Project 0011-0156
Replacement of Bridge 01489

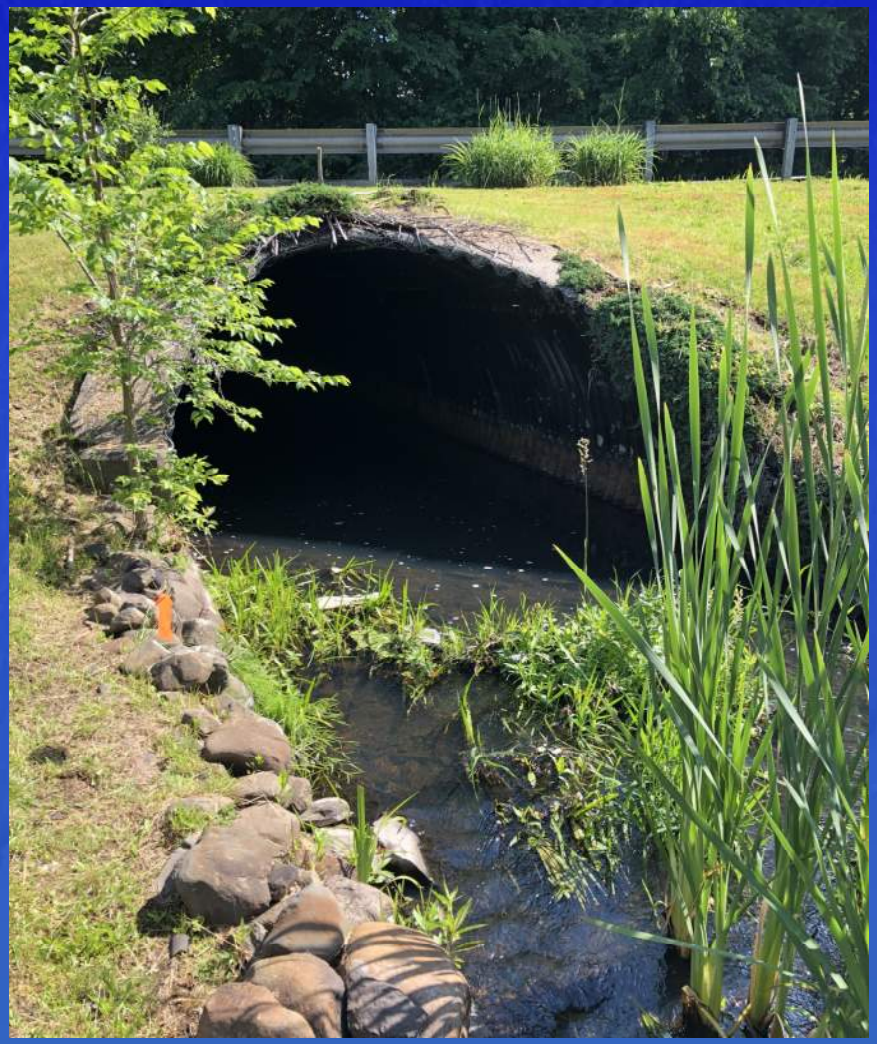
Project 0011-0158
Replacement of Bridge 05576

Connecticut Department of Transportation

Replacement of Bridge No. 05576

Project No. 0011-0158

Town of Bloomfield



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Bridge Aerial View

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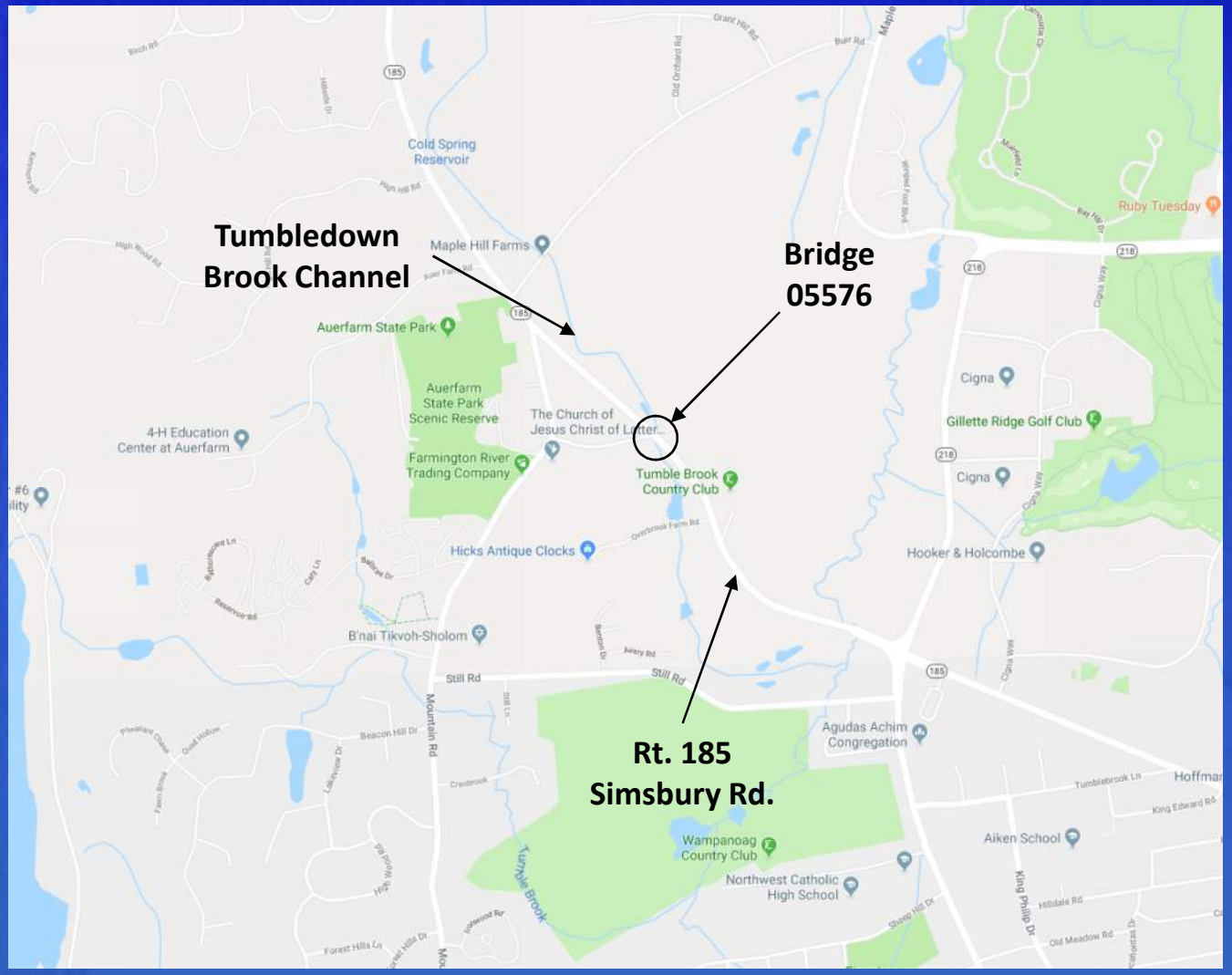
Project Location



