

# Improvements to South Main Street

*Roadway Section Alternatives Presentation*

*South Main Street Public Forum*

*March 28, 2018*



**GREEN INTERNATIONAL AFFILIATES, INC.**  
*Civil and Structural Engineers*

# Purpose of Meeting

- Provide Project Update
- Discuss Project Goals
- Present Two Design Alternatives
- Discuss Recommended Revised Alternative 3
- Obtain Input on Alternatives and Answer Questions



# Project Update

- Met with Transportation Advisory Committee (TAC) on 3 occasions to present alternatives and obtain input
- Presented 3 alternatives to TAC and BOS to seek input on alternative on 9/25/2017
- Presented 3 alternatives to residents to seek input on preferred alternative on 11/28/2017
- Based upon input received, the BOS voted to eliminate Alternative 2 on 3/5/18
- Alternative 3 was revised based on input received
- Presenting revised Alternative 3 tonight

# Project Overview

## Suggest considering roadway as two segments

- **Segment 1** – Sherborn town line to West Street
- About 1,200 feet long
- Bordered by wetlands on both sides of road
- Guardrail on both sides
- **Segment 2** – West Street to Cottage Street
- About 5,600 feet long
- Densely developed
- Generally has sidewalk on both sides



# Project Overview





# Project Goals

## Do this...

- Improve pavement condition
- Improve pedestrian accommodations (i.e. ADA compliance, improved crossings)
- Implement Traffic Calming
- Extend sidewalk on east side
- Implement Complete Streets

## While doing this...

- Avoid/minimize impacts to abutters
- Avoid/minimize disturbances to wetlands
- Avoid/minimize disturbances to utilities
- Maintain character of roadway
- Consider available funding

# Segment 1 Summary

- Provide 10.5 Foot Travel Lanes and 4 Foot Shoulders
- Improve pavement condition
- Replace guardrail
- Improve drainage/sheet flow
- Avoid/minimize disturbances to wetlands
- Maintain character of roadway
- Improve sight distance at Sassamon Trace



# Segment 2 Summary

- Alternative 1
  - Maintains existing roadway footprint
  - Reconstructs sidewalks
  - Provides new sidewalk to West St.
  - Not a complete street
  - Can implement traffic calming
- Revised Alternative 3
  - Widens shoulders for bicycles
  - Reconstructs sidewalks
  - Provides new sidewalk to West St
  - Provides a complete street
  - Can implement traffic calming
  - Consolidates utility poles to west side at front of sidewalk



# Alternative 1

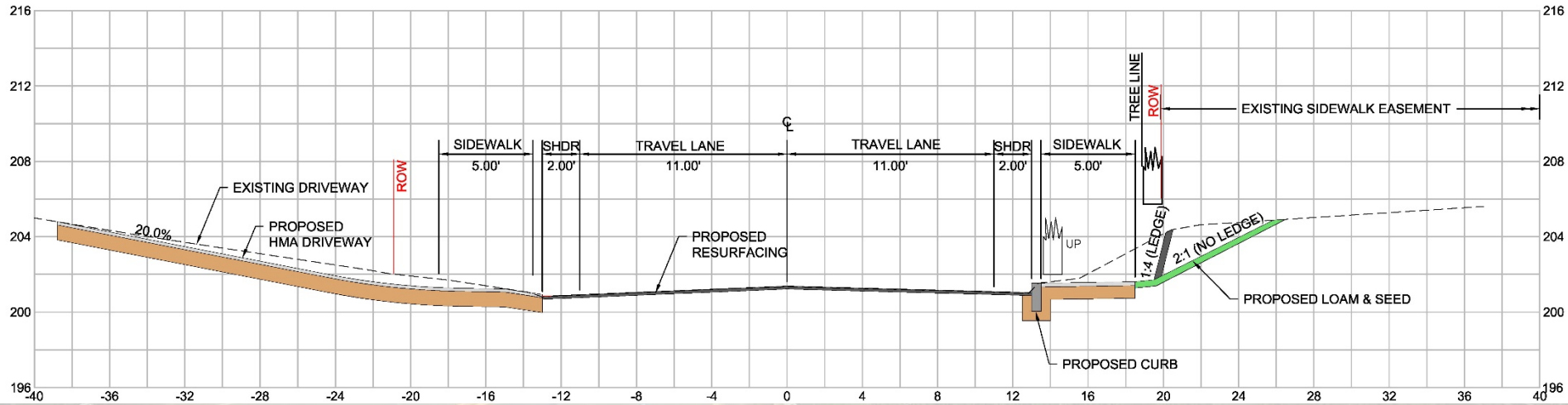
## Rebuild Sidewalks and Pave Road

- Provide consistent 2-foot shoulders for entire length (essentially same roadway footprint that is there today)
- Resurface roadway
- Provides ADA compliant sidewalks
- Provide signage for bicyclists
- Relatively low cost
- Minor Impacts
- Assumes sidewalk extends to West Street on east side
- No dedicated bicycle accommodations



