

# LOCAL OFFICIALS MEETING

February 7, 2023



Systemic Backplate Pilot Program, Central Region, Route 27  
Limited Scope Concept Development (LSCD)



# AGENDA

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- Project Locations/Background
- Existing Conditions
- Purpose and Need
- Proposed Improvements

# PROJECT LOCATION

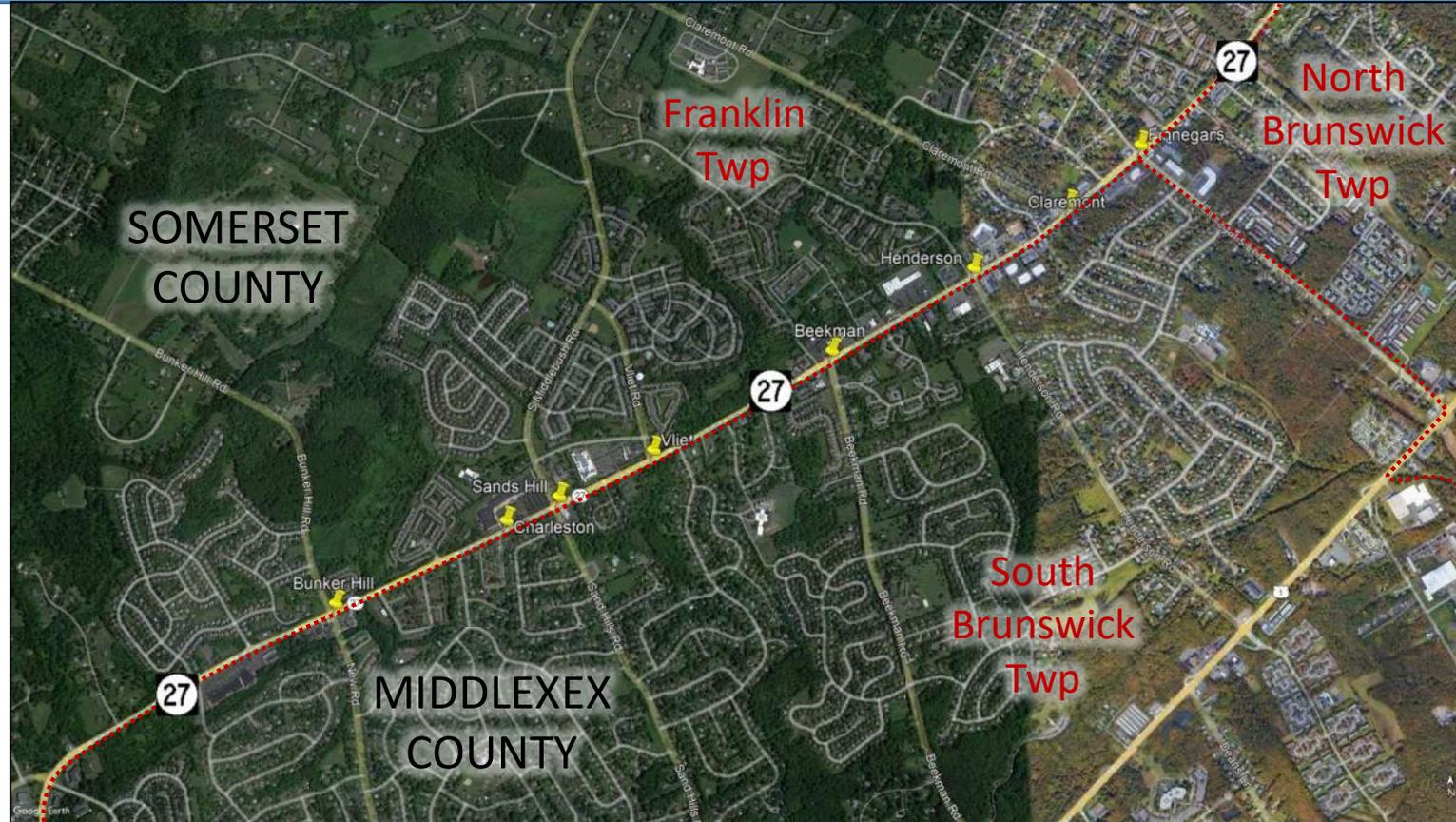
## Somerset County

- Franklin Township

## Middlesex County

- North Brunswick Township
- South Brunswick Township

### NJ Route 27 - Bunker Hill Road to Finnegans Lane



# PROJECT BACKGROUND

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## Problem Statement

- Systemic pilot project to increase visibility of signal heads on the state highway system

### Supporting Reasons

- RT 27 is part of a segment that ranks #7 on the 2019 Segment-Roadway Corridor List

### Project Goals

- Installation of backplates with retroreflective borders and snow scoops to signal head visors at 8 project intersections

# PROVEN SAFETY COUNTERMEASURE

## Retroreflective Backplates

Backplates added to a traffic signal head improve the visibility of the illuminated face of the signal by introducing a controlled-contrast background.

