

# CTDOT Design-Build Bridge Bundle Rehabilitation East Hartford and Willington Project No. 171-431

## East Hartford Town Council Meeting

March 19, 2019



**LOCHNER**

# Agenda

- Welcome and Introductions
- Project Overview
  - Project Area
  - Purpose
  - Schedule
- Bridge Specifics
  - 02366: Rt 2 WB & Governor St to Founders Bridge over I-84 EB
  - 02367 I-84 WB Exit 54 over I-84 EB
- How to Stay Informed



# Project Team

Middlesex Corporation, Lochner  
*Responsible for Design and Construction*

CTDOT's Highway Division  
*Responsible for administering the Design Process  
and providing Resident Engineer Services*



# Design-Build Approach

An innovative approach to project delivery

- Engineer works directly for and with the Contractor to design the project
- Partnership between designer/contractor promotes innovation and reduces project costs and schedule
- Design-Builder is selected on best value (cost and qualifications)
- CTDOT defines project requirements and oversees Design-Builder
- This is the second Design-Build project in CT



# Project Area



## East Hartford

**02369:** Route 2 EB (towards Norwich and New London) **(Completed in 2018)**

**02366:** Route 2 WB & Governor Street (to downtown Hartford via Founders Bridge)

**02367:** I-84 WB (Exit 54 to downtown Hartford)



# Bridge Components

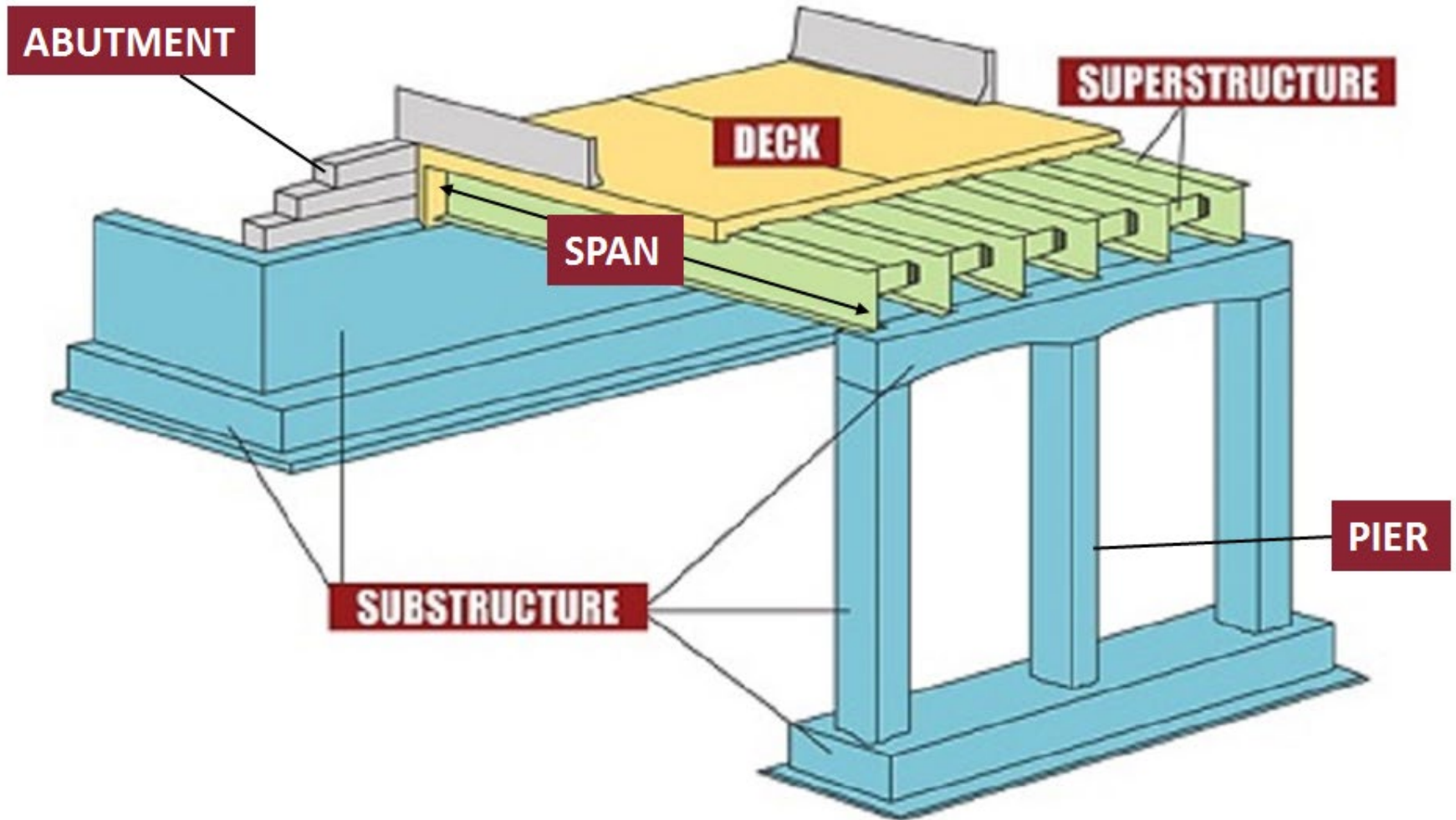


Image: [dailycivil.com](http://dailycivil.com)



