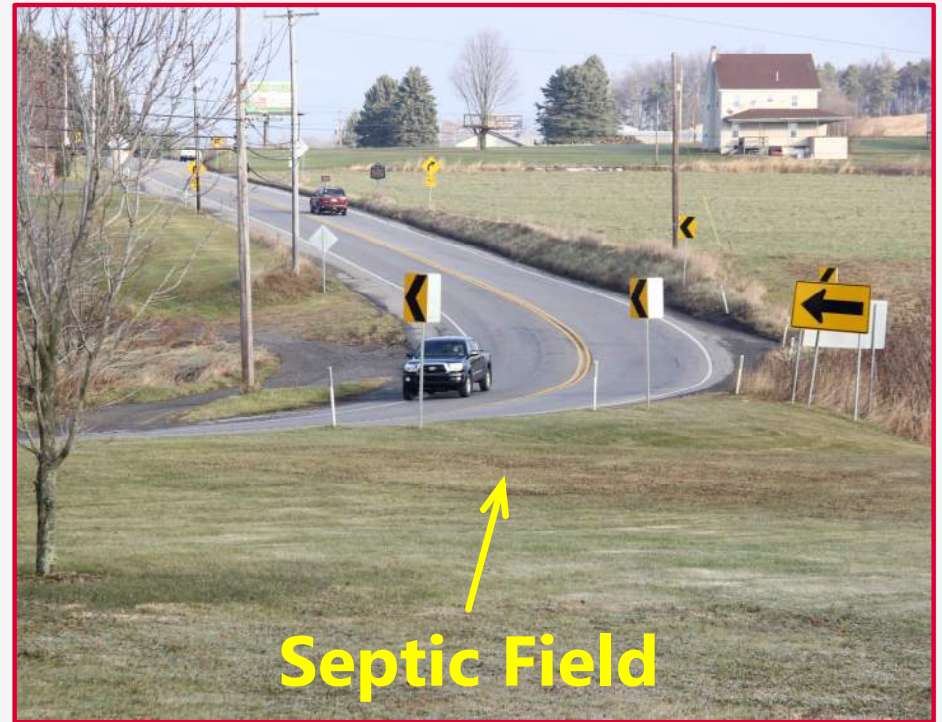
## Project Needs – Barn Curve Geometry

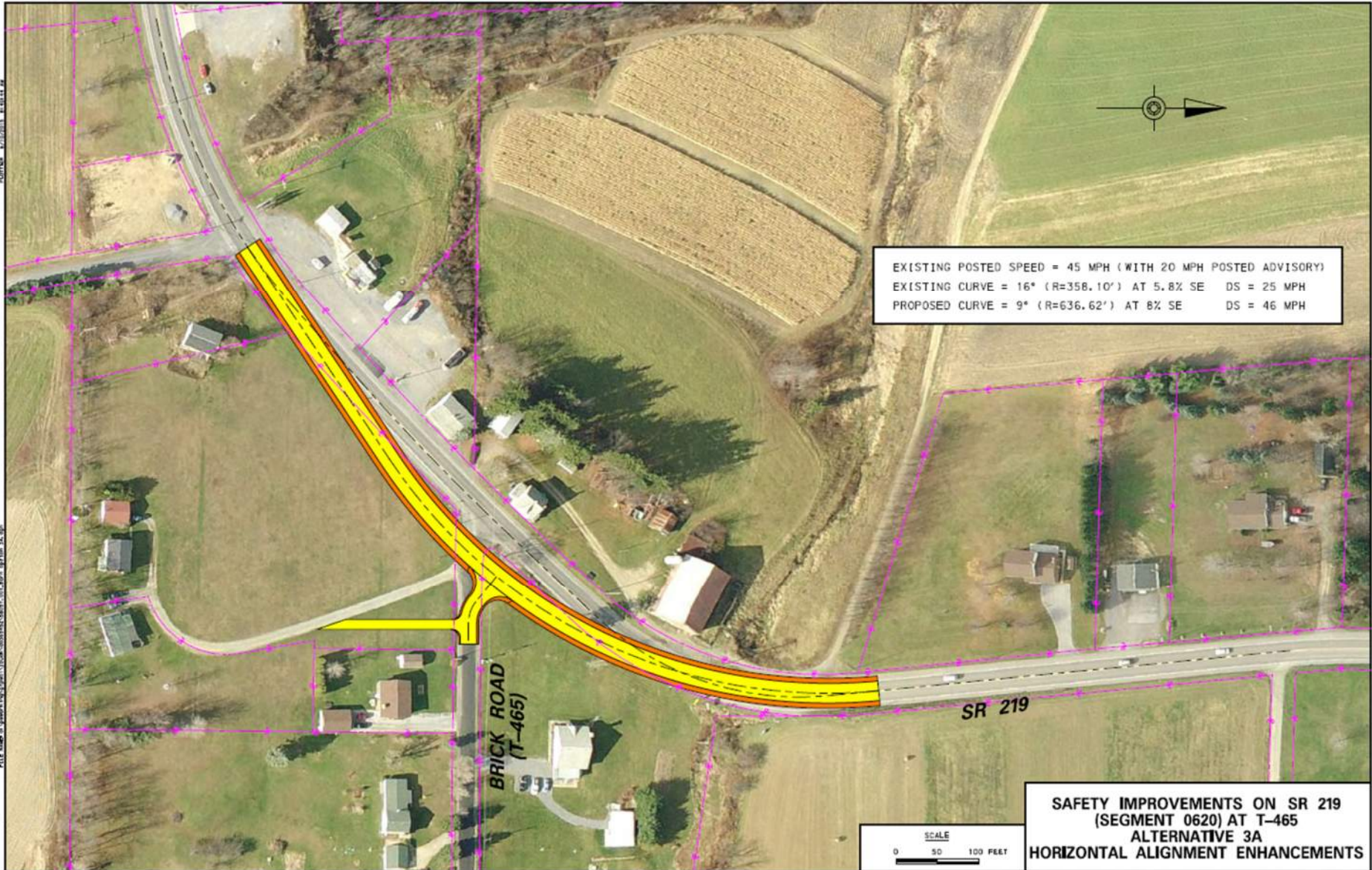




# SR 219 CARROLLTOWN

## Project Needs – Barn Curve Restrictions





EXISTING POSTED SPEED = 45 MPH ( WITH 20 MPH POSTED ADVISORY)  
 EXISTING CURVE = 16° (R=358.10') AT 5.8% SE DS = 25 MPH  
 PROPOSED CURVE = 9° (R=636.62') AT 8% SE DS = 46 MPH