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Inlet View

Outlet View

Looking West

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Looking East

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Existing Bridge Information

- **Original structure built in 1956**
- **Structure type:**
  - **Single cell, corrugated coated metal pipe arch with concrete collar end treatments.**
- **Structure dimensions:**
  - **Span: 11′**
  - **Total structure length: 85′**

- **Service:**
  - **Carries Rt. 185 over Tumbledown Brook Channel**
  - **Estimated Average Daily Traffic is 9100 Vehicles and 4% truck traffic (2015).**

Deterioration

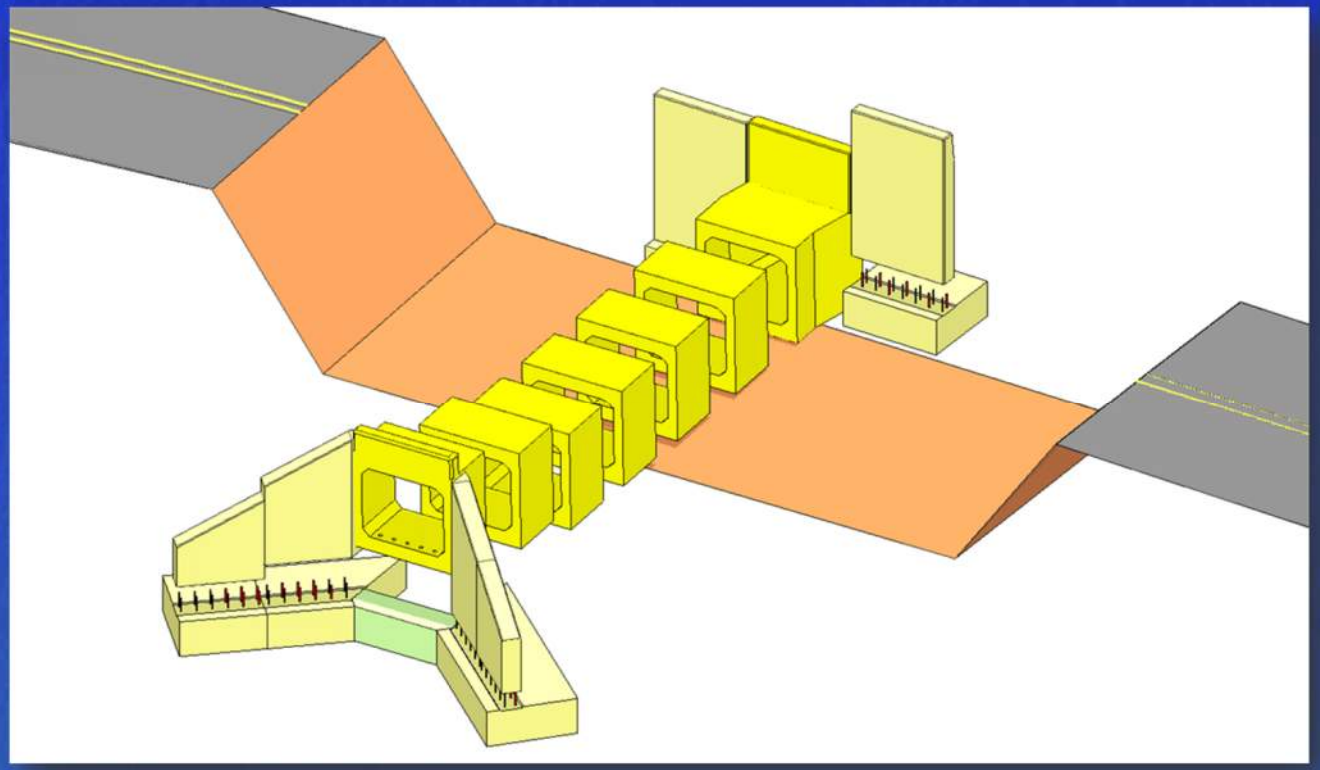
- Structure is rated a 4 “Poor Condition”(2017)
- Moderate to heavy rust above the waterline along the east and west sides
- Asphaltic coating is mostly gone one foot over waterline and below
- Bands of large perforations at both ends of culvert
- Random perforations throughout structure

