

Connecticut Department of Transportation Bridge Bundle Rehabilitation Project No. 0171-0431 Willington Public Information Meeting Meeting Notes of May 9th, 2018

Overview

On May 9, 2018, the Connecticut Department of Transportation (CTDOT) and the project team consisting of Middlesex Corporation and Lochner, held a Public Information Meeting in Willington for the Bridge Bundle Rehabilitation Project. The purpose of the meeting was to provide Willington residents with an overview of the project, its goals, and the upcoming traffic impacts and detour routes associated with the closure of Bridge 00847 in June.

Hannah Brockhaus of Howard Stein Hudson gave the presentation, which included a project overview, schedule, scope of work, traffic impacts and detour information, as well as ways for the public to stay informed about the project and contact the project team.

The questions raised at the meeting focused primarily on the construction techniques being used for the project, as well as the potential presence of pyrrhotite in the bridge substructure. The DOT has thoroughly assessed the existing concrete substructures and they only exhibit issues with normal concrete deterioration. The concrete used for this bridge was placed more than twenty years before the vein of pyrrhotite was uncovered and used for construction on other projects. Typical concrete repairs will be made as part of this project, but no further testing is warranted.

Additionally, an attendee from the Willington Hill Fire Department flagged a request that the department had made for a dry standpipe to be incorporated to the bridge design. The DOT has tracked down that the final paperwork had not yet been submitted by the Town for the inclusion of a fire standpipe on the bridge. As such, none will be added at this time.

Beginning on Monday, June 25, Bridge 00847, Potter School Road over I-84 in Willington, will be closed to all traffic, and will remain closed until August 24. Demolition of the bridge will begin the week of the 25th and will last throughout the week. Daytime and nighttime lane closures on I-84 will be necessary to facilitate construction.

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Detailed Meeting Minutes¹

Welcome & Opening Remarks

C: Hannah Brockhaus: Welcome and thank you all for being here. We'll be going through a project overview schedule, but I'll let the project team introduce themselves first.

C: Brian Byrne: I'm Brian Byrne. I'm the design manager with Lochner. We're located in East Hartford. We're working for Middlesex on this particular contract.

C: Mark St Germain: I'm Mark St Germain. I'm the CTDOT District 1 Construction Supervising Engineer handling oversight of the project.

C: Fred Vanston: I'm Fred Vanston, and I'll be the Chief Inspector for the CTDOT on this project.

C: John Kristensen: I'm John Kristensen with The Middlesex Corporation. We're the general contractor for the project and I'm the Project Manager for the design-build team.

C: Greg Kozma: I'm Greg Kozma from District 1. I'm assisting Mark with project oversight.

C: Andrew Cardinali: I'm the project manager from the design side, I was here presenting on this project about two years ago.

¹ Herein "C" stands for comment, "Q" for question and "A" for answer. For a list of attendees, please see Appendix 1.

Presentation

C: Hannah Brockhaus: We're going to go through an overview of what the project is, some of which you may already be familiar with, but we'll get further into the expected schedule, the environmental side of things, and what this means for traffic. After that, we'll open it up for questions.

As you see, we have folks in the room from Middlesex and Lochner from the design-build team, which is responsible for design and construction. I'm from Howard Stein Hudson, a sub-consultant for public outreach. Representatives from the CTDOT are here as well. They're overseeing the project.

First off, what is design-build? It's a different form of project delivery than what is traditionally used. It's fairly new to Connecticut but it's used across the United States; I've worked on a number of design-build projects. It's a great system because it allows the engineering design team to work with the construction team in order to come up with a project that reduces overall timeline and cost. The design-builder is selected on best value, and the CTDOT is very involved throughout the process. They define the project requirements that will lead to a successful project.

This project is made up of three bridges in East Hartford and obviously one here in Willington. We'll be repairing the substructure and replacing the superstructure of the bridge.

Here are the actual locations for the bridges. In East Hartford, they are located in the interchange between I-84 and Route 2. The bridge we are discussing tonight is Potter School Road over I-84 in Willington. This slide shows the regional location of the project. That red dot is illustrative, it's not to scale. The project area isn't that large, but you can see the bridge is between Exit 71 and Exit 72.

Before we get too into the details, I just want to make sure everyone is familiar with the terminology we'll be using. The substructure of the bridge, which will be repaired here, consists of the supports, including abutments. The superstructure, which will be replaced, is essentially what you drive on – the deck and spans.