# Alternative 1

## Rebuild Sidewalks and Pave Road

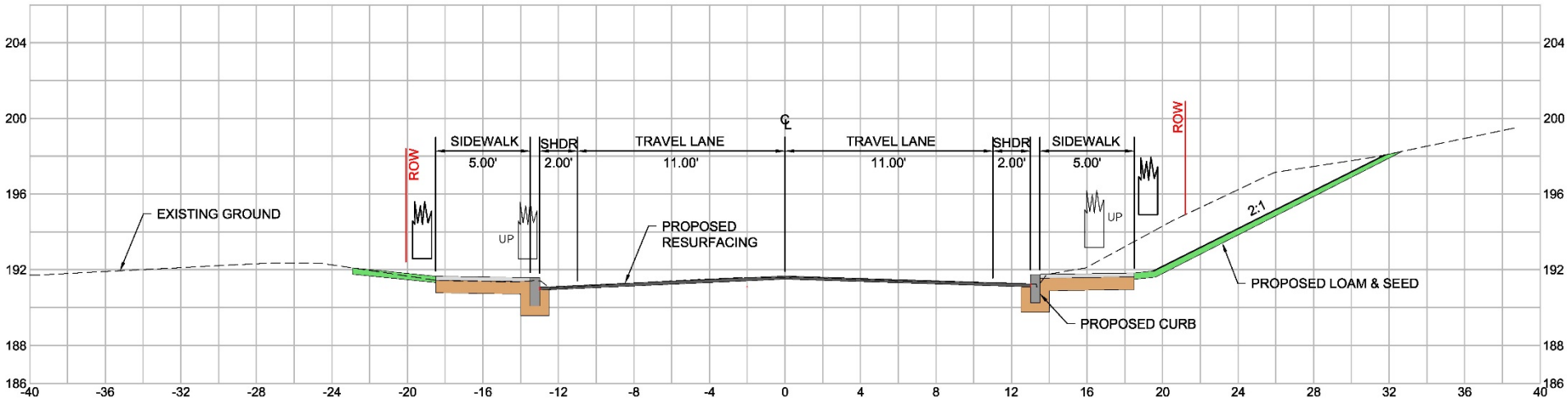


Segment 2 Typical Sections



# Alternative 1

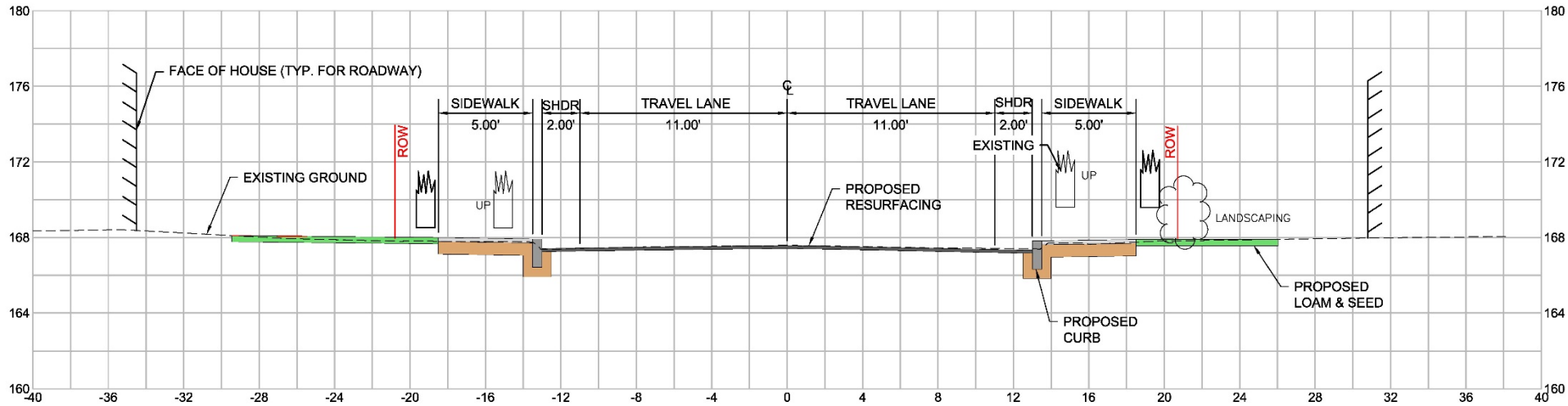
## Rebuild Sidewalks and Pave Road



Segment 2 Typical Sections

# Alternative 1

## Rebuild Sidewalks and Pave Road



Segment 2 Typical Sections



# Alternative 1

## Impacts

- Utility poles moved outside of sidewalk or sidewalk widened at utility poles
- Approximately 21 trees removed, potential for additional 5 trees
- 1 fence relocated
- Increased grades at several driveways
- Ledge removal
- 1 potential new retaining wall, 2 potential reconstructed retaining walls
- Minor drainage improvements
- Minor land acquisitions and/or easements
- Rights of entry required for construction