Proposed Project Scope

- Temporarily relocate aerial and underground utilities.
- Close road and detour traffic for approximately 14 days.
- Remove existing structure.
- Install 11′ x 8′ concrete box culvert with 1′ of streambed material, headwalls and wingwalls.
- Backfill, pave and install beam rail.
- Open road to traffic.
- Minor construction activities to continue.

Proposed Structure

- 11’x 8’ Concrete Box Culvert



Project Schedule & Cost

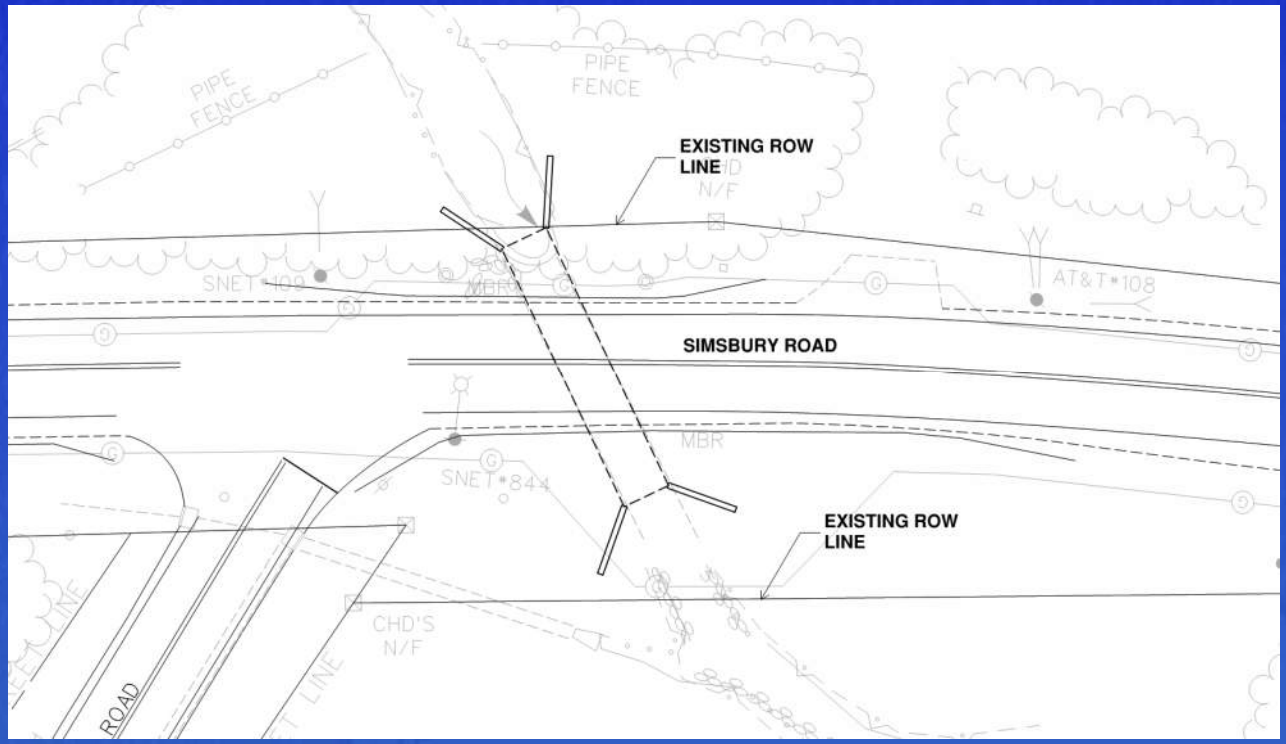
- **Schedule**
  - **FDP: 09-22-21 ADV: 12-1-21**
  - **Anticipated Construction Starts: Spring of 2022**
  - **Anticipated Construction Completion: Fall of 2022**

- **Cost**
  - **Total project cost is approximately $1.2 million**
  - **Funding = 80% Federal /20% State**