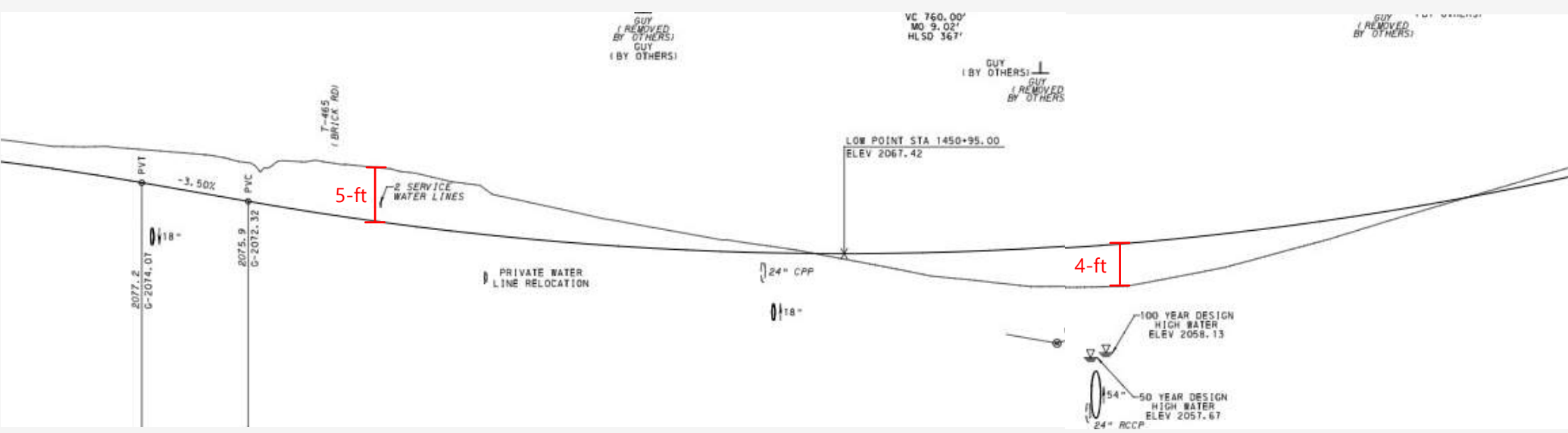
**SAFETY IMPROVEMENTS ON SR 219  
 (SEGMENT 0620) AT T-465  
 ALTERNATIVE 3A  
 HORIZONTAL ALIGNMENT ENHANCEMENTS**



**BRICK ROAD  
 (T-465)**

**SR 219**

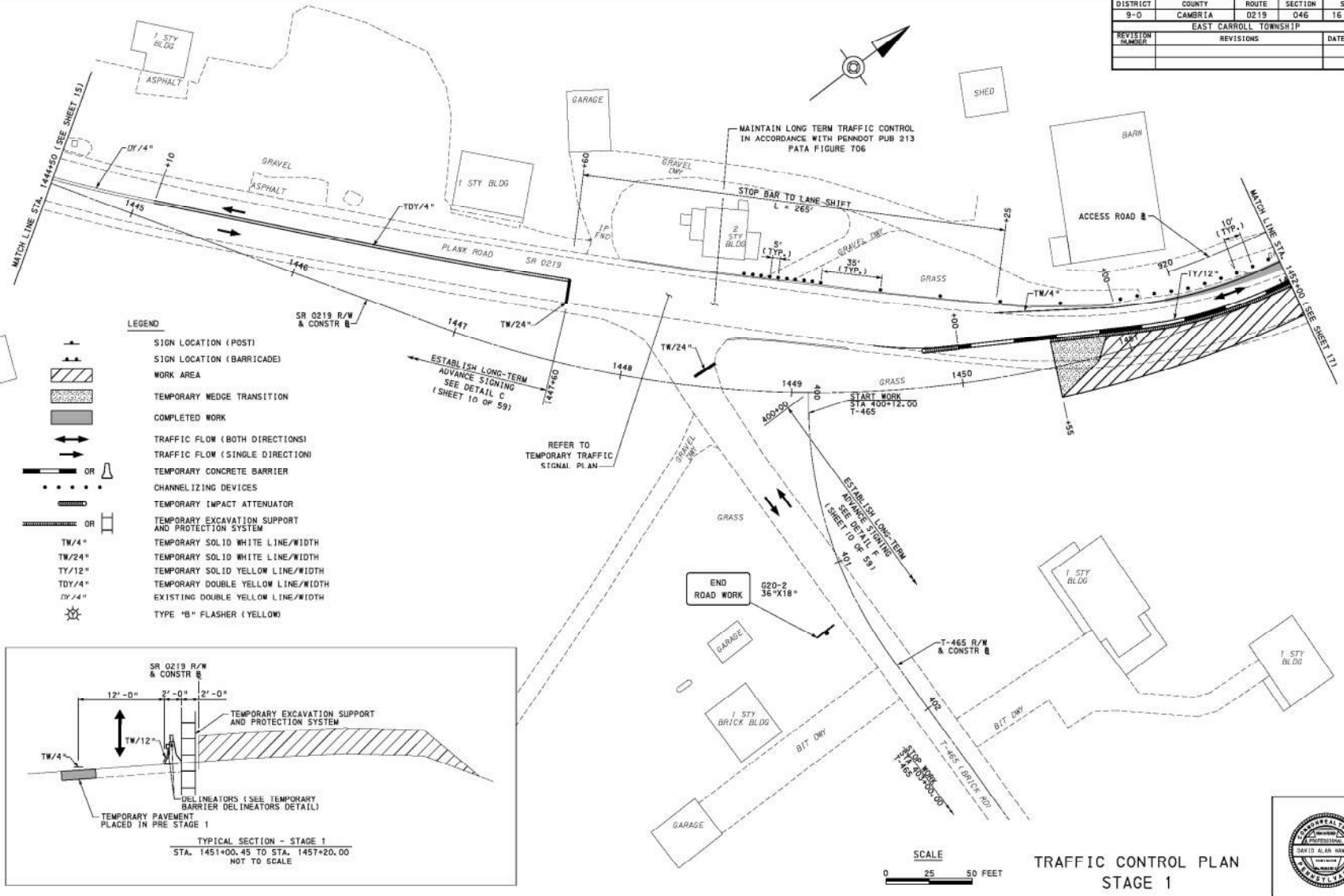
# SR 219 CARROLLTOWN Project Needs – Vertical Geometry