# Potential Easements

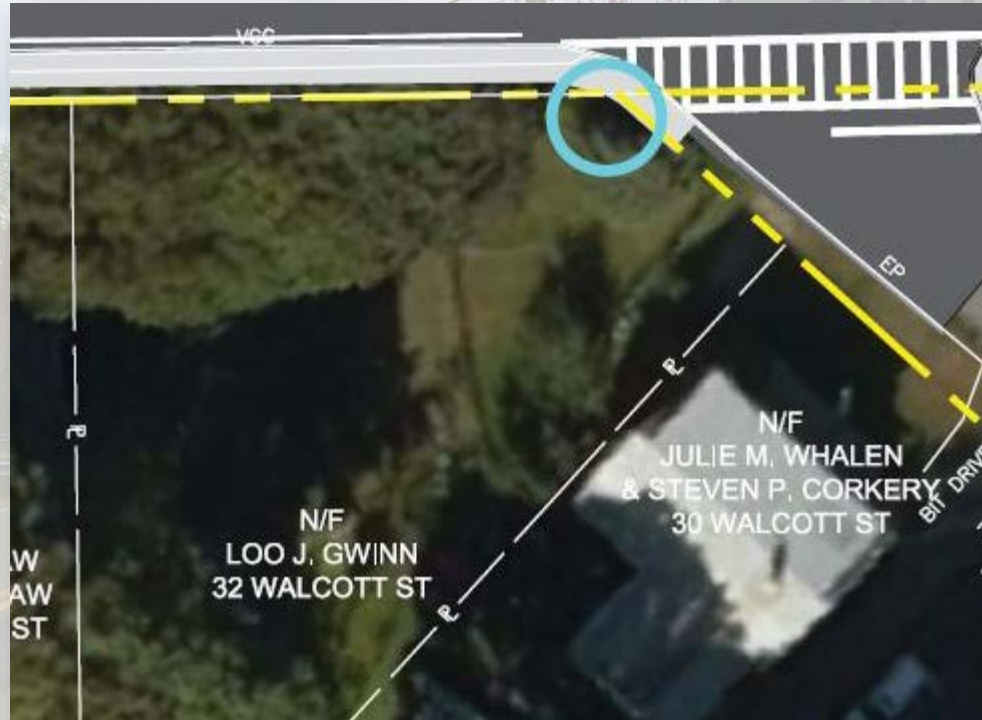
## Alternative 1 - #104 West Street





# Potential Easements

## Alternative 1 - #32 South Main Street



# Alternative 2

## Provide 10-foot Shared Use Path

- No longer under consideration





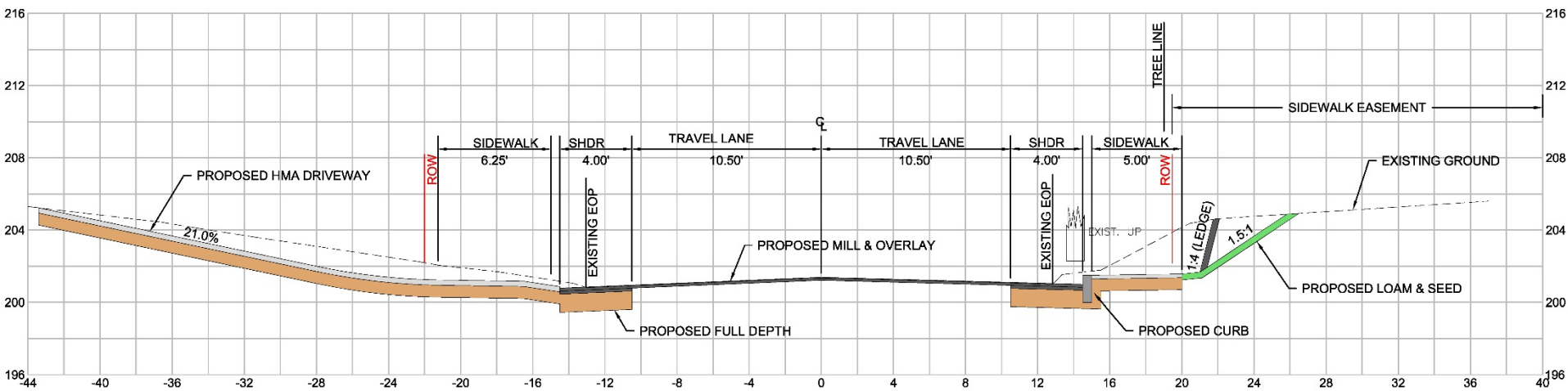
# Revised Alternative 3

## New Sidewalks & Provide Wider Shoulders

- Widen shoulder to accommodate bicycles (4 feet wide)
- Reduced lane width
- Provides ADA compliant sidewalks
- Consolidate utility poles along west side
- Moderately costly
- Minor easements are necessary
- Assumes sidewalk extends to West Street on east side
- Accommodates bicycles