- **Duration**
  - **One construction season (April – October)**

Proposed Bridge

PROPOSED LAYOUT



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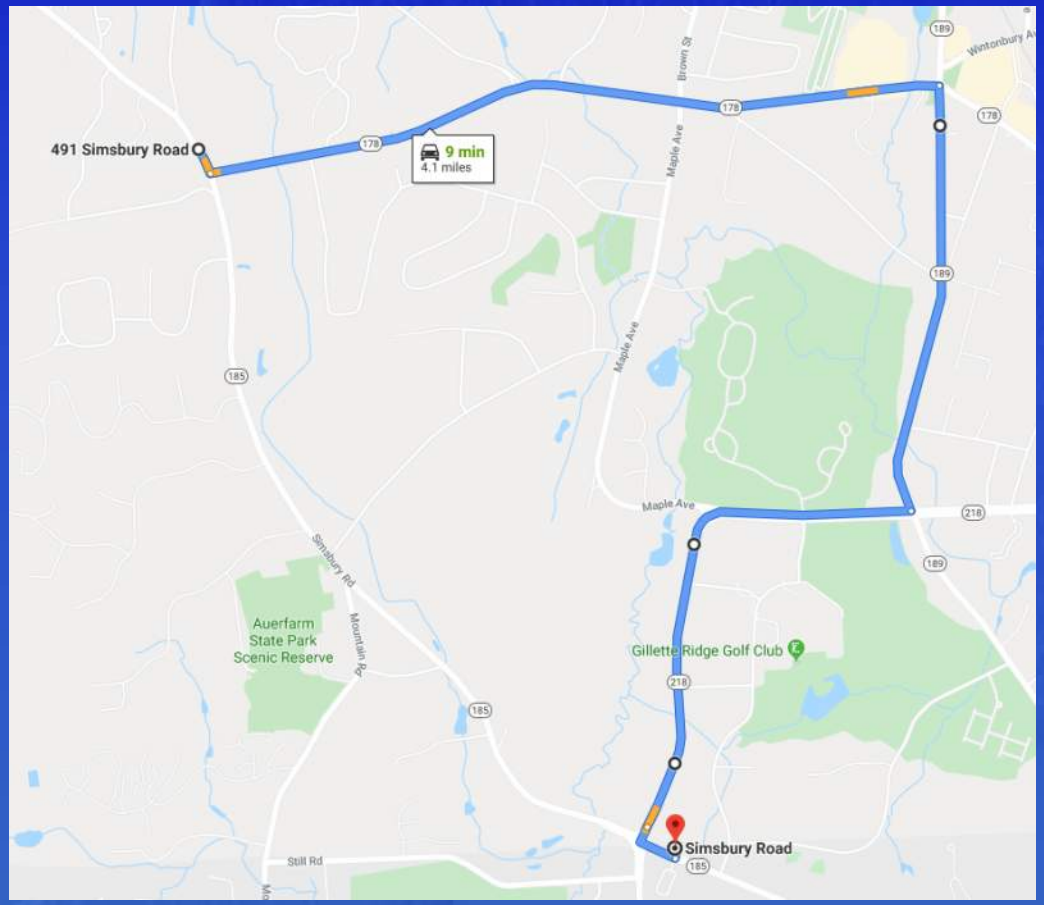
Traffic Considerations

- ADT at Bridge is 9100 vehicles per day (2015).
- Construction is anticipated to begin Spring 2022 with a goal of completing all construction activities in one construction season.
- A full road closure and detour of vehicular traffic is proposed. The signed detour route shall use state routes.
- The duration of the road closure shall be for a continuous period of approximately 14 days during the summer season.
- The duration of the road closure shall be minimized by performing work before and after the closure period. During these periods, two-way traffic will be maintained except when the Contractor is actively working at the site.

Proposed Posted Detour



- **Detour Duration:**
  Approximately 14 Days

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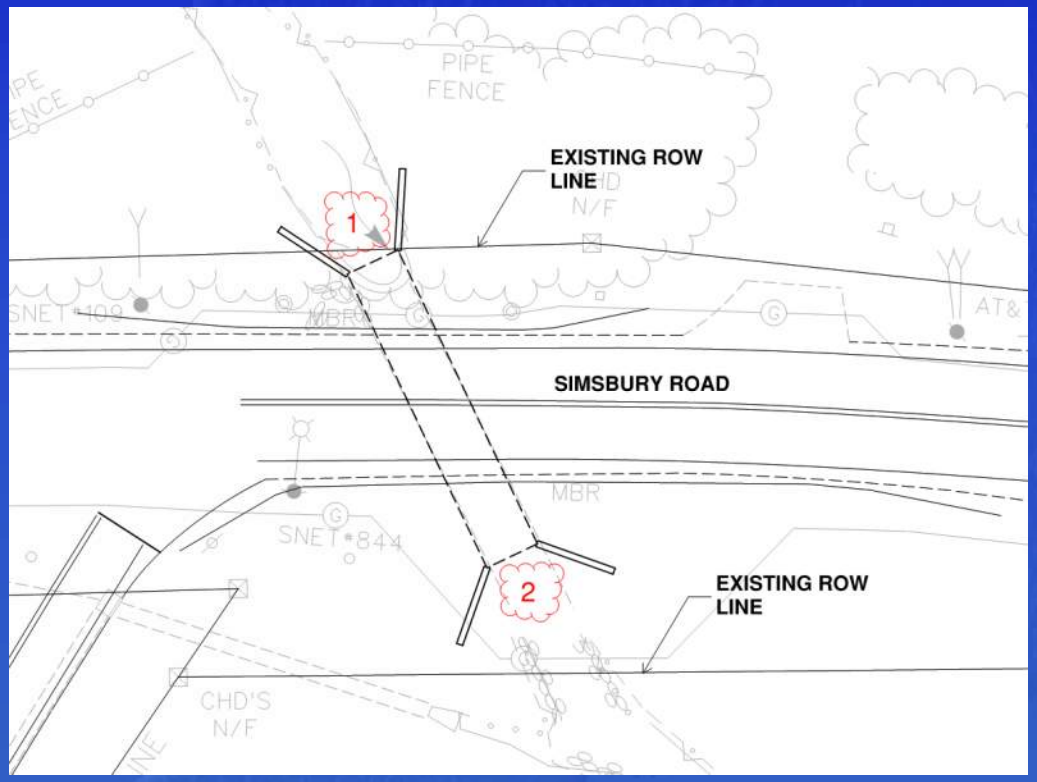
Environmental Considerations