- Improved visibility of a signal head with a backplate is made even more conspicuous by framing it with a 1- to 3-inch yellow retroreflective border.



**15%** ↓

Reduction in Total Crashes



Signal backplate framed with a retroreflective border. Source: FHWA

# EXISTING



# EXAMPLE (with backplates)



# EXISTING CONDITIONS

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## Evaluation

- **Traffic Analysis**

- Existing AM, MID, PM & SAT Synchro models developed
- Overall intersections LOS D or better for all time periods.

- **Crash/Safety Review**

- January 2017 to December 2019
- 524 crashes (0 Fatality, 146 Injury)
- Corridor crash rate in 5 of 6 sections exceeds statewide average
- Predominant crash types (77% of total):
  - Same Direction Rear-End
  - Same Direction Sideswipe
  - Angle

# PURPOSE AND NEED

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- **Project Purpose**

- To improve safety at existing signalized intersections on the State Highway System in the central region by installing backplates with retroreflective borders and snow scoops on signal equipment.

- **Project Need**

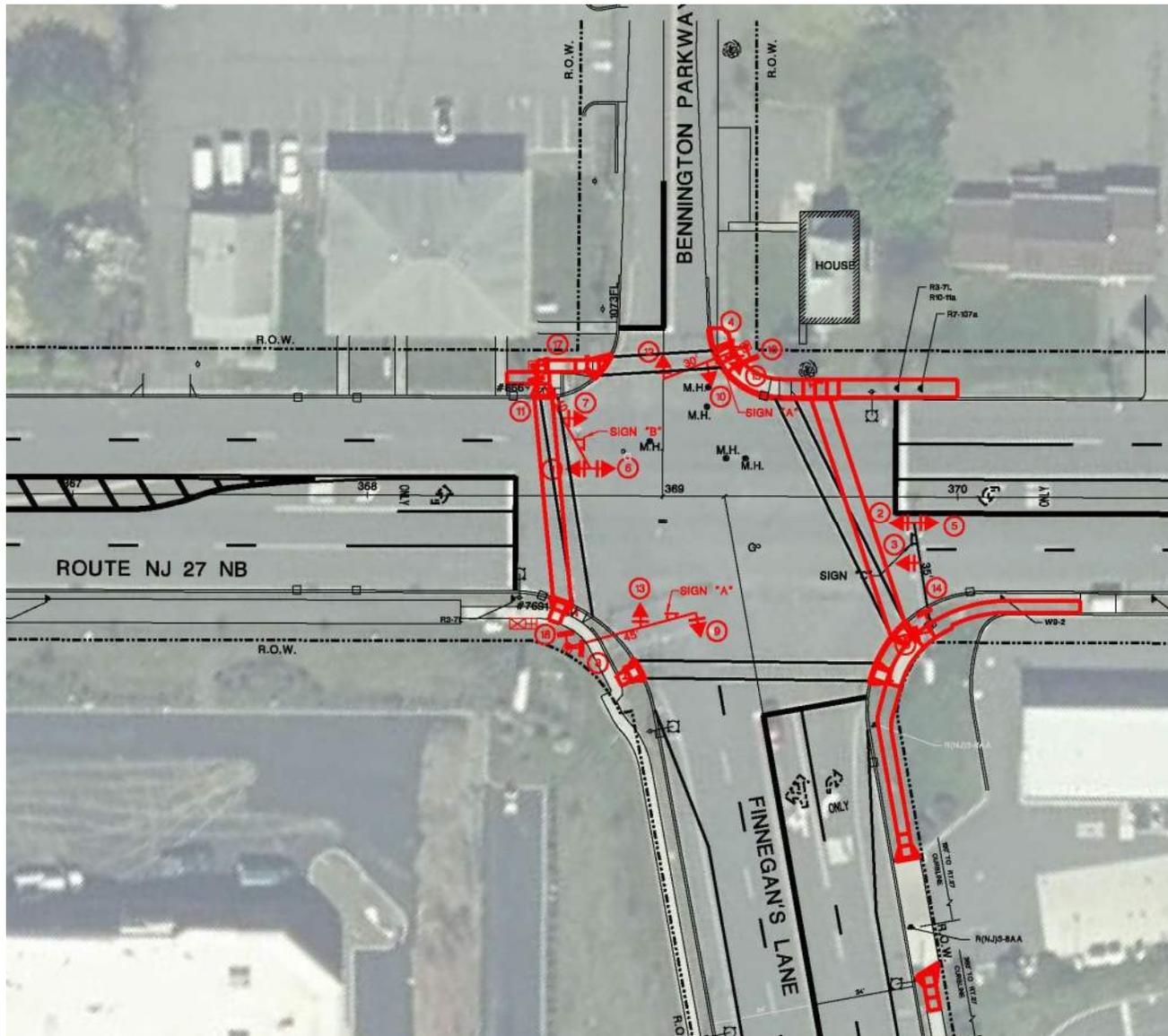
- Improve safety
  - NJ 27 is part of the segment that ranks # 7 on the 2019 Segment List (State System - Roadway Corridor List, 2014-2016 crashes) between MP 8.66 – 10.66.