# Revised Alternative 3

## New Sidewalks & Provide Wider Shoulders

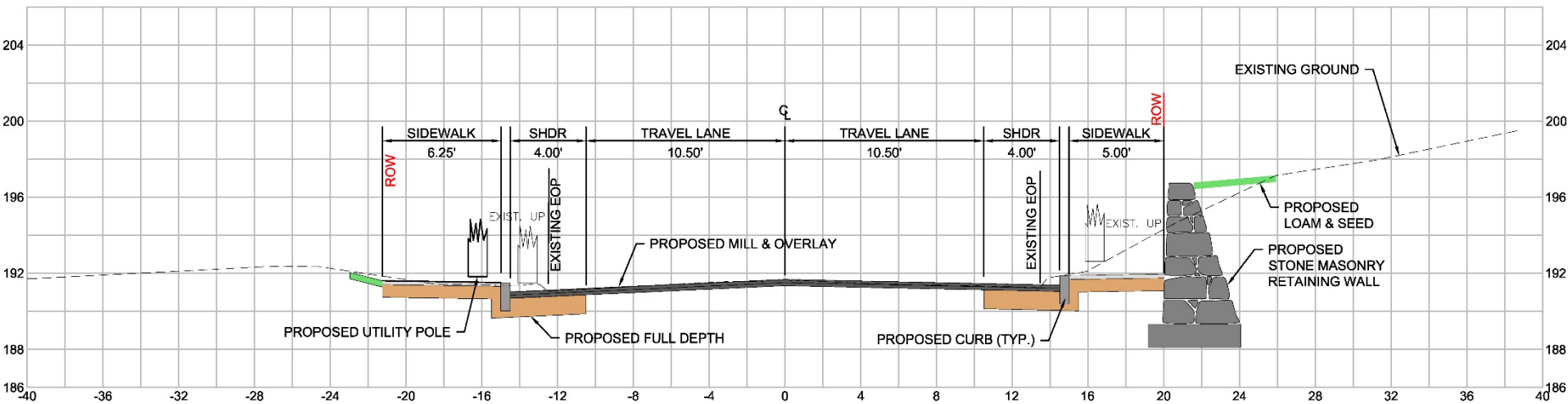


Segment 2 Typical Sections



# Revised Alternative 3

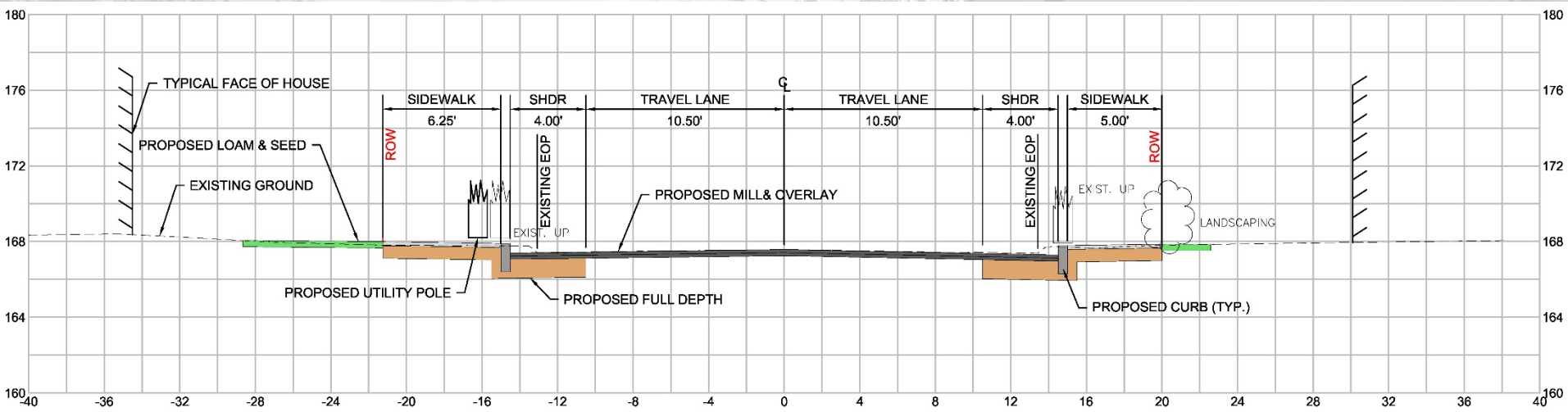
## New Sidewalks & Provide Wider Shoulders