- **The following permits will be required**
  - **FMC – Individual Flood Management**
  - **USACE – PCN**
  - **CTDEEP**
    - General Water Resource Construction Activities (DEEP-IWRD)
    - CT Addendum (CT GP)

Rights-of-Way



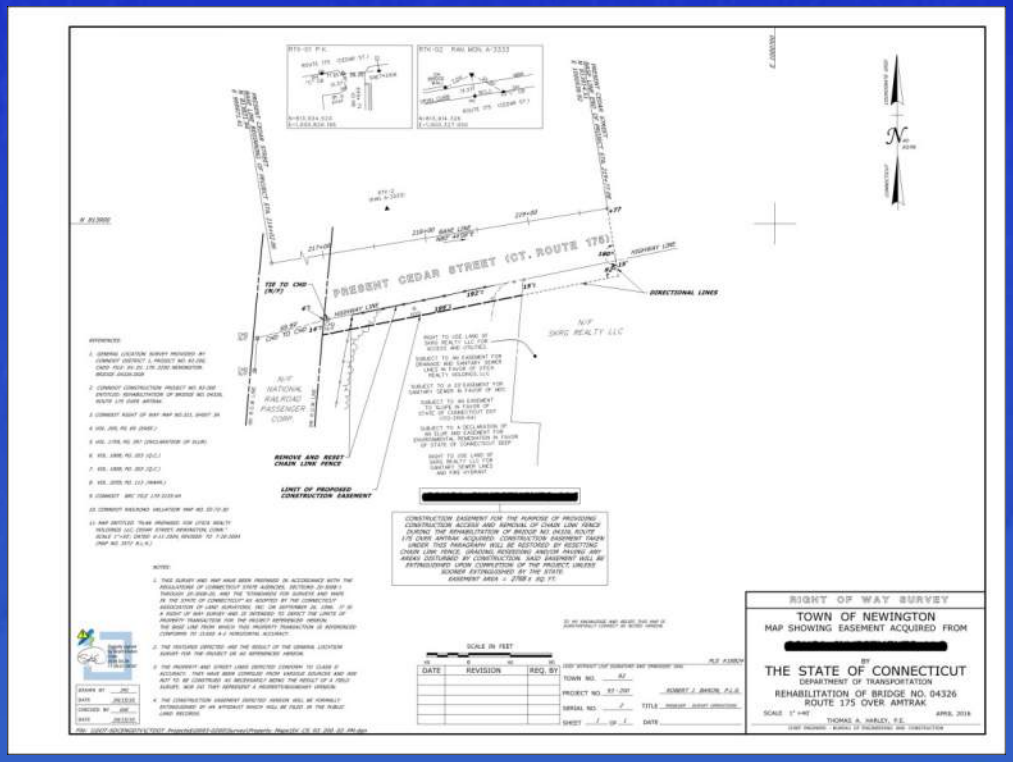
- **Impacts to private property:**
  - **Temporary construction easements**
  - **Permanent right-of-way**

ROW – Relevant Law

- **State of Connecticut**
  - **C.G.S. Sections 13a-73 & 13a-98e**
- **Federal**
  - **Uniform Relocation Assistance and Real Properties Acquisition Policies Act of 1970, as amended**

ROW – Acquisition Process

- Letter of Intent to Acquire
- Valuation
- Offer of Just Compensation
- Negotiation
- Acquisition
  - Agreement
  - Eminent Domain/Condemnation
    - >> 6 month appeal period



CT Department of Transportation Personnel

Principal Engineer
Mary E. Baker, P.E.

Project Manager
Bryan H. Reed, P.E.

Project Engineer/Contact
Jonathan J. Kempf, P.E.