Existing conditions: the bridge was built in the 1960s. While it's still safe to drive on, it is experiencing some deterioration and it doesn't meet standards for vertical clearance. That's why this project will be replacing the bridge.

This graphic shows LIDAR imagery, which is a survey method.² Basically, every dot that you see has geometry that allows us to more accurately assess the site, which is helpful as we're designing the project but also as we go out to build it. It helps us to make sure that there are no surprises.

What does the schedule for this project look like? There will be work starting this month, and it's about a six-month total timeframe. The biggest impact of this job will be between the third week of June through the 61 days following that week, and ending just before school starts at the end of August. You'll see (in sequential order): work zones being created and barriers go up on I-84; the bridge closure begin; demolition, followed by repairs on the substructure, and then the installation of the new bridge. Once the bridge reopens there will be project closeout-related activities just making sure that everything is done and the bridge is ready for full traffic.

This bridge closure may shift by up to one week. We'll be watching the weather around the start date to make sure that we have a 61-day period that is most efficient. We don't want to start the project and then have to stop because there's a series of thunderstorms; however, there's only so much that we can shift the project. We have to be done by the 28th of August because of school, and there's a \$10,000 fee associated with exceeding the 61-day time period so we're taking that very seriously.

You may be wondering how we can get so much done in such a short period of time. We'll be using Accelerated Bridge Construction (ABC) techniques and specifically Prefabricated Bridge Units (PBUs), which will minimize the time needed and the impacts on traffic. The PBUs were fabricated in Maine and then trucked down to Pittsfield, Massachusetts where concrete decks were poured. Once that work is complete they'll be delivered to the project site. This allows us to do as much work as possible off-site.

In this slide you can see the structural steel coming from Maine. This is what it will look like when they are being put into place. This example is from Massachusetts, a project done on I-93. As this image shows, after these PBUs are brought in on a truck and lift them into place with a crane.

Here are the drawings that show how the PBUs will be put into place. The yellow segments are the PBUs; the truck that is bringing in the PBUs is shown in orange; and the purple square is the crane that will lift the PBUs into place. We'll be starting on the south and west side of the bridge and moving up the bridge as you can see. During this phase, you can see the eastbound

² Light Detection and Ranging (LIDAR) is a survey instrument from which the team will be able to obtain the location and elevation information for any point that makes up the image.

side is mostly open during westbound work, and two lanes are closed on the westbound side. During the actual placement of the PBUs, traffic will be stopped for no more than 10 minutes to make sure that everyone is safe while this is happening. After these placements occur on the west span, we move to the other side. A caveat: we may flip these two and start on the eastbound side instead; that has not been finalized yet. Once the PBUs are in place, we install closure pours, connecting them all, then do final paving, and finish up the bridge.

This is what you will see on-site. There will be a day shift from 9am to 3pm and a night shift from 9pm to 6am. This is to make sure we can replace everything in those two months. We want to make sure we get out as fast as we can. Demolition will take up the first month or so of the closure; the first two weeks will be more extensive, that's when we'll cut and lift sections away. After that we'll do some lighter demo work as we get close to the substructure repair work and superstructure replacement work, which will start in July. Those PBU placements will happen over two nights in July, and as I mentioned traffic will be stopped for up to 10 minutes per PBU as each unit is put into place.

We are following CTDOT's dust and noise mitigation standards. For dust this involves frequent sweeping, an application of dust suppression agents including water and calcium chloride as necessary. For noise mitigation, the standard is to set a maximum allowable limit and if the team exceeds that limit they must take steps to reduce that noise level.

Finally, traffic: I'm going to go through I-84 impacts and then local traffic impacts. For I-84, you'll see median and inside shoulder closures and then lane closures during demolition and PBU placement to ensure that the traffic moving through will be safe. As for local impacts, the bridge will be closed June 22 to August 21; as I mentioned, that schedule can shift up to a week, but we will reopen the bridge to traffic before school starts. It's important to note access to driveways on Potter School Road itself will be maintained at all times. Here, you can see the local detour traffic will be detoured via Old County Road, Mihaliak Road, Ruby Road, and Turnpike Road.

As this work is happening we'll be maintaining a two-week look ahead posted on the project website. We'll also be posting a detour information sheet that will look very similar to the flyer you have. We will also send out a quarterly newsletter for project milestones. If you are part of a neighborhood association and would like a project briefing, we are happy to do those. If you google Connecticut DOT Bridge Bundle, you'll be able to find the project website at the URL listed here, and Greg's contact information is shown here as well.

Are there any questions?

Discussion

Q: No Name Given: I have two items. What's the track record for PBUs? Is this the same thing used in Southington two years ago?