# PROPOSED IMPROVEMENTS

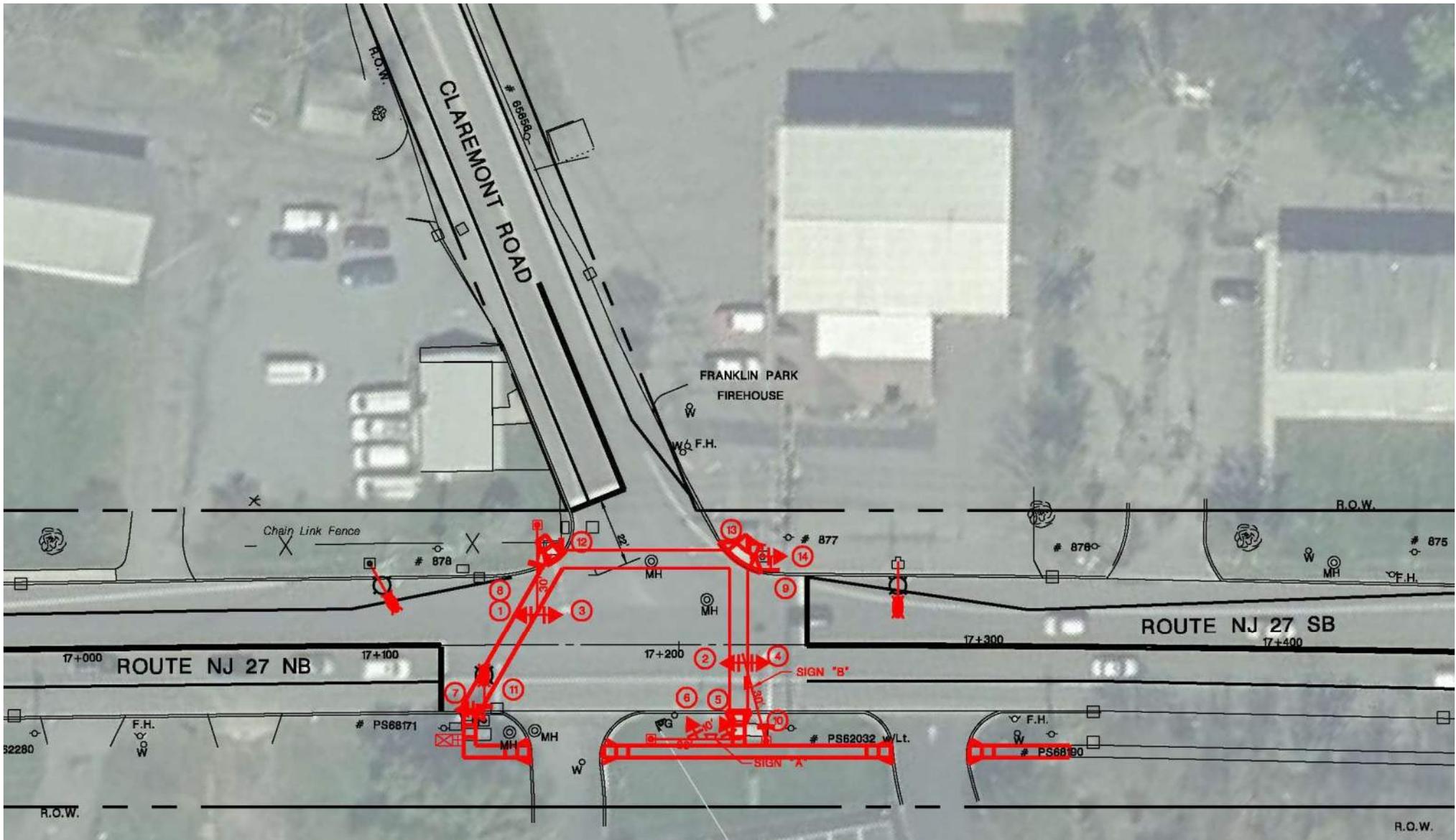
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- Intersection Improvements
  - Signal upgrades – with backplates
  - ADA compliance
  - Lighting
  - Pedestrian accommodations
    - Push buttons, Ped heads
    - Sidewalk connectivity/Transit access
      - ✓ Finnegans Ln
      - ✓ Claremont Rd
      - ✓ Beekman Rd
      - ✓ Charleston Pl (mid-block)
      - ✓ Bunker Hill Rd