Project Designer
Jessica Carvajal

Thank you

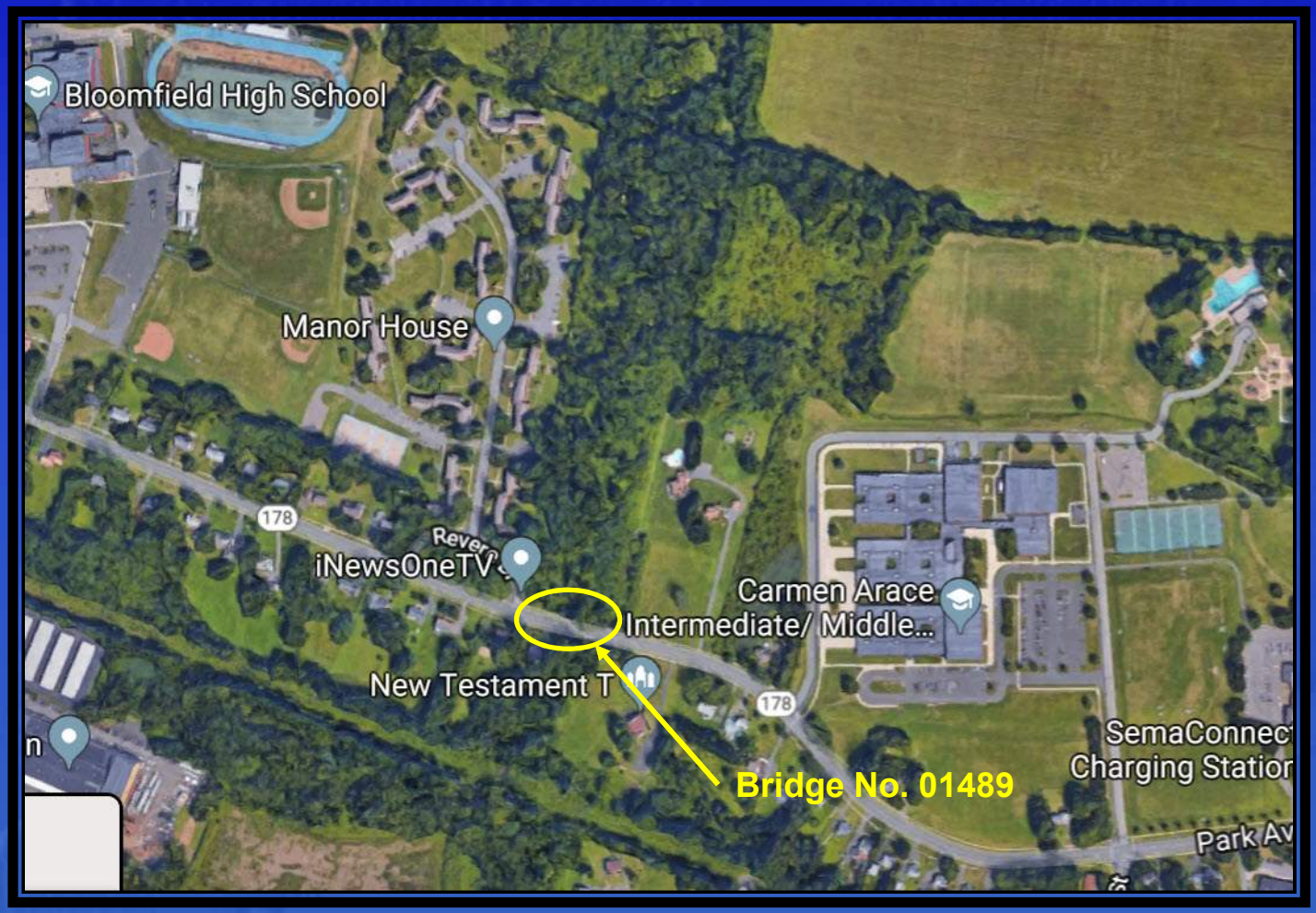
Questions?
Comments?

Project No. 0011-0156
Replacement of Bridge No. 01489
Route 178 over Beamans Brook
Bloomfield, CT

Mary E. Baker – Principal Engineer
Bryan H. Reed – Project Manager
Nicholas J. Martin – Project Engineer
Michael J. P. Lajoie – Design Engineer