A: Andrew Cardinali: No, that was different. We actually built a bridge back in 1996 which used PBUs.

C: No Name Given: Massachusetts used PBUs on I-93.

A: Andrew Cardinali: I've done quite a few projects using PBUs.

Q: Ralph Tulis: A couple questions come to mind. What's the life expectancy of the new bridge?

A: Brian Byrne: The bridge is being designed for a 75-year life span. I would assume that the deck will be replaced once or twice during that, so roughly every 35 years.

A: Andrew Cardinali: We do preventative maintenance on the bridge. We put protective membranes which are applied with spray. The steel is weathering steel as opposed to painted steel, so we don't have to worry about painting the steel. The structures made of this weathering steel look rusty, but they aren't. We do things like that to add longevity to the bridge, but we'll always have to come through every 25 or 30 years to do maintenance and patching.

Q: Ralph Tulis: There's pretty low traffic on this bridge, unlike the bridge at Exit 71. If I'm not mistaken, that bridge was built when the DOT did the full grade separation upgrade to the interchange. Then in 1970s when they expanded I-84 to three lanes in each direction, they underpinned this bridge. So, the structure that holds up the bridge deck is older than the underpinning in front, by about a decade or more. What kind of concrete investigation have you done on those abutments with respect to our regional problem of pyrrhotite, a mineral that causes deterioration of concrete?

A: Andrew Cardinali: We don't have that mineral in this project, we'd be seeing it by now if we did.

Q: Ralph Tulis: That's what I do, I investigate foundations. I'm concerned that we're putting a brand-new deck on 60-year-old abutments. Let's make sure we're getting good bang for our buck. Otherwise, I'm fine with the methods being used, and I understand that demolition causes some lane closures. I also understand that you need to saw cut the length of the bridge because you can't take down the entire thing at one time, and sometimes you'll have to stop traffic.

A: Andrew Cardinali: There's going to be intermittent lane closures, but we'll never shut down I-84 completely except when we are dropping in the PBUs.

Q: Ralph Tulis: Will there be a wood-deck underneath during demolition?

A: John Kristensen: There will be horizontal lagging boards and vertical curtains in place during demolition. We'll also shift traffic away from the areas where we are actively saw cutting or performing other demolition activities.

Q: Ralph Tulis: When you start there's an odd number of girders, and then there's an even number of girders when you're done. I assume you'll take a pair of beams on a given span and lift them out as a unit? Or are you going to demolish the whole thing in place?

A: John Kristensen: That's a discussion point, the probability is that we will break off the parapets, demolish as much of the superstructure as possible, and remove the steel separately.

C: Ralph Tulis: Bridge deck is an area of my expertise. That's why I ask.

Q: No Name Given: Can we back up to the diagram? I am not a structural engineer, but of all those components, which ones are the ones being replaced?

A: Hannah Brockhaus: The superstructure is being replaced, so the deck and span.

Q: No Name Given: So, the piers aren't being replaced? When were those built? Weren't those worked on in the 1990s?

A: Brian Byrne: So, the piers are being strengthened. There are a couple components. First, there are spot repairs being done to the concrete. If there's no deterioration, then they're fine and no strengthening will be done. Any spot that they feel is a deterioration of the concrete that would be a long-term concern, they'll dig it out, get behind the rebar, and fill it back in with better concrete – like a dentist filling cavities. That portion holds up the very ends of the bridge spans. Second, the pier caps on top of the piers get strengthened to handle the different loads of the new bridge superstructure. The footings underground are on bedrock.

Q: No Name Given: By doing that, will you actually make the bridge higher?

A: Brian Byrne: Yes, that's right.

A: Mark St Germain: I just want to add that there is going to be a thorough review of the substructure to look for those deteriorated areas. An inspection team will be investigating to find any deterioration.

A: John Kristensen: The entire backwalls are being removed, and we'll excavate out beyond the bridge seats themselves to expose that whole back face. We'll be able to tell what the existing conditions are from the back wall and the bridge seats.

Q: Ralph Tulis: So, you'll be raising the seats on the abutments as well?

A: John Kristensen: Yes.

Q: Ralph Tulis: How much higher will the deck be from what it is now?

A: Brian Byrne: The profile will be roughly the same, with just a slight change. The vertical clearance will be coming from the girders. These will be stronger girders.