Segment 2 Typical Sections

# Revised Alternative 3

## New Sidewalks & Provide Wider Shoulders



Segment 2 Typical Sections



# Revised Alternative 3

## Impacts

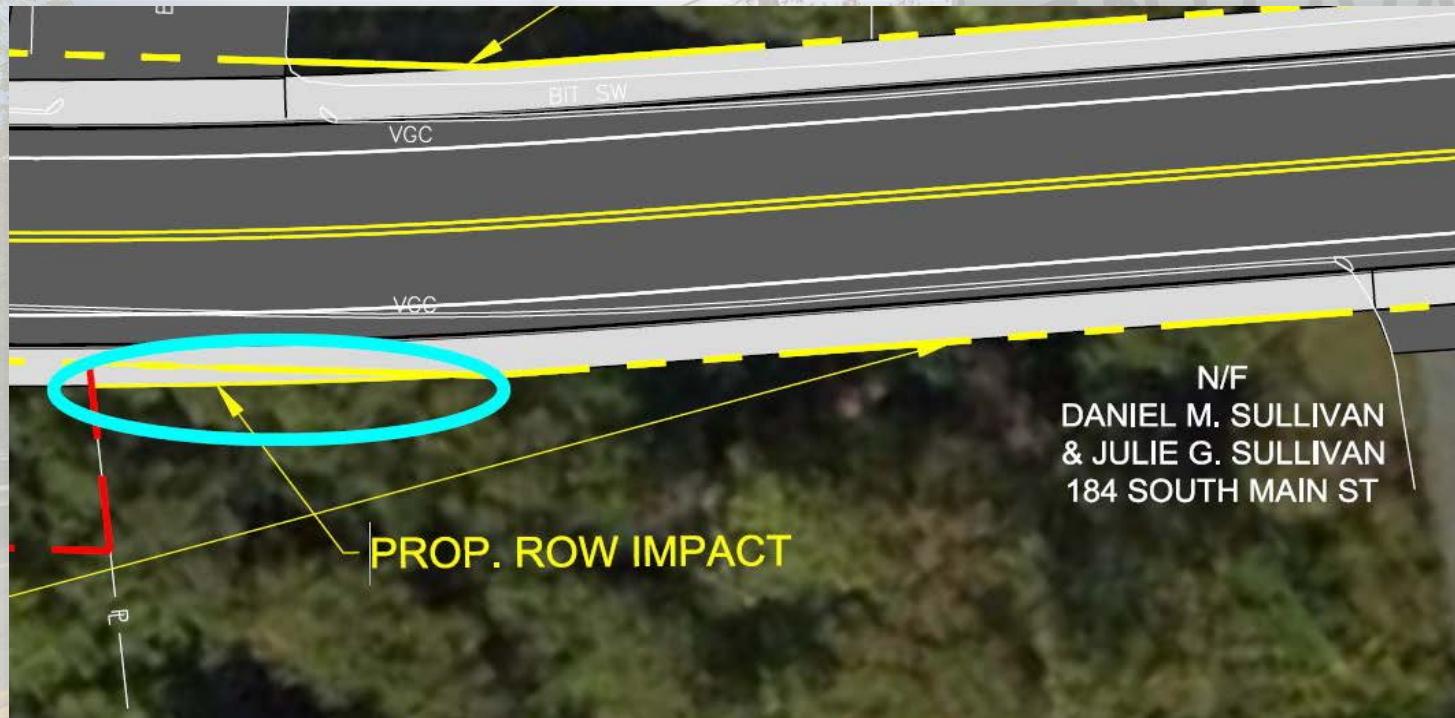
- Utility poles relocated to west side along road
- 31 Trees removed, potential for removing additional 13 trees
- 6 fences relocated, potential for relocating additional 6 fences
- Increased grades at several driveways
- Ledge removal
- New drainage structures and pipe entire length of project
- 3 new retaining walls, 2 walls reconstructed, potential 2 additional walls
- Hedges removed at 11 locations
- Landscape area disturbed at 6 locations, potential to disturb 3 additional areas
- Minor land acquisitions and/or easements
- Rights of entry required for construction