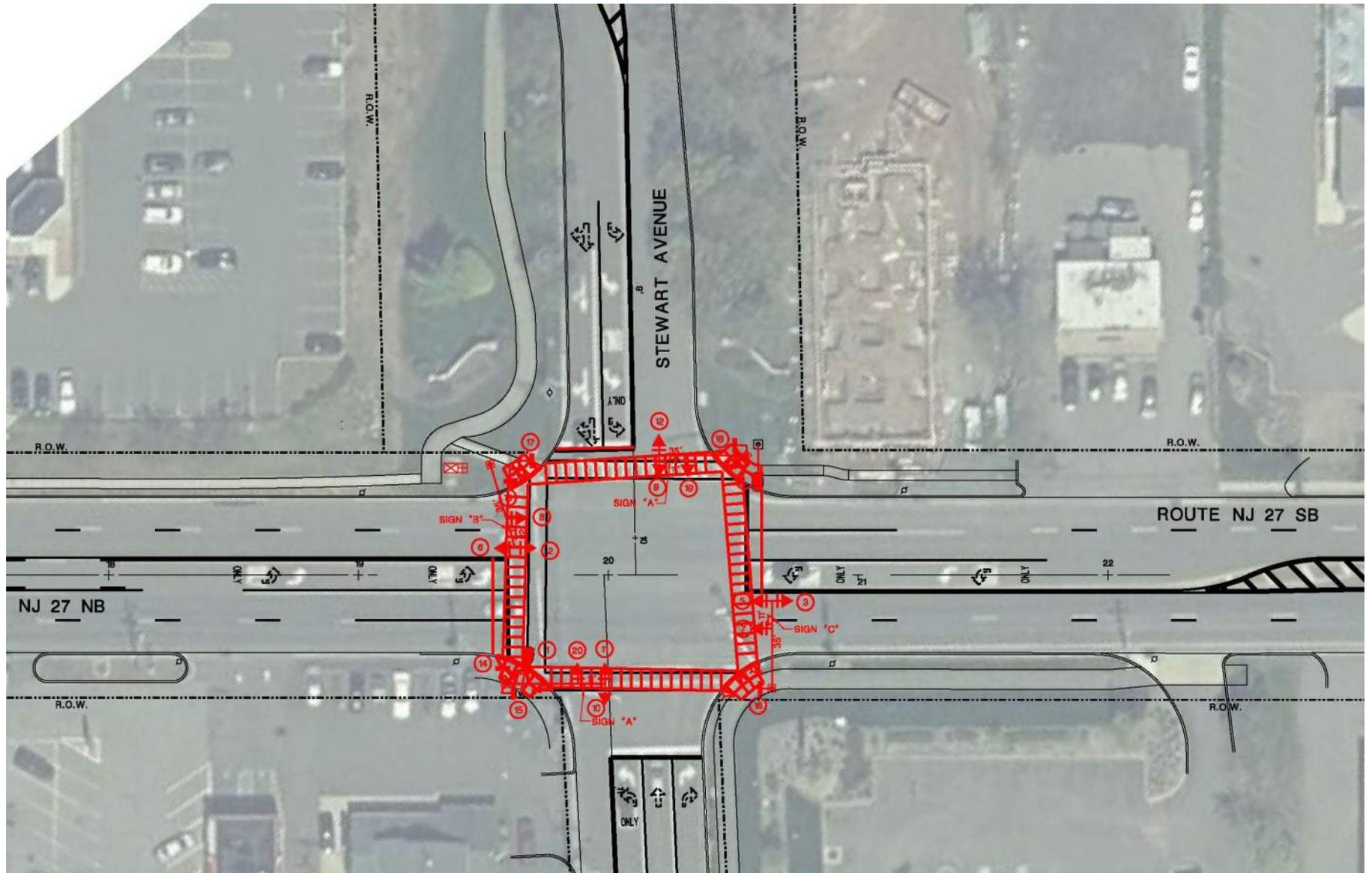
# FINNEGANS LANE



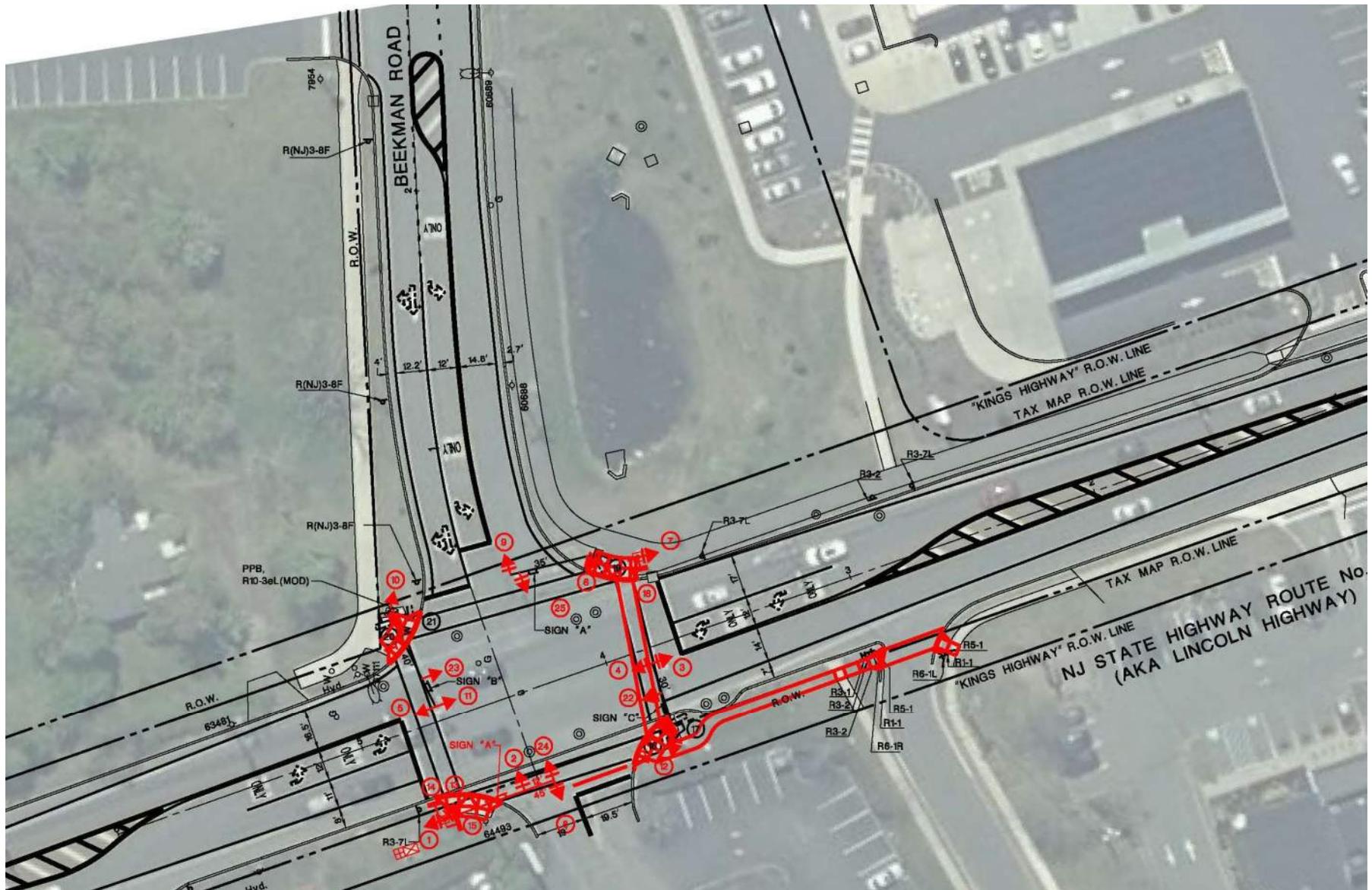
# CLAREMONT ROAD