Q: Christina Mailhos: I'm a former first selectman in Willington. First, I want to extend my congratulations to you all on delivering on the original timeline that you gave us and for giving us the opportunity to give feedback and ask questions. I wanted to congratulate you on that. I also want to echo the concern about the pyrrhotite. It's on everyone's mind. There are residents who live on either side of the bridge who have homes that are crumbling underneath them because of that. I have noticed that the base of the bridge looks an awful lot like pyrrhotite contamination with all of the cracking and staining. We've been told by the state that it's not possible, but it's a big public interest issue, so we would like you to test it to tell us one way or another. We've been told that anything built before 1983 probably doesn't have pyrrhotite, and that anything after might. It sounds like some of this might be affected.

A: Brian Byrne: The substructure is from the 1960s, and the walls are more recent.

C: Ralph Tulis: The under footing is newer, from when they made the transition from a four lane highway to a six lane highway; however, there's a difference between commercial and residential construction. In commercial construction, it's generally of higher quality control, and uses less water. That doesn't eliminate the pyrrhotite issue, just makes it take longer to arise. It would help with public relations if you say something about pyrrhotite – that you've looked at it and examined the concrete and that you find minimal pyrrhotite.

C: Christina Mailhos: We think that this building might have it, we think that lots of buildings might have it. It's a matter of time before other cases start to show. We're trying to wrap our arms around the scope of the issue.

A: Hannah Brockhaus: Understood.

Q: Ralph Tulis: Obviously we don't want to spend more taxpayer dollars on it. We have no idea where the concrete came from for bridges constructed in the 1960s. I'm sure they didn't do a batch plant on site. 1983 is the magic year for this issue as far as residential, but I've found older buildings with it. It hasn't been anything significant in the older buildings, but it's there.

Q: No Name Given: Excuse me, I came in a few minutes late. You're going to replace the existing steel with weathering steel, and the deck with pre-stressed concrete or just reinforced concrete?

A: Brian Byrne: Yes, reinforced concrete.

Q: No Name Given: Can the concrete handle being lifted into place?

A: Brian Byrne: Yes.

Q: No Name Given: And it looks like you've planned more pours at the abutments and the piers?

A: Brian Byrne: Yes, there's a couple of things going on here. There will be closure pours using reinforced concrete, and there will be some larger patches of the deck that get filled in at the ends, right at the piers and abutments.

Q: No Name Given: So, it's two simple spans?

A: Brian Byrne: It starts as two separate spans and becomes continuous.

Q: No Name Given: Does that eliminate the need for a joint over the pier?

A: Brian Byrne: Yes.

A: Andrew Cardinali: That something we're doing a lot more in projects. Joints are the biggest issue for bridges. This is one of our methods for continuing the deck over that section. Simple spans will really improve the longevity of the beam ends. That's really where we get the majority of our section losses.

Q: No Name Given: In recent work that was done on this bridge, my understanding is that the rusting caused swelling, which affected the concrete on either side.

A: Andrew Cardinali: No flanges were reinforced during those repairs. Once water gets in, they start to pop off. so instead, we proactively take them off. That was the last work done here.

Q: No Name Given: You mentioned noise will be monitored; how is that accomplished?

A: Mark St Germain: If there is an issue – if somebody complains - we'll go out and monitor the noise level. We have someone in our district office that has a noise meter, who will go to the resident who's complaining and measure at their location. We're only allowed to have so many decibels of noise being created; if we exceed that level, we make the contractor lower it. The process all starts with a complaint.

Q: No Name Given: Who do we contact for complaints?

A: Mark St Germain: Greg's name and contact information is on the slide.

A: Greg Kozma: This will all be posted on the website as well.

Q: No Name Given: We have people complain about rooster noises here. People really value their sleep. You mentioned something about saw cutting for this project, what about the concrete dust?

A: Greg Kozma: We'll use a wet cut.

Q: No Name Given: What happens to the material once it's liquified?

A: Greg Kozma: It's all collected and disposed of.

Q: No Name Given: We're very concerned about our water quality here. A final question would be, does the building department or building inspector have any role in this project?

A: Greg Kozma: No.

Q: No Name Given: Is there anything to stop them from coming on site?

A: Andrew Cardinali: They could talk to Greg.

A: Greg Kozma: They have to go through the state protocol.

Q: No Name Given: Does the Department of Environmental Protection play any role in this?

A: Andrew Cardinali: Definitely. On this project we don't have a lot of wetlands, but we are restricted with ground disturbance. They still monitor and they can come on site but permit-wise we're clear on this one.

A: Mark St Germain: We do self-policing, too.

Q: No Name Given: Do you have to deal with the Waters of the United States ruling?