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# Existing Conditions

- Bridge 02366 and 02367 were constructed in the 1960's
  - Cast in place concrete decks
  - Supports consist of simple span steel beams on concrete abutments and piers
- Superstructures exhibit deterioration, but remain safe to drive on and are regularly inspected



# Project Purpose

- Repair and replace three bridges in East Hartford and one in Willington
  - Two remaining bridges to be completed this year
- Replace the deteriorated superstructures of each bridge
- Replace the substructures of bridges:
  - 02366: Rt 2 WB & Governor St to Founders Bridge over I-84 EB
  - 02367: I-84 WB Exit 54 over I-84 EB





# Superstructure Replacement

## Accelerated Bridge Construction Techniques

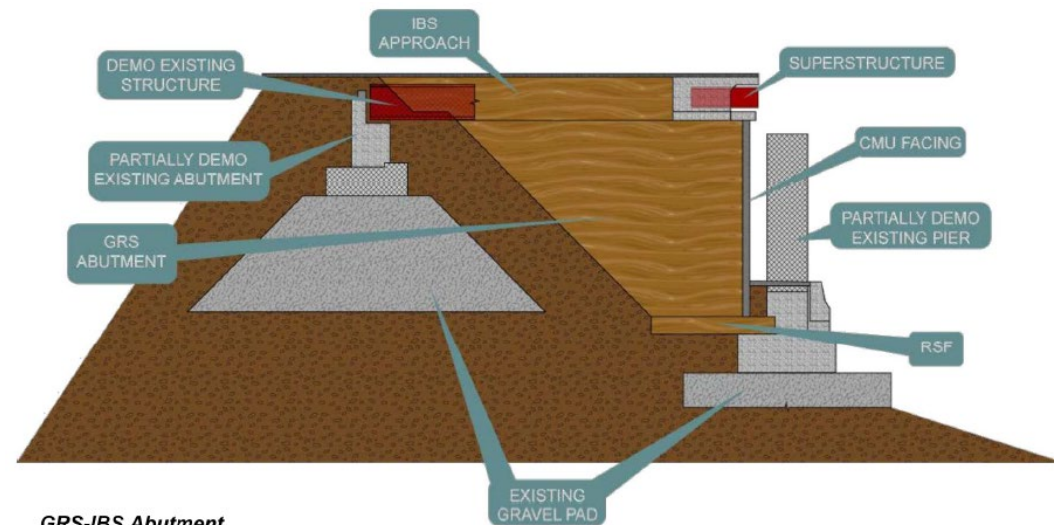
- Minimizes construction timeline and traffic impacts
- Steel girders paired off-site and installed at night



# Substructure Replacement

## GRS-IBS Abutments

- Middlesex-Lochner proposed this method for bridges 02366 and 02367
- Increases longevity of the bridges (75 years)
- Improves safety for drivers
- Reduces maintenance



# GRS-IBS Abutments

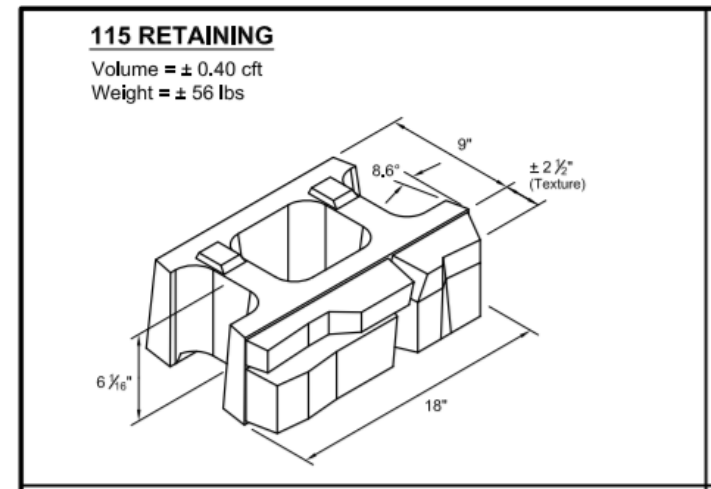
Example: Killington, CT (constructed by others)