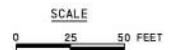
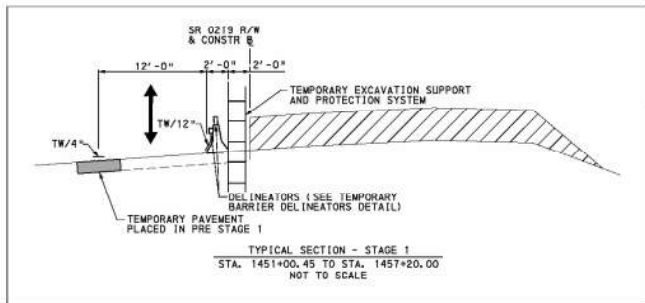
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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
9-0	CAMERIA	0219	046	16 OF 59
EAST CARROLL TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	



- LEGEND**
- SIGN LOCATION (POST)
  - SIGN LOCATION (BARRICADE)
  - WORK AREA
  - TEMPORARY WEDGE TRANSITION
  - COMPLETED WORK
  - TRAFFIC FLOW (BOTH DIRECTIONS)
  - TRAFFIC FLOW (SINGLE DIRECTION)
  - TEMPORARY CONCRETE BARRIER
  - CHANNELIZING DEVICES
  - TEMPORARY IMPACT ATTENUATOR
  - TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM
  - TW/4"
  - TW/24"
  - TY/12"
  - TOY/4"
  - DY/4"
  - TYPE "B" FLASHER (YELLOW)