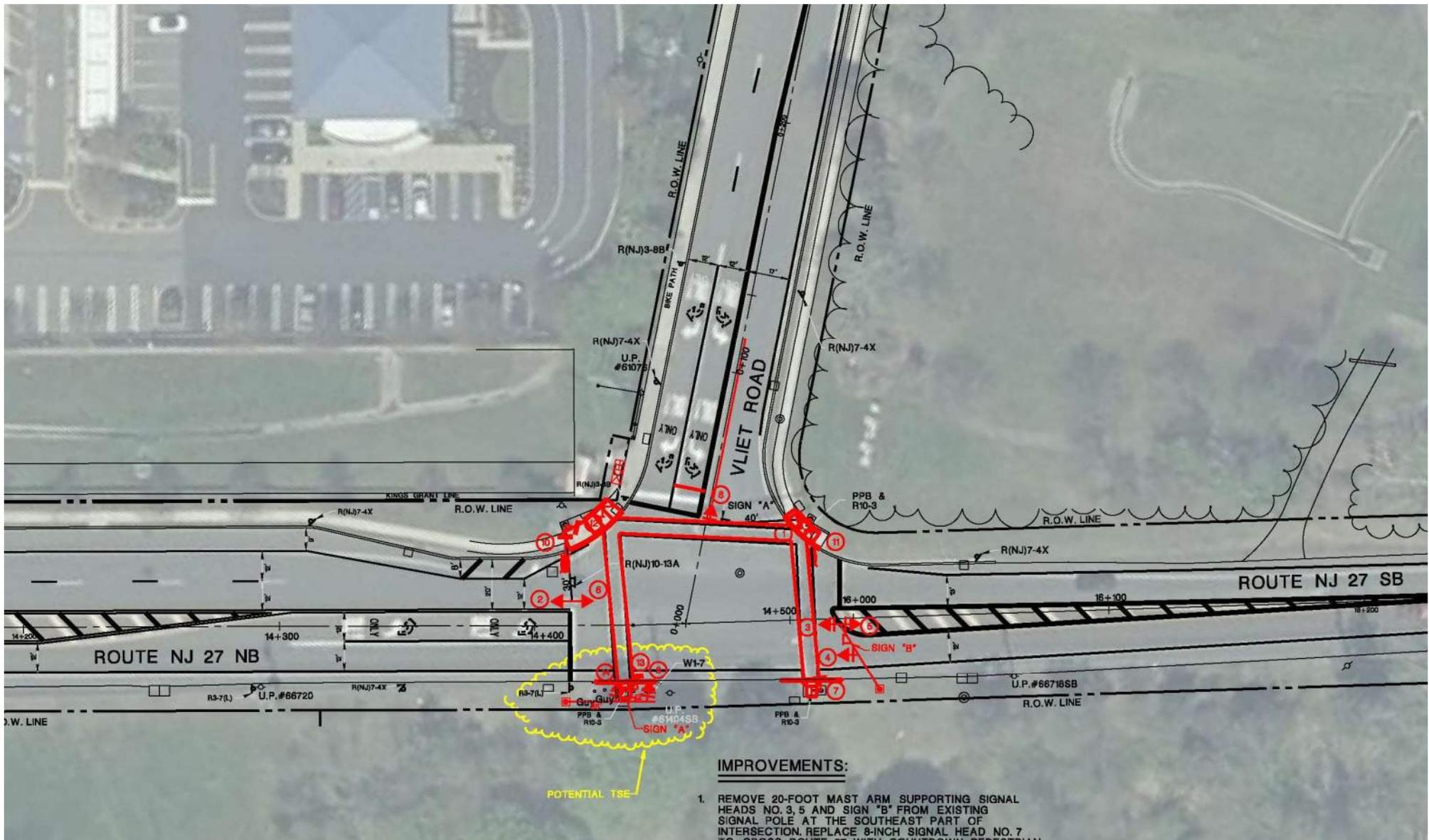
# HENDERSON ROAD



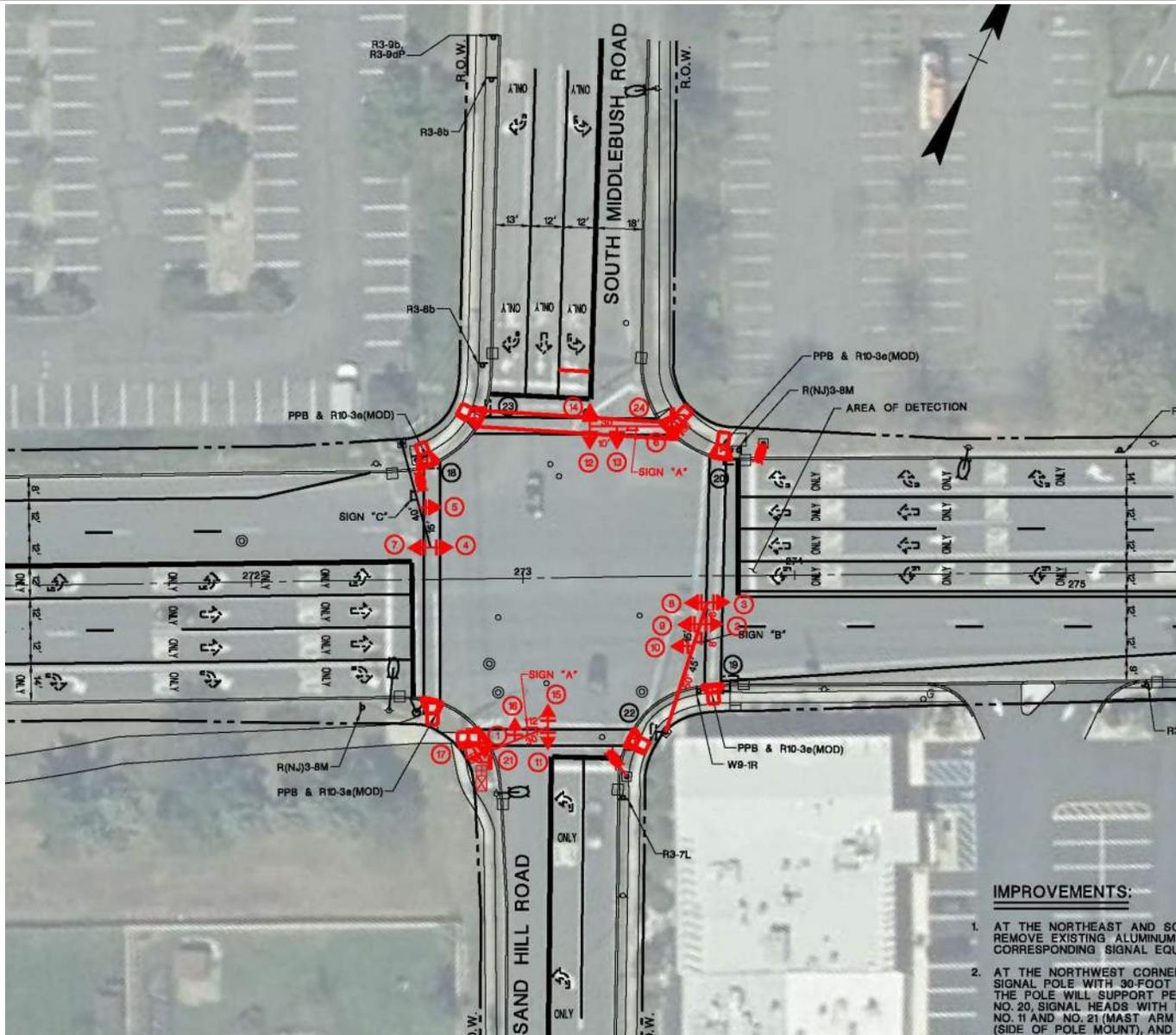
# BEEKMAN ROAD



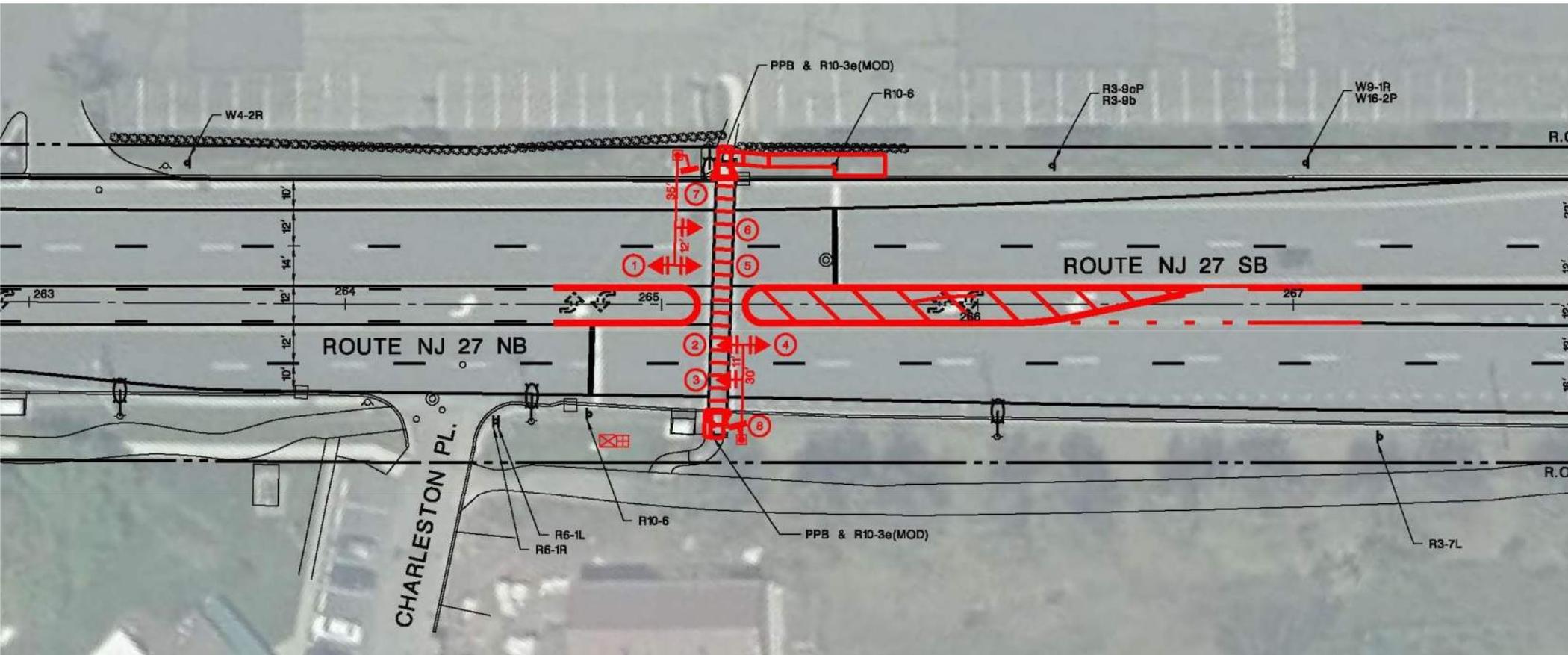