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# GRS-IBS Abutments

Example: Killington, CT (constructed by others)



# Project Schedule - 2019

**Bridge 02366:** Rt 2 WB & Governor St to Founders  
Bridge over I-84 EB

*March through September*

*(Scheduled to be closed May 6, weather permitting)*

**Bridge 02367:** I-84 WB Exit 54 over I-84 EB

*March through November*

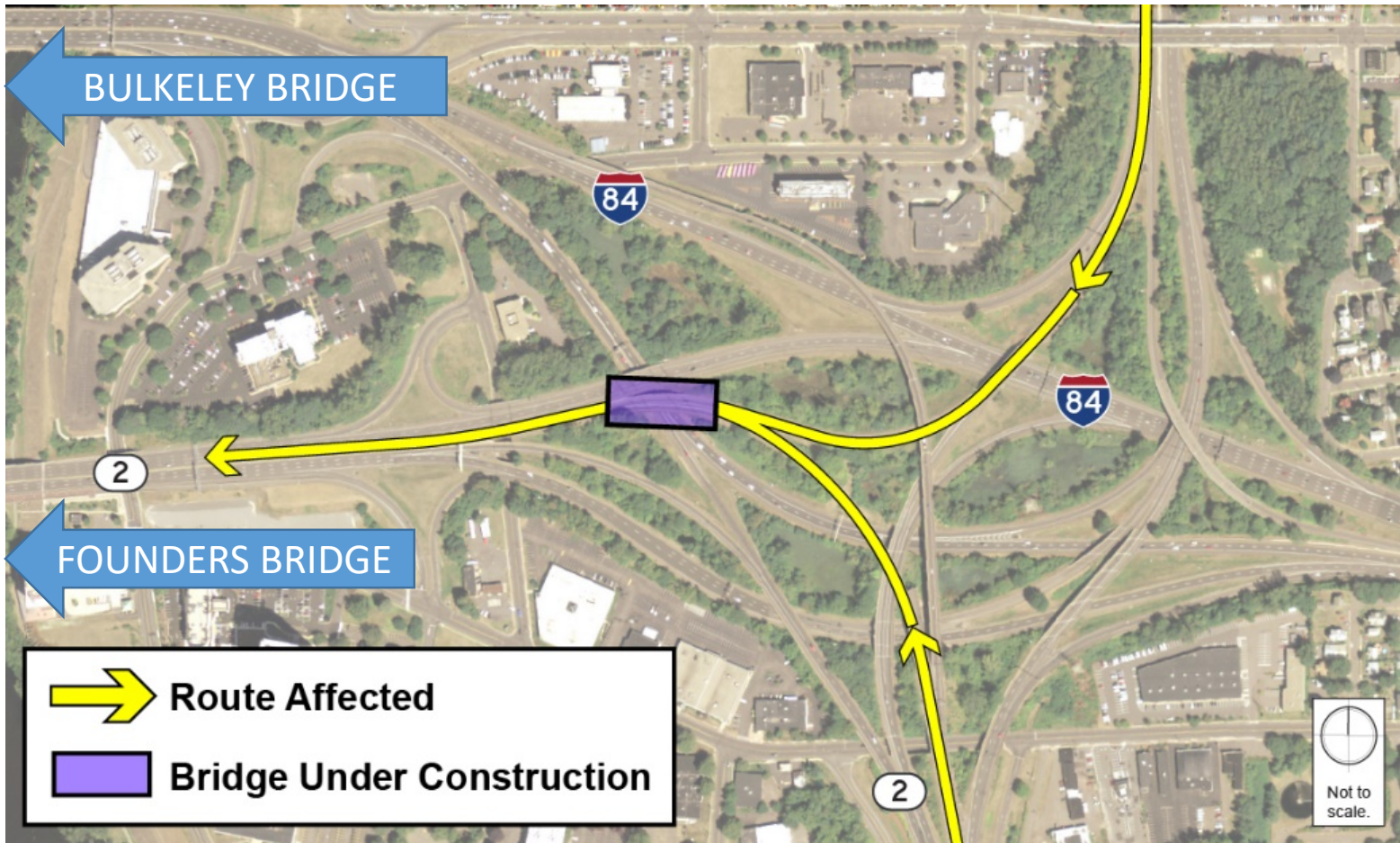
*(Lane closures are scheduled to begin April 23,  
weather permitting)*

*The project contract includes a \$10,000 per day fine for  
the Design-Builder for exceeding the project schedule.*