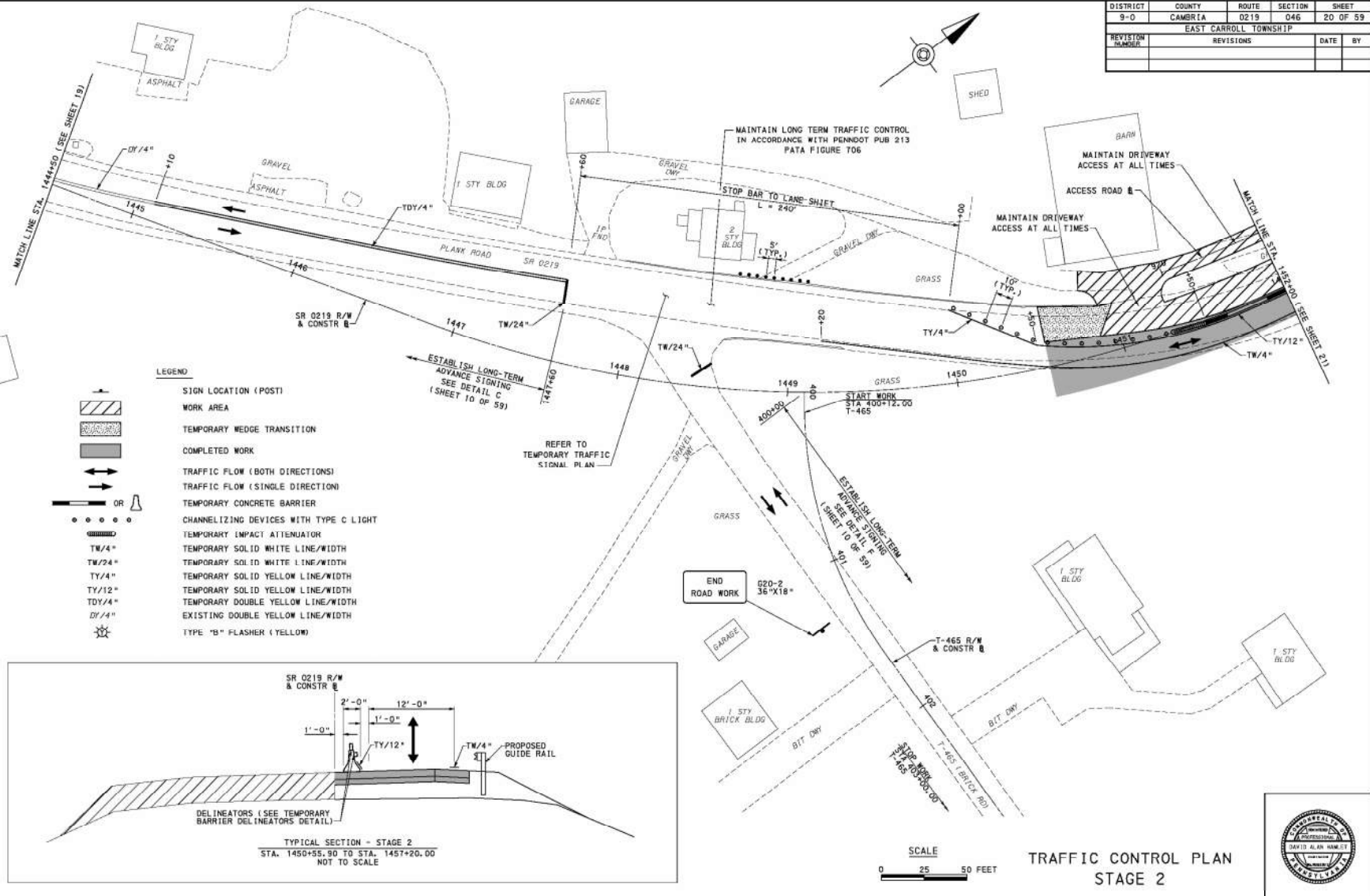
**TRAFFIC CONTROL PLAN**  
**STAGE 1**



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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
9-0	CAMBERTA	0219	046	20 OF 59
EAST CARROLL TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	



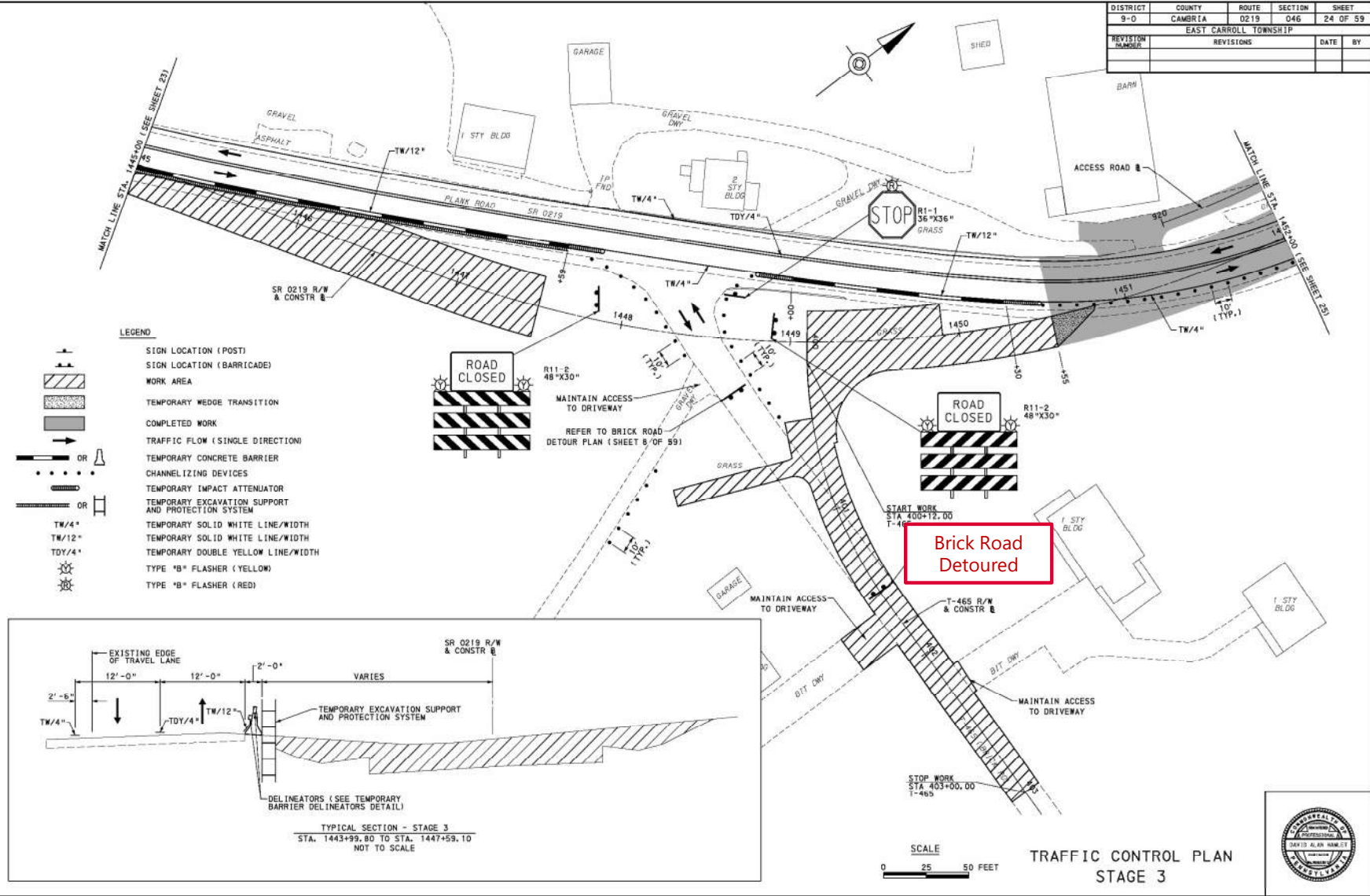
TRAFFIC CONTROL PLAN  
STAGE 2



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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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EAST CARROLL TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	