Connecticut Department of Transportation

Project Location - Aerial View

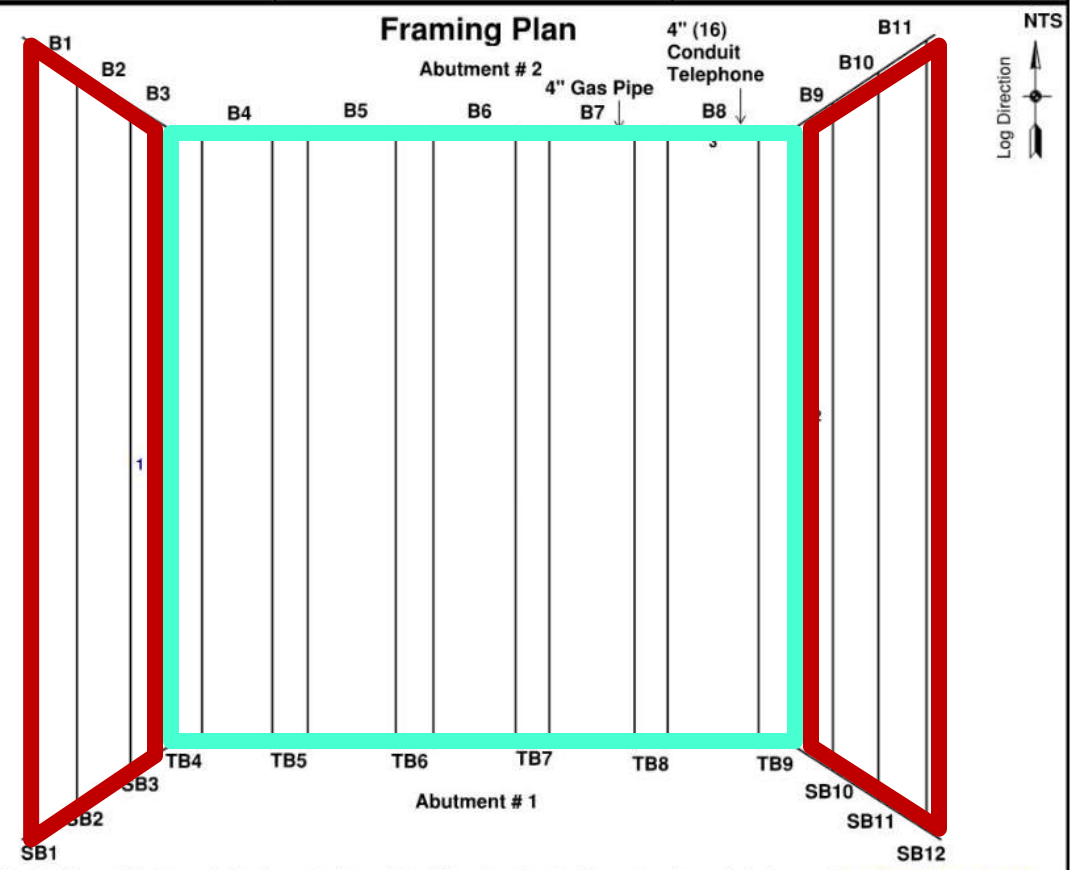


Existing Bridge Data

- **Original structure built in 1915**
- **Structure Type:**
  - Reinforced concrete T-beams (6 beams) on concrete abutments.
  - The bridge width was increased on each side in a subsequent project with the addition of steel beams supported on the flared wingwalls.
- **Dimensions:**
  - Curb to curb width = 32 ft. plus a 5 ft. sidewalk on each side
  - Clear Span= 25 ft., Maximum Bridge Length = 47 ft.
- **Service:**
  - Carries Route 178 (Park Avenue) over Beamans Brook with one lane of traffic in each direction and a sidewalk on each fascia
  - Estimated Average Daily Traffic (ADT, 2018) is 12,100 vehicles (3% trucks)

Existing Bridge - Framing Plan

CREW: 2	DATE: 6/6/17	BRIDGE NO.: 01489



LEGEND: SB = Steel beam, TB = Concrete Tee beam, B = Bays, Note All bearings for steel beams have heavy to laminar rust, 1 = There is heavy rust to laminar rust on the south half of the top and bottom of bottom flange for full length with section loss (See Detail Sheet), 2 = See attached section loss sheet for steel beam # 10, 3 = Conduit has heavy to laminar rust throughout with some perforations, they appear to be abandoned utilities,

REVISION 1	DATE: 6/12/19	CREW: Team 2	REVISION 3	DATE:	CREW:
REVISION 2	DATE:	CREW:	REVISION 4	DATE:	CREW:

Bridge Approaches

Route 178 (Eastbound towards Tyler Street)

Route 178 (Westbound towards Revere Drive)

Connecticut Department of Transportation

Bridge Elevation

South Elevation
(Looking Upstream)

Bridge Elevation

North Elevation
(Looking Downstream)

Existing Bridge Condition

Existing Bridge Condition

CTDOT ROLE AND FUNDING

Role:

- ConnDOT's Bridge Design Unit will be responsible for engineering design.
- ConnDOT's District 1 Construction will managed the project during the construction phase with Bridge Design support.
- After construction, ConnDOT's Bridge Safety Unit will inspect the bridge every 2 years for the life of the bridge
- Federal funding 80%; State funding 20%