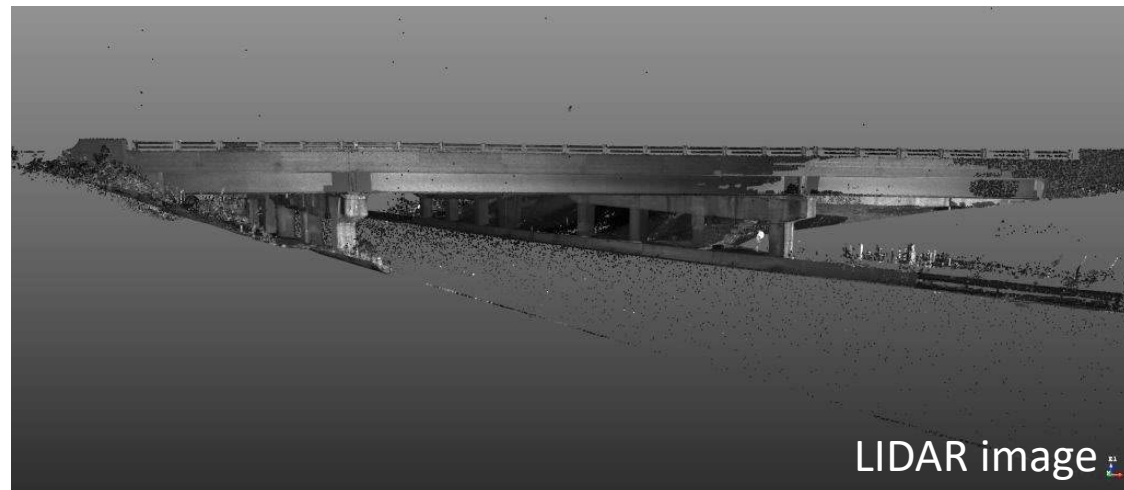
# Bridge 02366 (Route 2 Westbound)

Duration: March 2019 - September 2019



# Bridge 02366

- The existing bridge is a 3-span, 2-pier bridge
- The new bridge will be single-span with no piers (GRS-IBS abutments will replace piers)