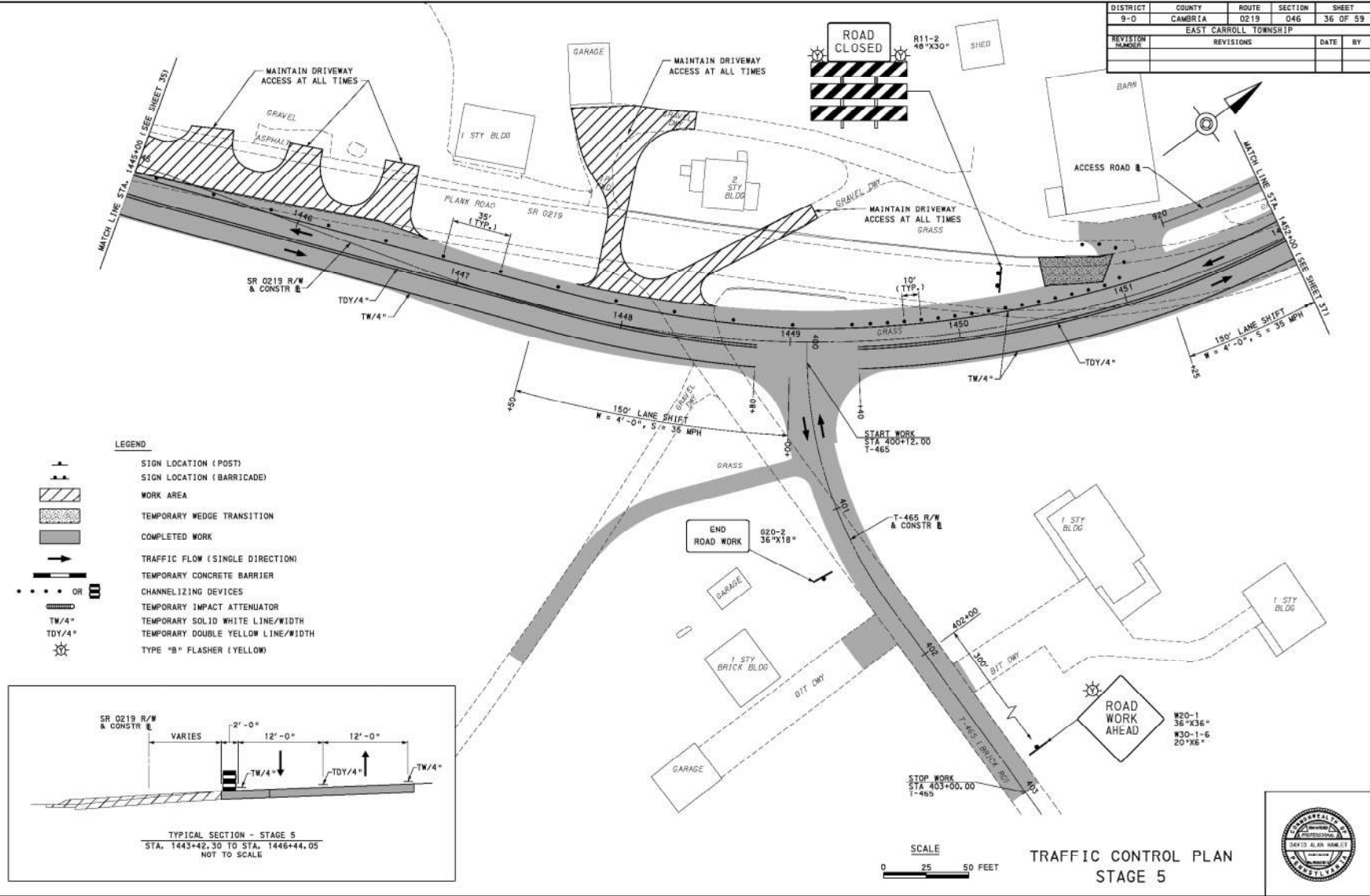
Brick Road  
Detoured



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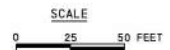
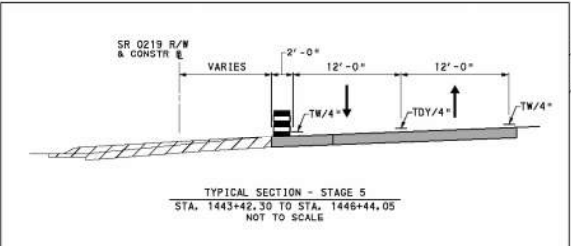
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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
9-0	CAMBERTA	0219	046	36 OF 59
EAST CARROLL TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	



**LEGEND**

- SIGN LOCATION (POST)
- SIGN LOCATION (BARRICADE)
- WORK AREA
- TEMPORARY WEDGE TRANSITION
- COMPLETED WORK
- TRAFFIC FLOW (SINGLE DIRECTION)
- TEMPORARY CONCRETE BARRIER
- CHANNELIZING DEVICES
- TEMPORARY IMPACT ATTENUATOR
- TEMPORARY SOLID WHITE LINE/WIDTH
- TEMPORARY DOUBLE YELLOW LINE/WIDTH
- TYPE "B" FLASHER (YELLOW)