## Revised Alternative 3 - #104 West Street



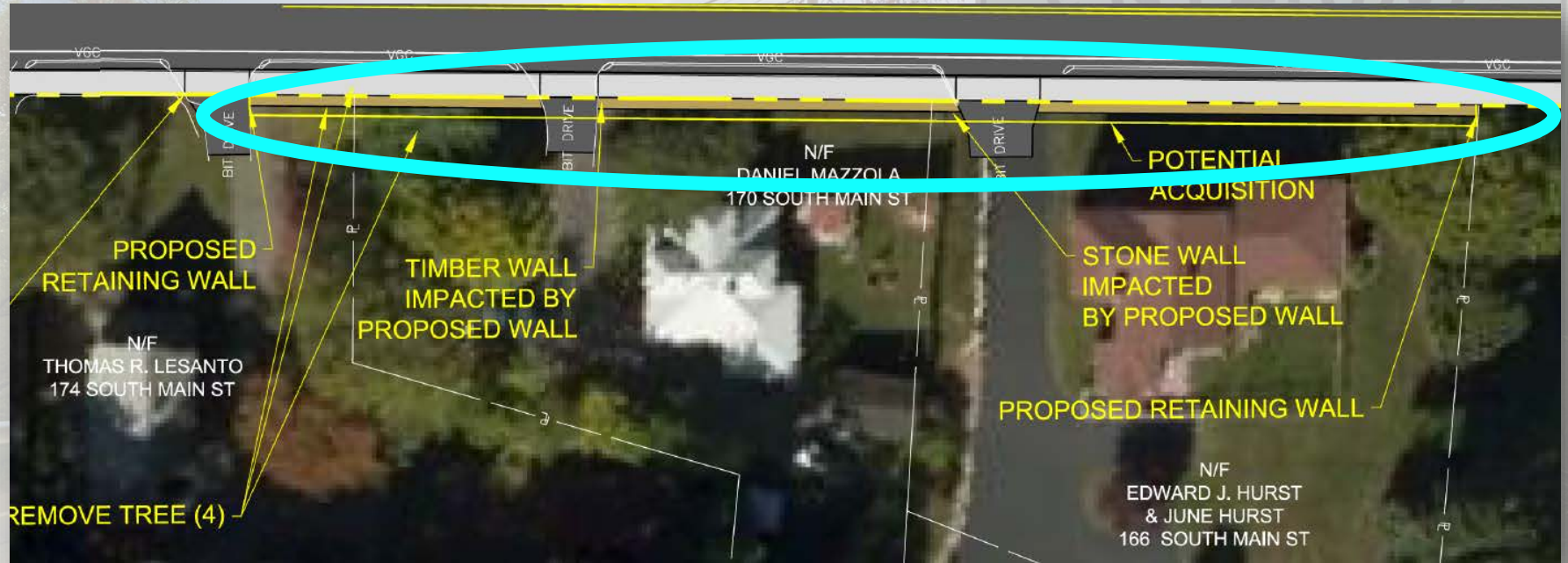
# Potential Easements

## Revised Alternative 3 - #184 South Main Street



# Potential Easements

## Revised Alternative 3 - #166 South Main Street





# Potential Easements

Revised Alternative 3 - #119 & 121 South Main Street \*\*



# Potential Easements

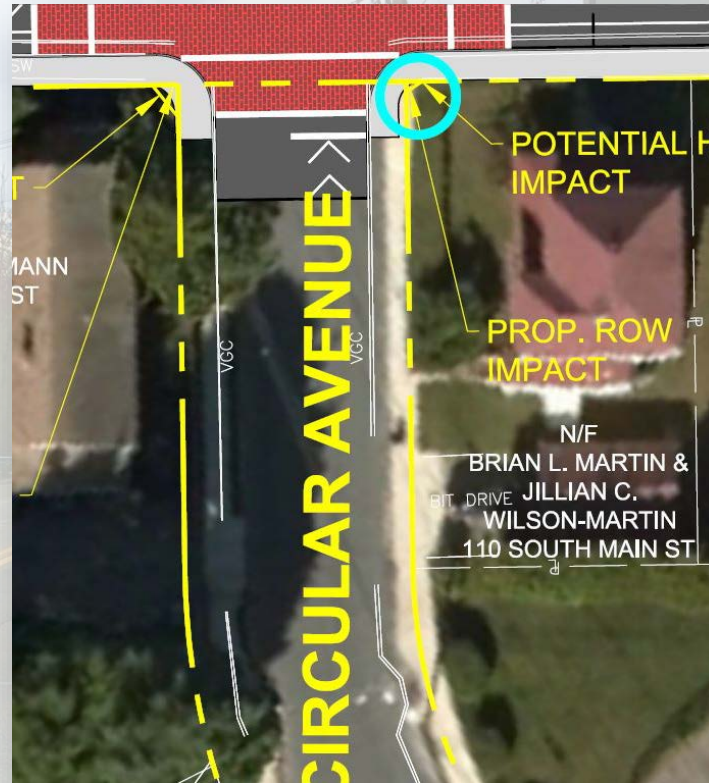
## Revised Alternative 3 - #112 South Main Street