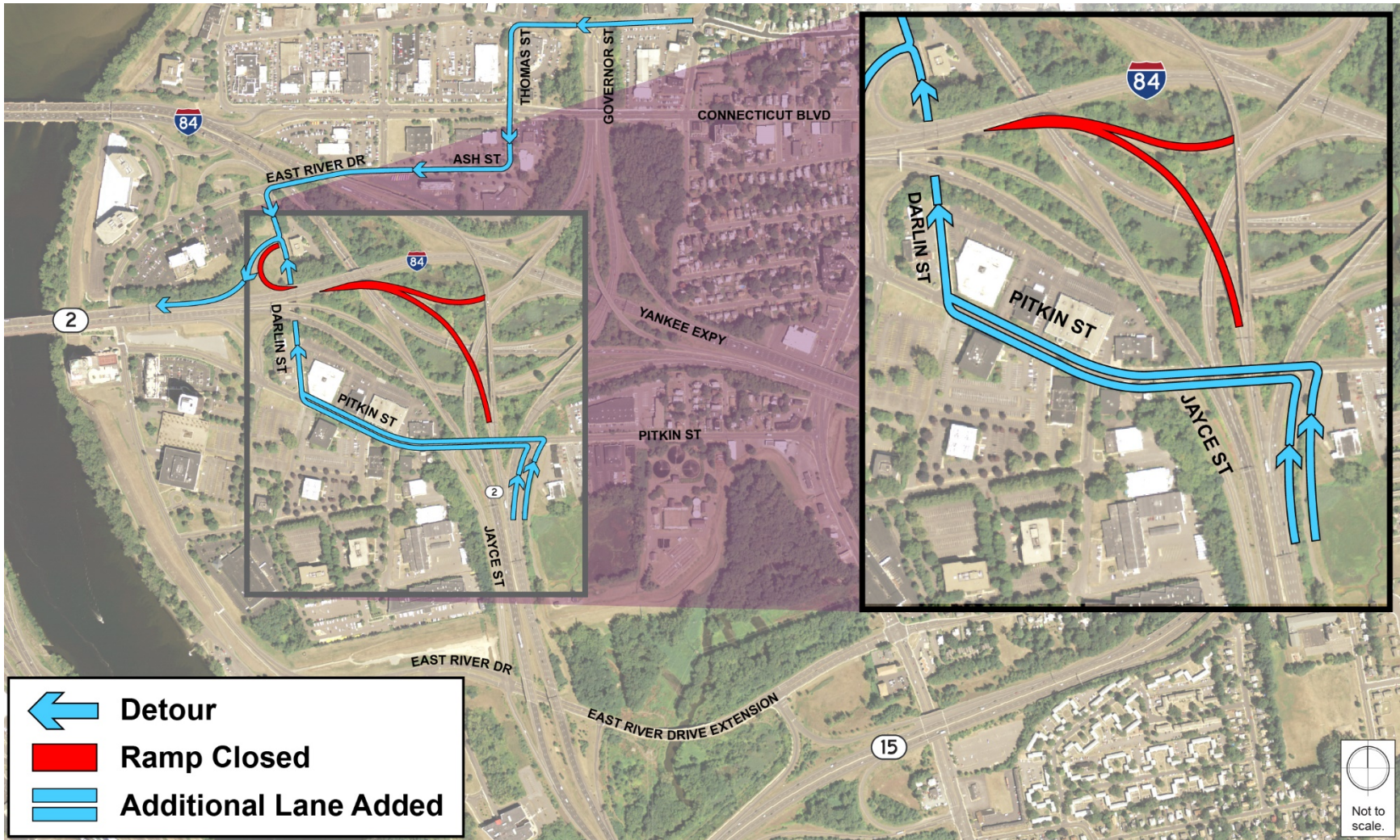
# Bridge 02366

- March to September 2019
- Bridge (and 2 associated ramps) will be closed during stage 3
  - No more than 91 days
- Traffic Mitigation will include:
  - Pitkin St. off-ramp will provide a left and left-plus-right turn lane
  - Westbound Pitkin Street has been restriped to provide 2 lanes of travel from the ramp
  - Darlin Street intersection will include a right only lane for detoured traffic