**TRAFFIC CONTROL PLAN  
STAGE 5**





# SR 219 CARROLLTOWN

## Project Solutions – Barn Curve Traffic Control







# SR 219 CARROLLTOWN

## Project Needs – Drainage Improvements



# SR 219 CARROLLTOWN

## Project Challenges – Drainage Improvements



# SR 219 CARROLLTOWN

## Project Solutions – Drainage Improvements



# SR 219 CARROLLTOWN

## Project Needs – Pavement Replacement



**Adverse Superelevation**



**Steep Crown**

# SR 219 CARROLLTOWN Project Solutions – Pavement Replacement





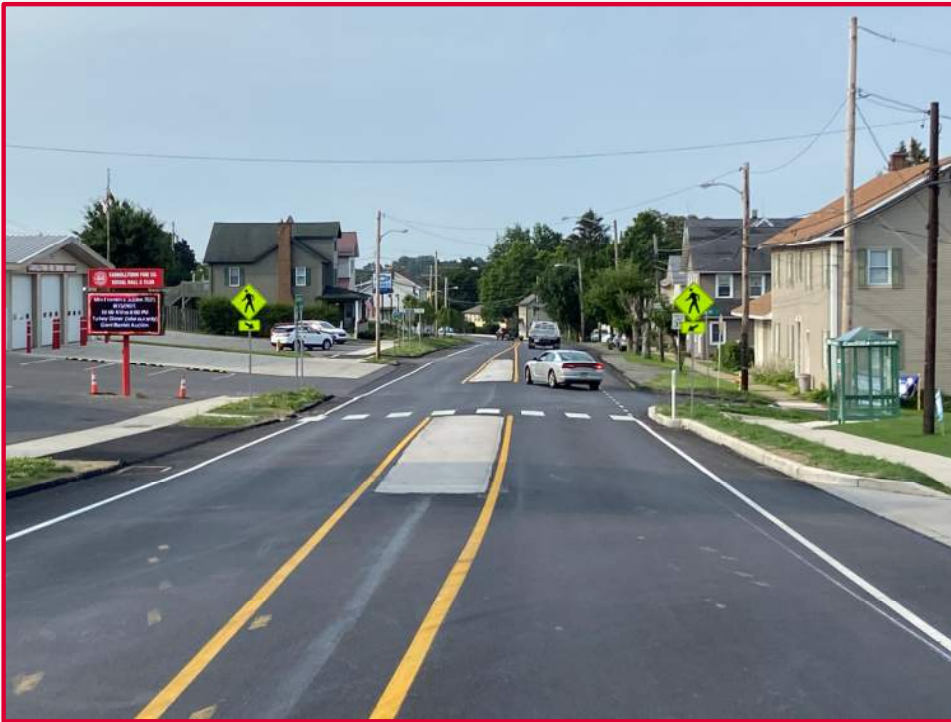
# SR 219 CARROLLTOWN

## Project Needs – Traffic Calming



# SR 219 CARROLLTOWN

## Project Solutions – Traffic Calming



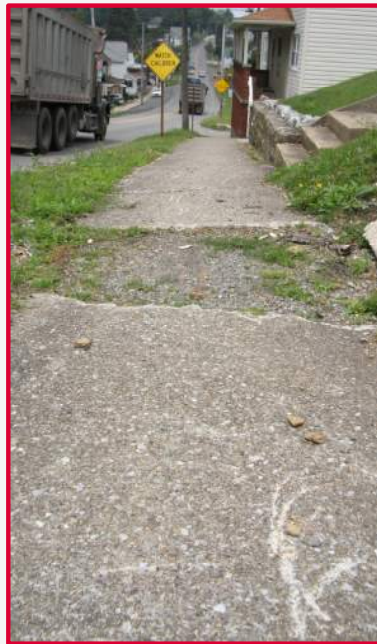
# SR 219 CARROLLTOWN

## Project Solutions – Traffic Calming



# SR 219 CARROLLTOWN

## Project Needs – Pedestrian Accommodations



Examples of existing sidewalk conditions

# SR 219 CARROLLTOWN

## Project Solutions – Pedestrian Accommodations



# SR 219 CARROLLTOWN Project Needs – Parking



Examples of existing parking conditions



# SR 219 CARROLLTOWN

## Project Challenges – Parking



Examples of existing parking conditions

# SR 219 CARROLLTOWN

## Project Challenges – Parking

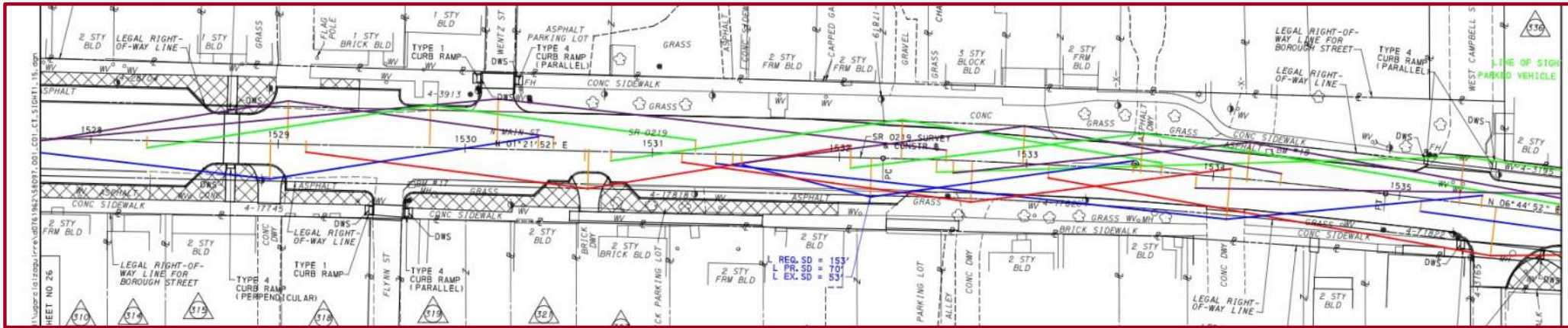
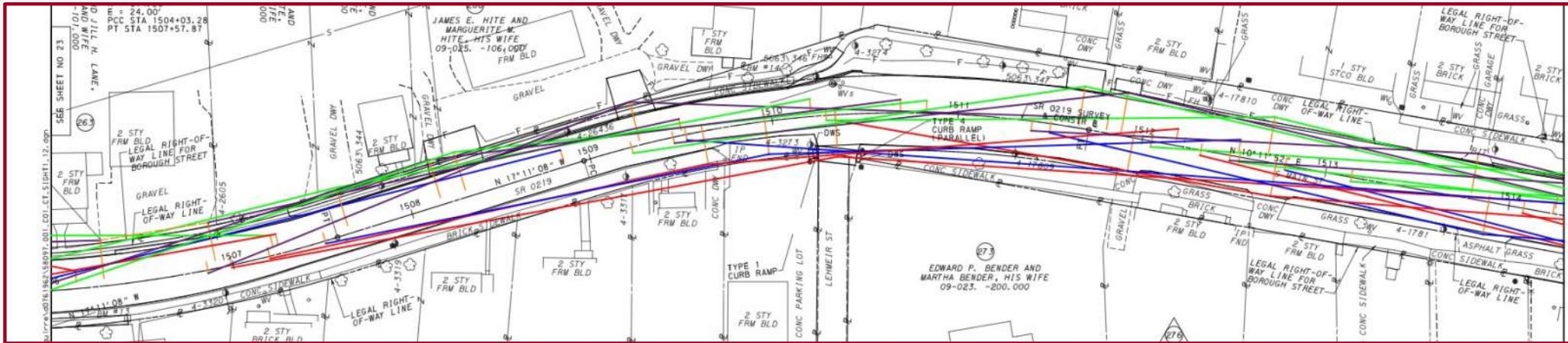