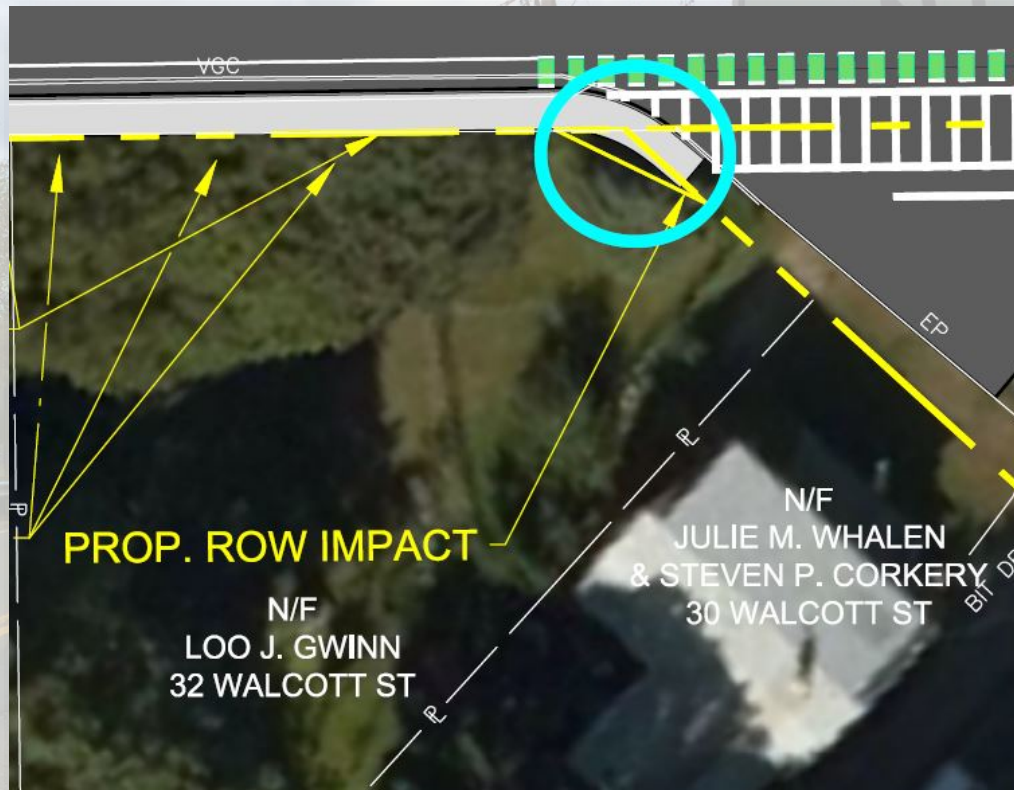
# Potential Easements

## Revised Alternative 3 - #110 South Main Street



# Potential Easements

Revised Alternative 3 - #32 Walcott Street





# Potential Easements

## Revised Alternative 3 - #23 Walcott Street



# Segment 2 Alternatives Matrix

	Alternative 1	Revised Alternative 3
Roadway Cross Section	11 Foot Vehicle Lanes 2 Foot Shoulders 5 Foot Sidewalks	10.5 Foot Vehicle Lanes 4 Foot Shoulders 5 Foot or wider Sidewalks
Curb to Curb Width	26 Feet	29 Feet
Number of Right of Way Actions	2	9
Area of Right of Way Acquisitions/Easements	80	300
Consolidate Utility Poles	No	Yes
Private Improvements Impacted	10	54



# Segment 2 Alternatives Matrix

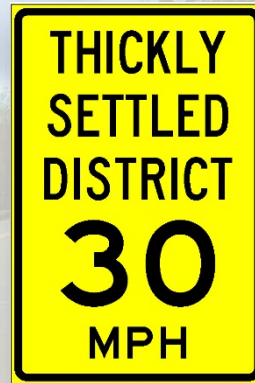
	Alternative 1	Revised Alternative 3
Bicycle Accommodation	No Separate Accommodation	Separate on Road
Pedestrian Accommodation	Full/ADA	Full/ADA
Complete Street	No	Yes
Traffic Calming Features	Yes	Yes
Construction Impacts	Minor	Moderate
Estimated Construction Duration	1 Season	1.5 Seasons
Estimated Construction Cost*	\$2.0 Million	\$3.0 Million

*All costs are for Segment 2 only, are in 2017 dollars and are estimates based on a conceptual level design for budgeting purposes*

*\* Costs do not include engineering costs, utility relocation costs, or costs for acquisitions of right-of-way or easements. Includes very approximate estimate of drainage costs.*

# Traffic Calming Measures

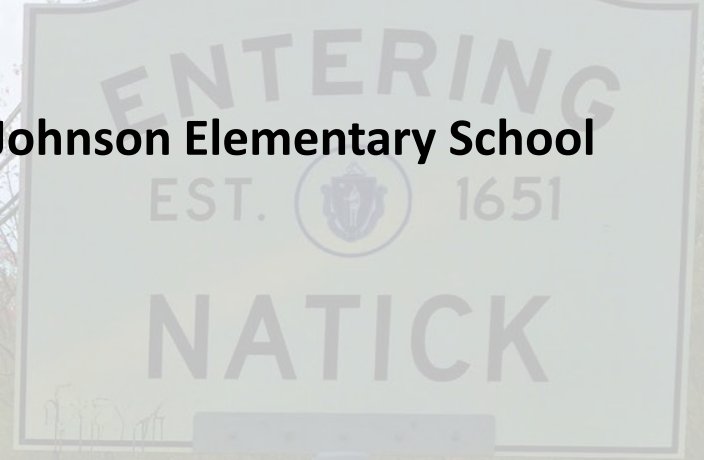
**Thickly Settled Speed Limit Signs Placed at Each End of Project**