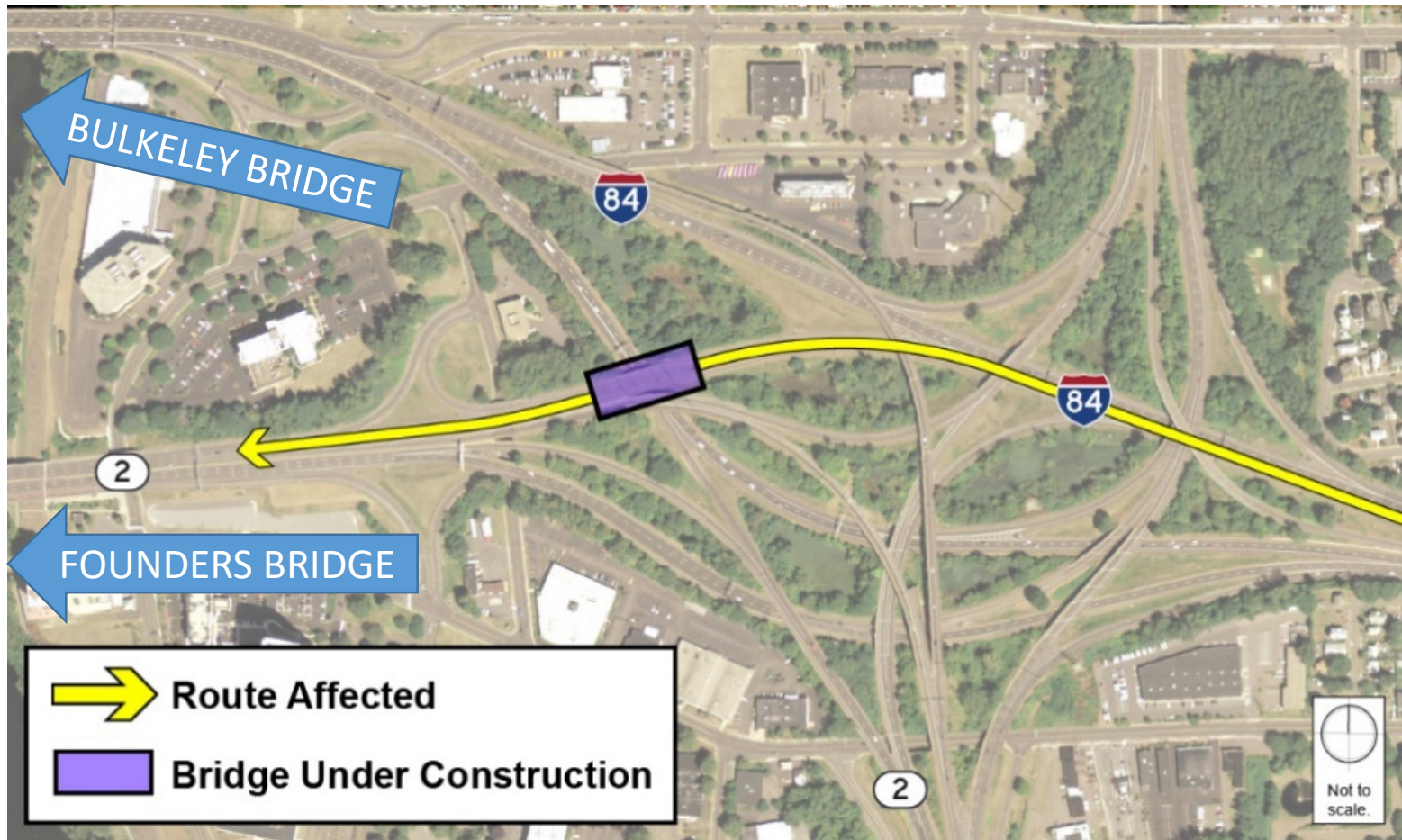


# Traffic Impacts – Stage 3



# Bridge 02367 (I-84 WB Exit 54)

Duration: March 2019 – November 2019



# Bridge 02367

- As with Bridge 02366, the existing bridge is a 3-span, 2-pier bridge
- The new bridge will be single-span with no piers (GRS-IBS abutments will replace piers)



# Bridge 02367

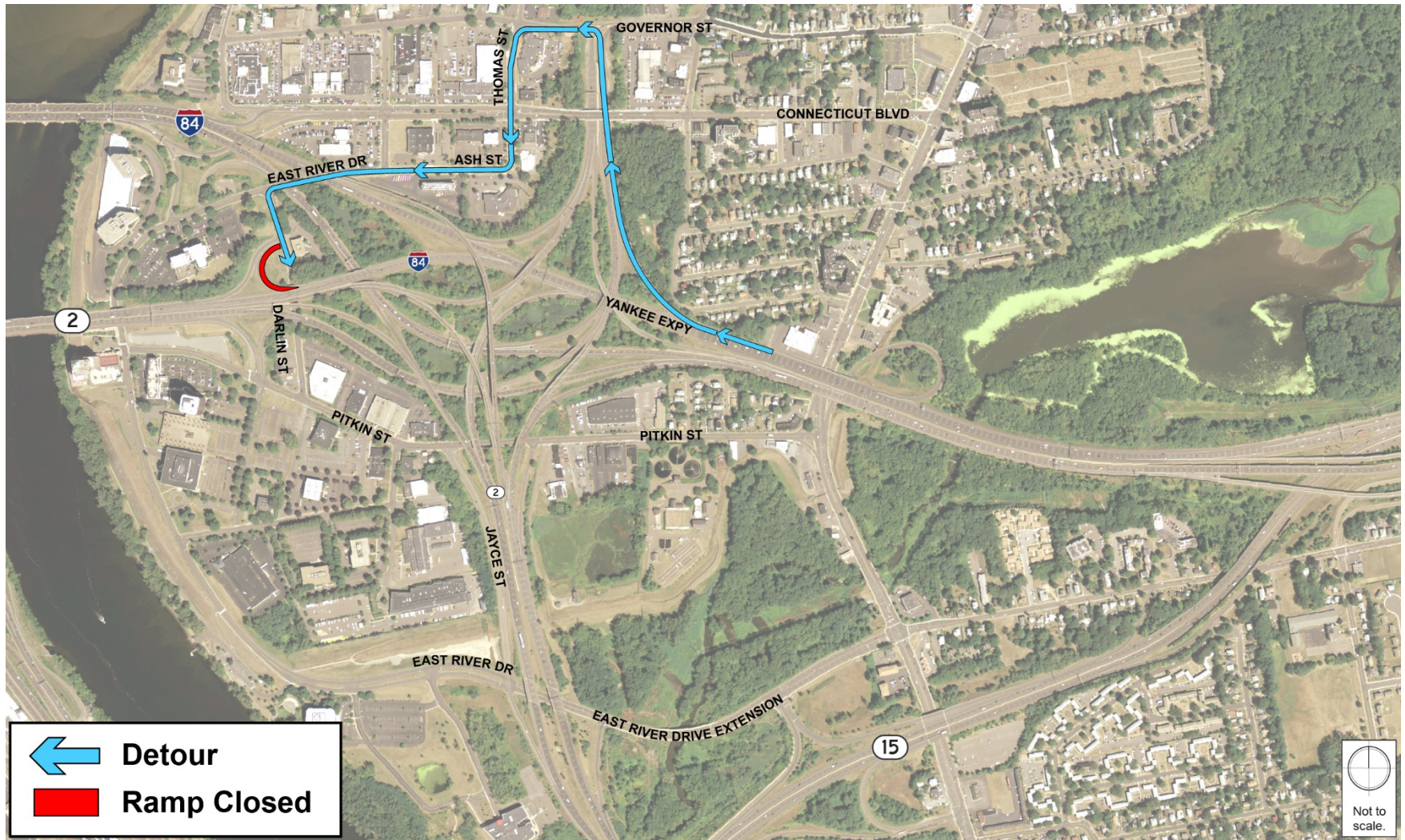
- Darlin Street deceleration lane and off ramp closed