Examples of existing parking conditions





# SR 219 CARROLLTOWN Project Solutions – Parking



# SR 219 CARROLLTOWN Project Solutions – Parking



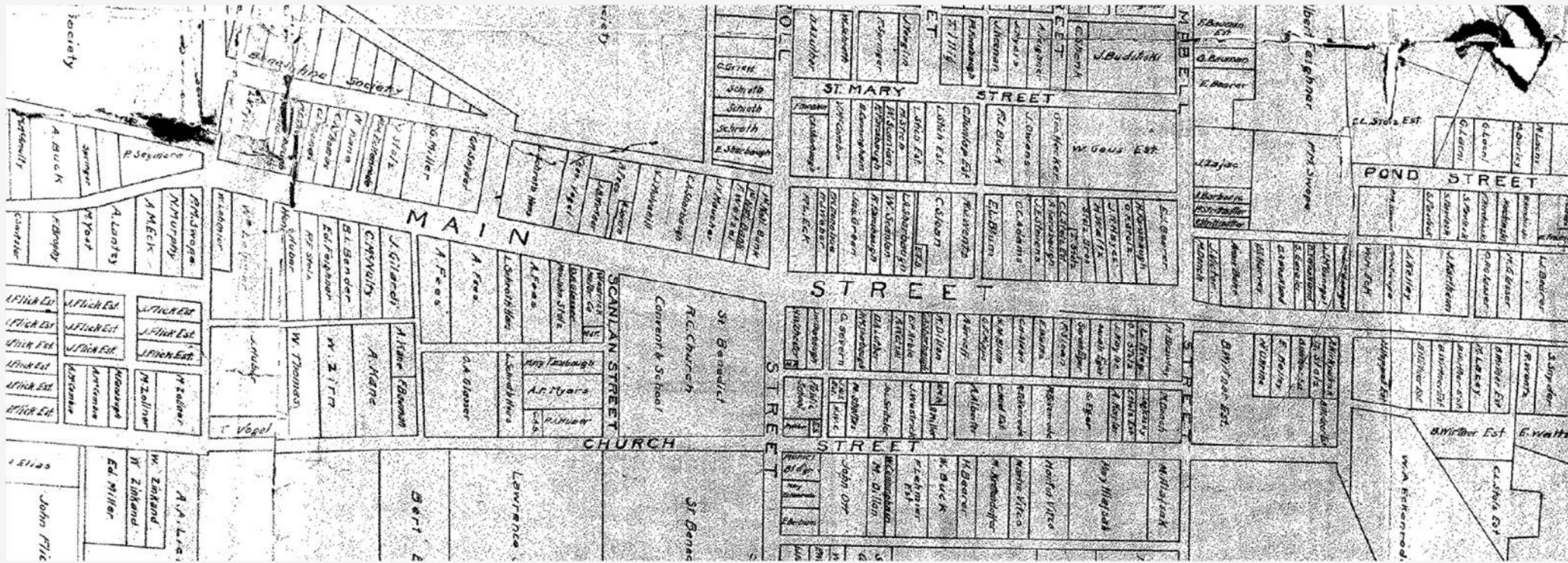
# SR 219 CARROLLTOWN

## Lessons Learned – Public Outreach



# SR 219 CARROLLTOWN

## Lessons Learned – Right-of-Way

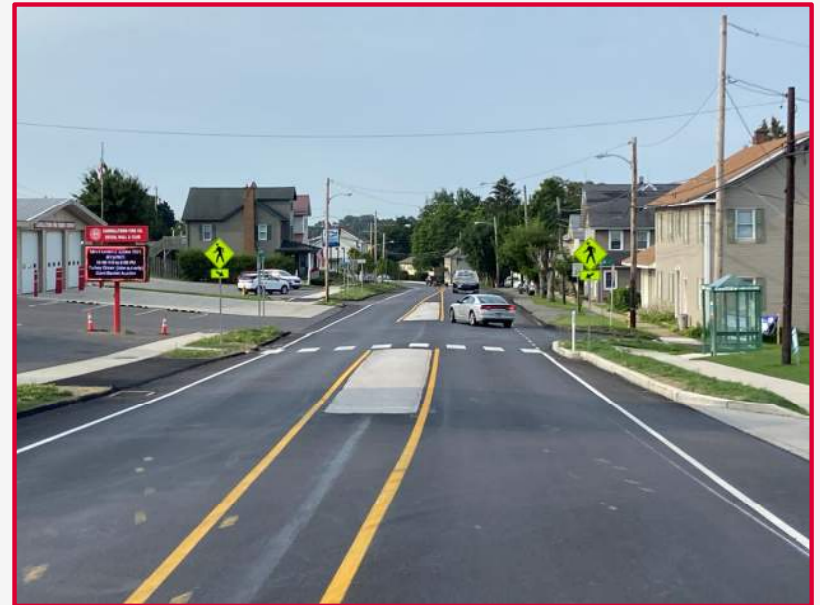


# SR 219 CARROLLTOWN

## Lessons Learned – Traffic Calming



- Bulb outs looked more dramatic on plans than in real life
- Consider snow removal and drainage
- Flush islands are an option
- Wig wags can be overused and become ineffective