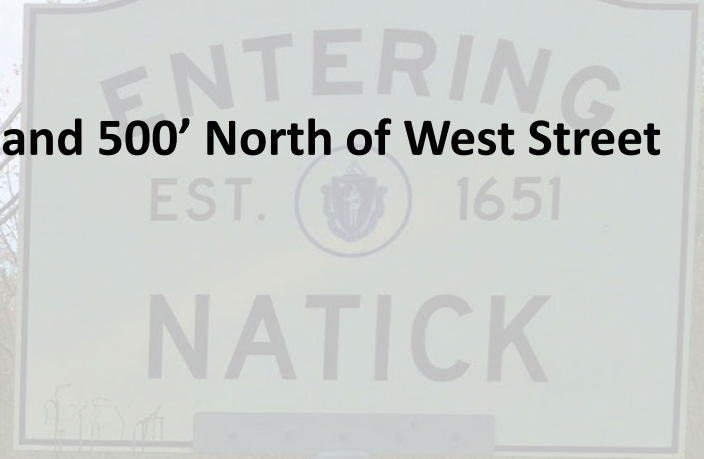
# Traffic Calming Measures

**School Zone with Speed Feedback Signs at Johnson Elementary School**



# Traffic Calming Measures

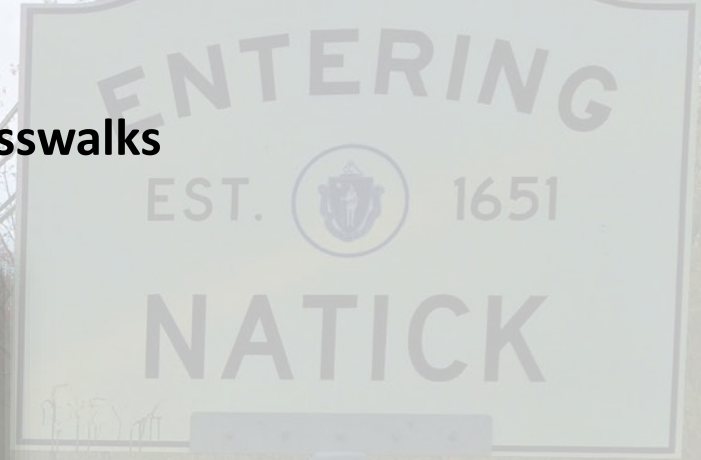
**Speed Feedback Signs at South of West Street and 500' North of West Street**





# Traffic Calming Measures

## Flashing Beacons at Crosswalks



# Traffic Calming Measures

## Imprinted Colored Crosswalks





# Traffic Calming Measures

## **Vegetated Median Just South of West Street**



# Traffic Calming Measures

## Bike Markings at Side Roads





# Traffic Calming Measures

## Speed Limit Pavement Markings



# North Main Street Project

- MassDOT Project
- 2019 Construction
- Must meet higher standards for state and federal funding
- Following MassDOT and FHWA Design Standards
  - 11 Foot Travel Lanes
  - 5 Foot Shoulders
  - 5 Foot Sidewalks with 3 Foot Grass Strip





# Comparison with No. Main Street

	Alternative 1	Revised Alternative 3	North Main Street
Travel Lane Width	11 Feet	10.5 Feet	11 Feet
Shoulder Width	2 Feet	4 Feet	5 Feet
Curb to Curb	26 Feet	29 Feet	32 Feet
Sidewalks	5 Feet	5/6.25 Feet	5 Feet
Grass Strip	No (Limited Right of Way)	No (Limited Right of Way)	3 Feet
Funding	Town	Town	State and Federal

# Benefits of Revised Alternative 3

- Addresses feedback from previous meetings
- Provides more of a complete street
- Compromise between North Main Street and Alternative 1 to better achieve a complete street without the impacts
- Consolidates utility poles on west side
- Increases offset from vehicular traffic to pedestrians in sidewalk
- Minimizes utility easements



# Anticipated Project Timeline

- Select preferred alternative (April)
- Incorporate approved comments into design (May)
- Advance approved alternative through design (Spring through Fall)
- Permitting (Summer)
- Utility Coordination and Utility Relocation (Summer through Spring)
- Construction Funding at Fall Town Meeting
- Construction (Spring 2019)

# Questions/Comments