A: Andrew Cardinali: That didn't come up with this project.

Q: Del Ekenborg: I'm with the Willington Hill Fire Department, and two years ago I put in a request for a standpipe on the bridge and I was told at that time that anytime a bridge is replaced a standpipe would be included in the project. I didn't see that here. Is that going to be included in this project?

A: Andrew Cardinali: The request has to come in to the Department. The town has to show need and other things, and the town would be responsible for the testing and maintenance of the standpipe. All of that criteria must be met.

Q: Del Ekenborg: That was all sent in.

A: Andrew Cardinali: I'll have to find out who that was sent to.

C: Del Ekenborg: I also sent it to Christina when she was first elected.

C: Christina Mailhos: And I sent it to CTDOT.

Q: Del Ekenborg: We would like that. We tried to get the DOT to cut an access road to our pond that has a dry hydrant near the bridge but the DOT wouldn't, and I can see why, but we'd like a standpipe to be a part of the project. It's not too late to do that?

A: Greg Kozma: Certainly not. I can give you my contact information at the end of the meeting.

A: Andrew Cardinali: There is a process that we'll have to go through. The Department will have to review the request and make sure everything is in compliance. There is an agreement the First Selectmen of the Town will have to sign that says the town is taking ownership of maintenance and periodic testing. That's the big part where the struggle has been historically,

because some towns don't want the responsibility of testing it, and the standpipes become obsolete because no one wants to use them because they haven't been tested or maintained.

C: Del Ekenborg: We have 28 dry hydrants around town that we maintain – it won't be a problem.

C: Andrew Cardinali: I would say send the package of materials in again because I'm not sure who received it last time.

C: Hannah Brockhaus: If there are no other questions, we'll conclude this meeting. Thanks for coming.

Next Steps

Beginning on Monday, June 25, Bridge 00847, Potter School Road over I-84 in Willington, will be closed to all traffic, and will remain closed until August 21. Demolition of the bridge will begin the week of the 25th and will last throughout the week. Daytime and nighttime lane closures on I-84 will be necessary to facilitate construction.

Appendix 1: Meeting Attendees

First Name	Last Name	Affiliation
Randy	Belair	Resident
Russ	Hardgrove	Resident
Ralph	Tulis	Resident
Michelle	Shine	Resident
Del	Ekenborg	Resident
Doug	Johnson	Howard Stein Hudson
Hannah	Brockhaus	Howard Stein Hudson
Mark	St. Germain	CTDOT
Brian	Byrne	Lochner
Fred	Vanston	CTDOT
John	Kristensen	Middlesex Corporation
Greg	Kozma	CTDOT
Andrew	Cardinali	CTDOT

Appendix 2: Project Fact Sheet



I-84 CONSTRUCTION NOTICE



Traffic Impacts

Beginning in May 2018 and last until October 2018, shoulder and lane closures will be in effect on I-84 between Exits 71 and 72 as part of the replacement of the Potter School Road Bridge.

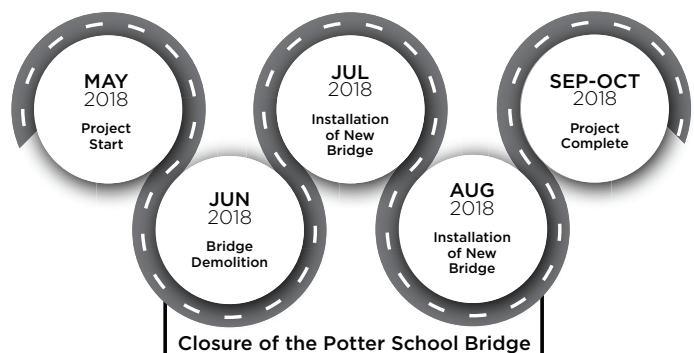
- Between 9:00 a.m. and 3:00 p.m. **one lane** will be closed in each direction on I-84.
- Between 9:00 p.m. and 6:00 a.m. up to **two lanes** will be closed in each direction on I-84.
- The Potter School Road Bridge is scheduled to be closed beginning June 25 through August 24.

It is anticipated that during the week of July 9th, bridge beams will be installed. The installation will take place between 9:00 p.m. and 5:00 a.m. over two nights. During Installation, all traffic will be halted in I-84 for up to 15 minutes at a time per bridge beam.