# SR 219 CARROLLTOWN

## Lessons Learned – Drainage



- Analyze the downstream structures/ditches



# SR 219 CARROLLTOWN

## Before and After – Geometry Barn Curve



# SR 219 CARROLLTOWN

## Before and After – Traffic Calming Dutch Road





# SR 219 CARROLLTOWN

## Before and After – Traffic Calming Bulb-Outs



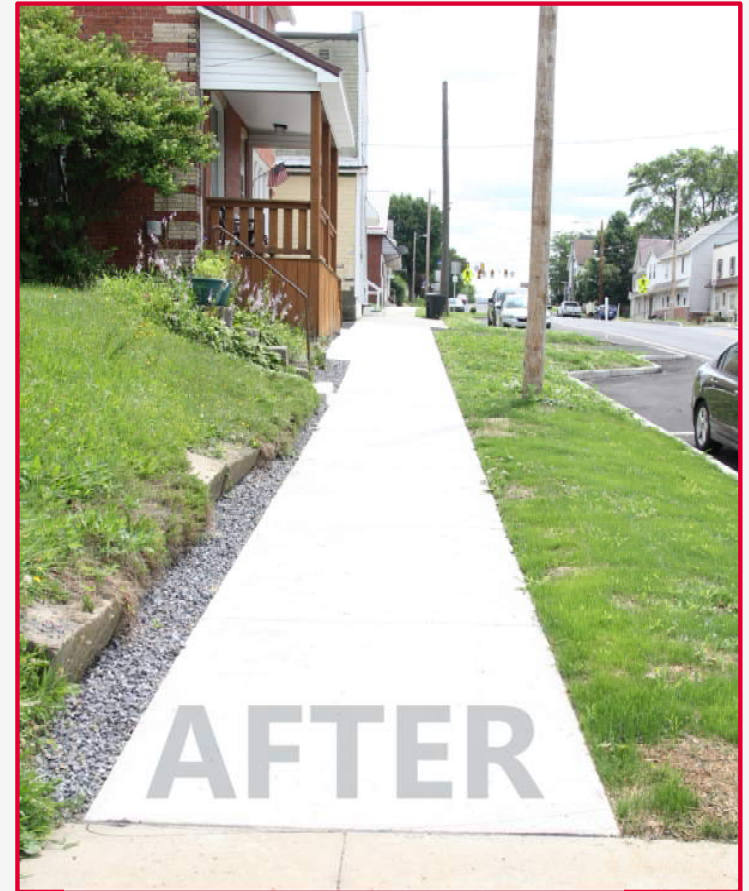
# SR 219 CARROLLTOWN

## Before and After – Traffic Calming Bulb-Outs



# SR 219 CARROLLTOWN

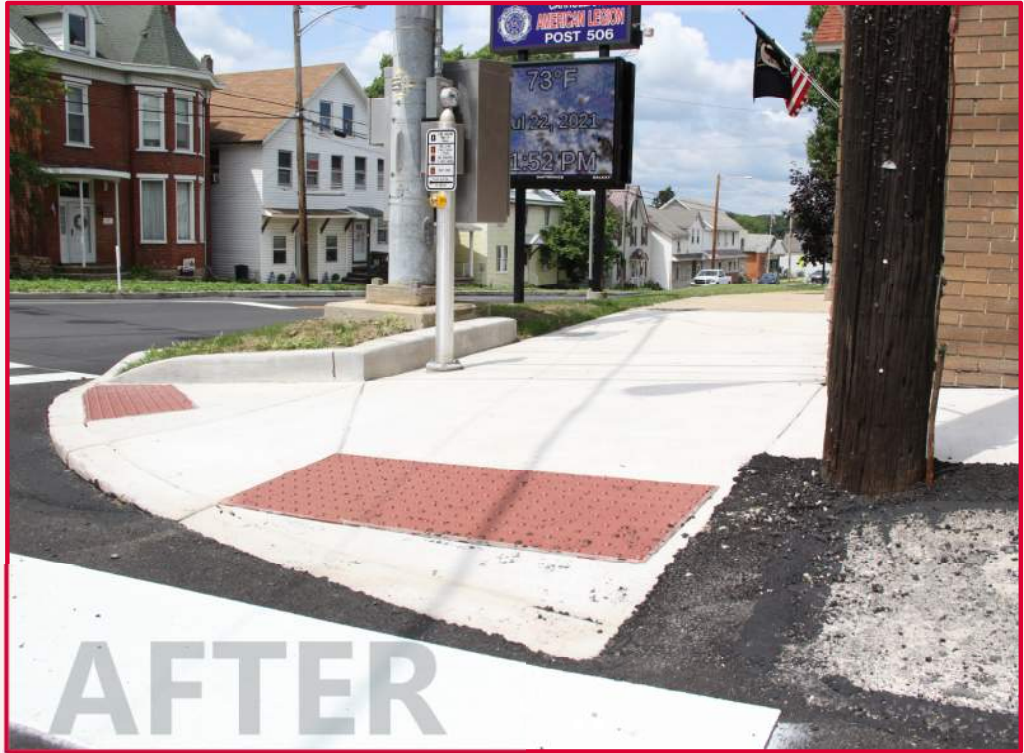
## Before and After – Pedestrian Accommodations







# SR 219 CARROLLTOWN Before and After - ADA





# SR 219 CARROLLTOWN

## Before and After – Drainage Oak Street





# SR 219 CARROLLTOWN

## Before and After - Parking





Questions?