- 2 of the 4 lanes of traffic on the bridge will be maintained during construction
  - HOV lane will allow general purpose traffic



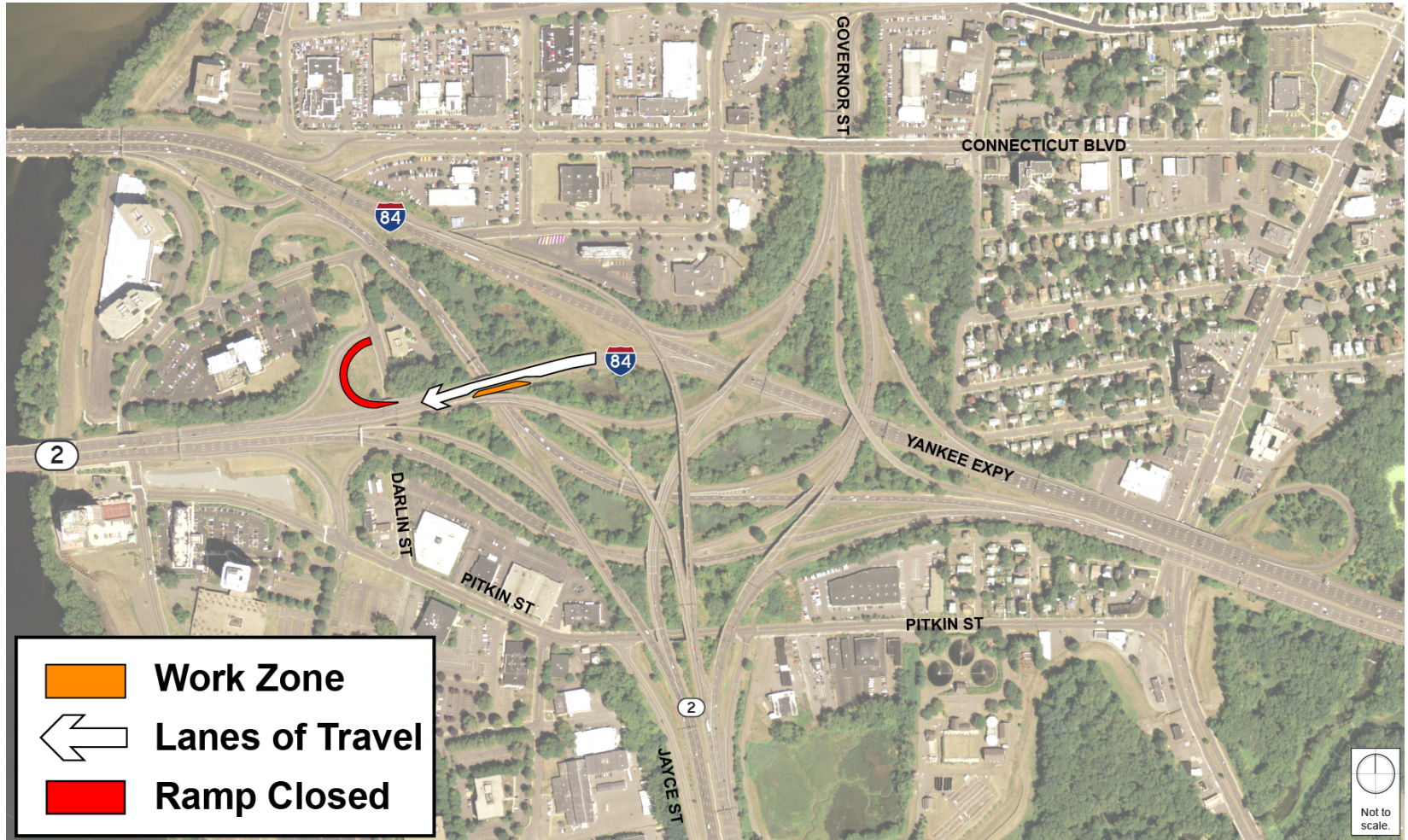
# Traffic Impacts – Darlin Street Detour