# VLIET ROAD



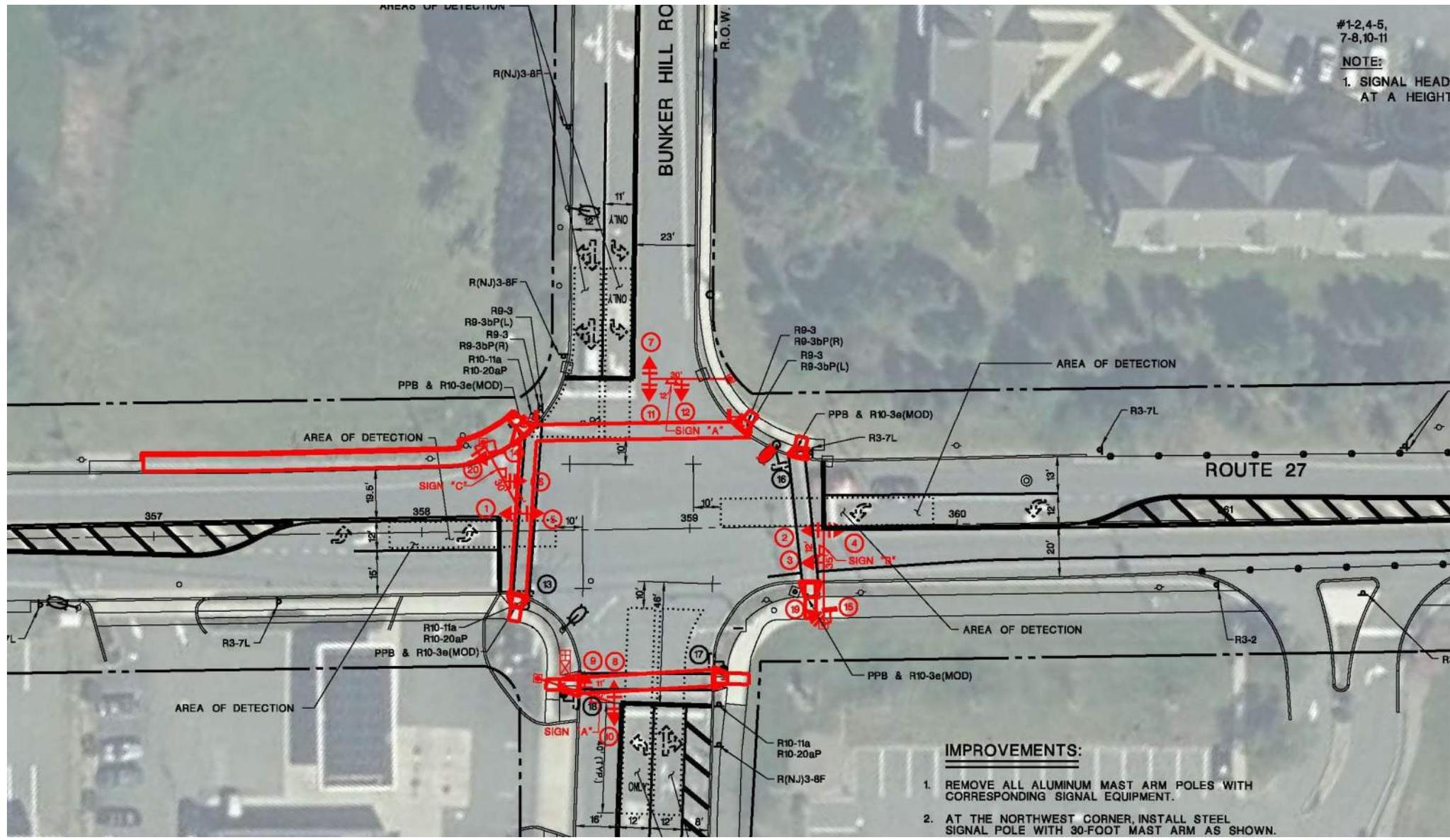
# SAND HILL ROAD



# CHARLESTON PLACE (MID-BLOCK)



# BUNKER HILL ROAD



# NEXT STEPS

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- Address comments received from Local Officials Briefing
- Complete report and advance to Final Design (FD)

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## QUESTIONS?