Stay Informed

More information about the project, including up to date information about traffic impacts can be found on the project website: <http://www.ct.gov/dot/cwp/view.asp?a=4453&q=601558>

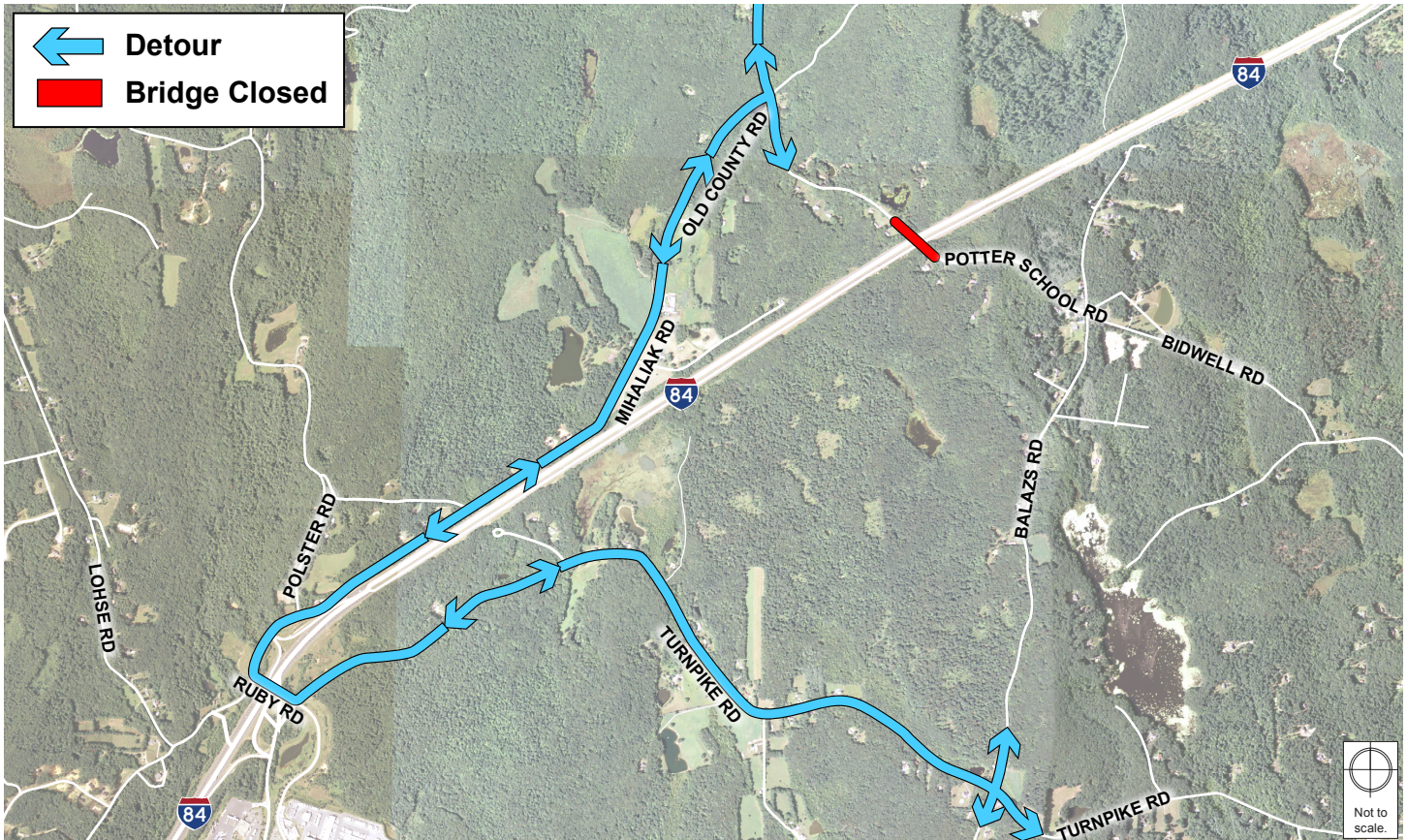
For questions or concerns, please contact:
Greg Kozma, Connecticut Department of Transportation
(860) 258-4615 | Gregory.Kozma@ct.gov





POTTER SCHOOL ROAD BRIDGE CLOSURE

JUNE 22 - AUGUST 19TH



Detour Information

The Potter School Road Bridge is scheduled to be closed to all traffic beginning June 25 and lasting until August 24. Abutter access to driveways on Potter School Road will be maintained at all times.

Residents seeking to cross I-84 from the south are directed to take Turnpike Road to Ruby Road. Residents seeking to cross I-84 from the north are directed to take Old County Road and Mihaliak Road to Ruby Road.

Stay Informed

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