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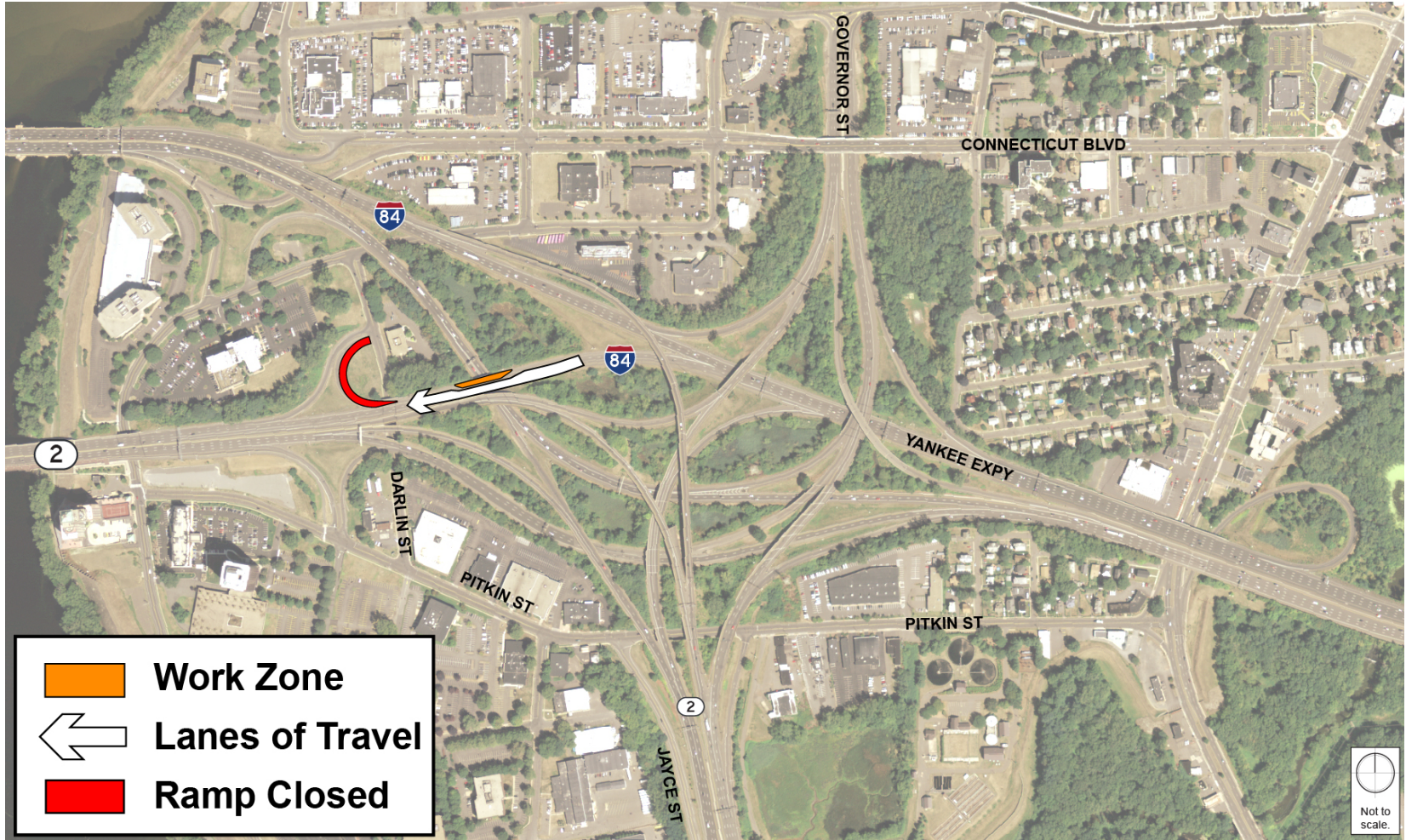
# Traffic Impacts – Stage 3

Work on Bridge 02366 will take place concurrently with this phase of work on Bridge 02367



# Traffic Impacts – Stage 4

*After work on the southern half of the bridge is complete, work will switch to the northern half.*



# Wrap Up

- We understand Pitkin Street will experience increased traffic during construction
  - Detour sheets will be posted on the website closer to their respective start dates
- There will be an adjustment period associated with traffic becoming familiar with these detour routes
- We will be monitoring traffic throughout construction





# What to Expect Next

- There is ongoing work in the project area including:
  - Installation of timber shielding on bridges to begin in April
  - Installation of GRS walls at abutments
- Weather permitting, bridge demolition will begin in late April
- Variable Message Boards will be deployed ahead of lane closures



# Stay Informed

- Project website maintained throughout construction  
<https://www.ct.gov/dot/cwp/view.asp?a=4453&q=601558>  
Google: “ctdot project 0171-0431”
- Detour Information Sheets
- Construction look-aheads
- Quarterly newsletter to be posted on the website
- Briefings available upon request
- We will work with CTDOT to respond to all questions and comments during construction in a timely manner



CDOT Bridge Rehabilitation Project  
East Hartford & Willington  
Project No. 170-431

# Discussion

**Greg Kozma**  
**Connecticut Department of Transportation**  
**Gregory.Kozma@ct.gov**  
**860-258-4615**



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