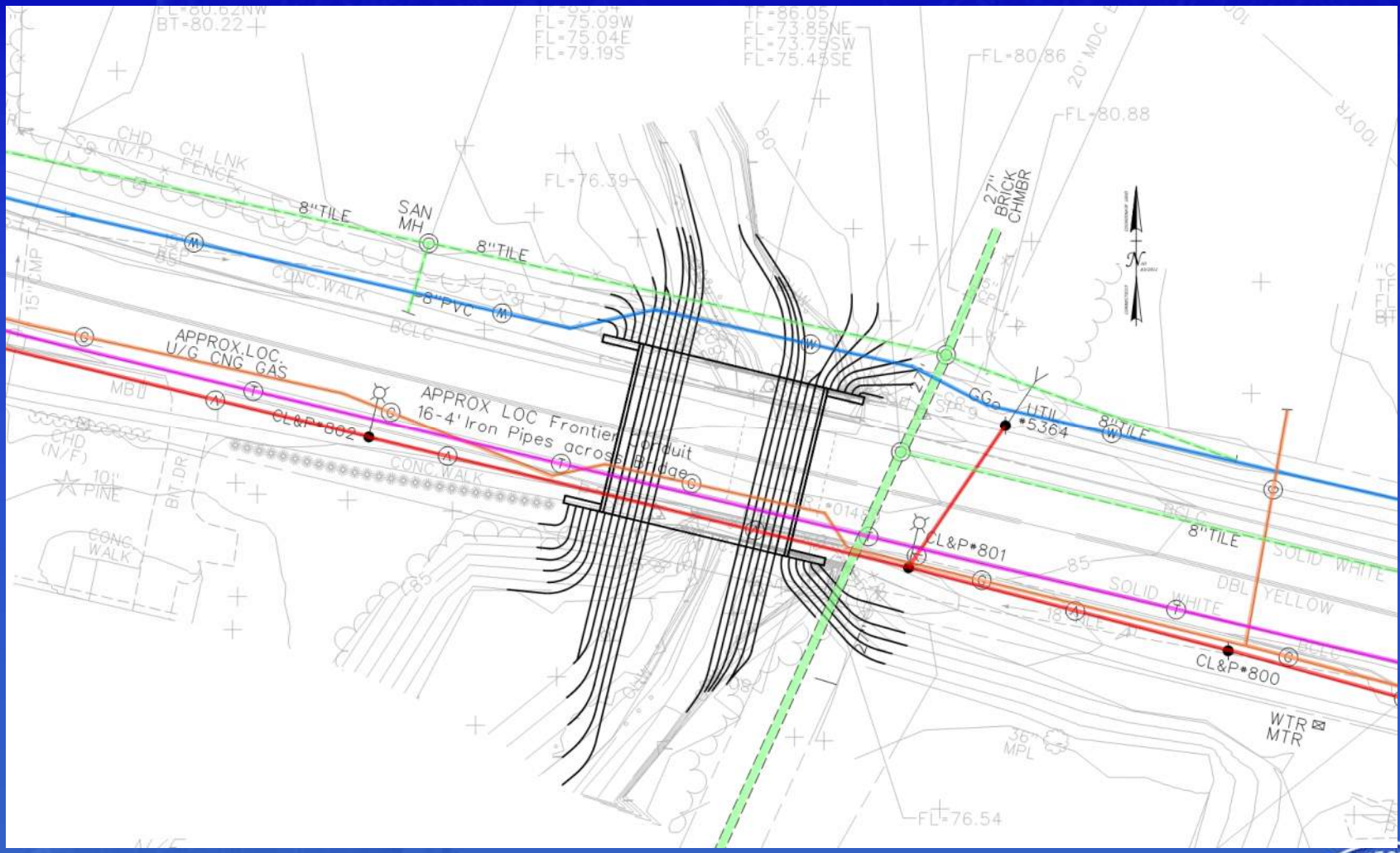
Project Scope

- **Replacement with integral abutment bridge with steel beams supporting a reinforced concrete deck**
  - **Addresses all existing superstructure deficiencies**
  - **Addresses hydraulic adequacy**
  - **Addresses scour concerns**
  - **Maintains fish passage and existing natural stream bed conditions**
  - **May be constructed with precast pile cap/abutment stems**
  - **May be constructed with precast bridge units (PBU's) with closure pours**

Project Schedule & Cost

- **Schedule:**
  - Currently construction is anticipated to start in late March 2022
- **Cost:**
  - Approximately $2,800,000
- **Duration:**
  - Overall: 1-2 construction seasons, mainly utility work prior to road closure
- **Construction Method:**
  - Accelerated Bridge Construction (ABC)
  - Maximum 56 day road closure during summer months

Plan



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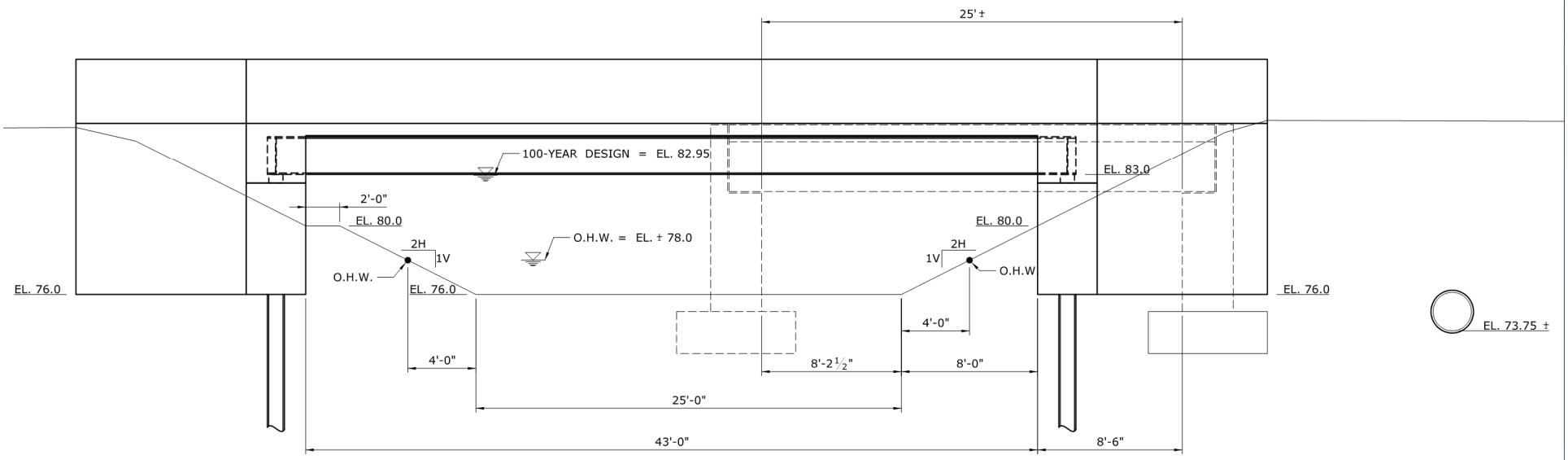
South Elevation



Site Constraints

- **Utilities**
  - Aerial utilities
  - Gas line and telephone conduits are attached to the bridge
  - Sanitary sewer and water main are adjacent to the bridge
- **Hydraulics**
  - The current structure is hydraulically inadequate.
    - The Department is raising the bottom of the bridge 1 foot to increase the hydraulic capacity of the bridge.
    - The proposed bridge will be less susceptible to overtopping when flood conditions occur.
  - The current structure is scour susceptible.
    - Scour is the engineering term for erosion of soil surrounding a bridge foundation (piers and abutments).
    - Scour can compromise the bridge integrity.
    - The proposed bridge abutments will placed on drilled shafts or piles.
- **Fisheries**
  - Per CTDEEP unrestricted fish passage and the natural streambed conditions must be maintained

Site Constraints
Continued

Permits

- FMC – Individual Flood Management
- USACE-SV (United States Army Corps of Engineers – Self Verification Permit)
- DEEP-IWRD (Inland Water Resources Division Resource Construction Activity)
- CT GP (Army Corps of Engineers General Permit State of Connecticut)

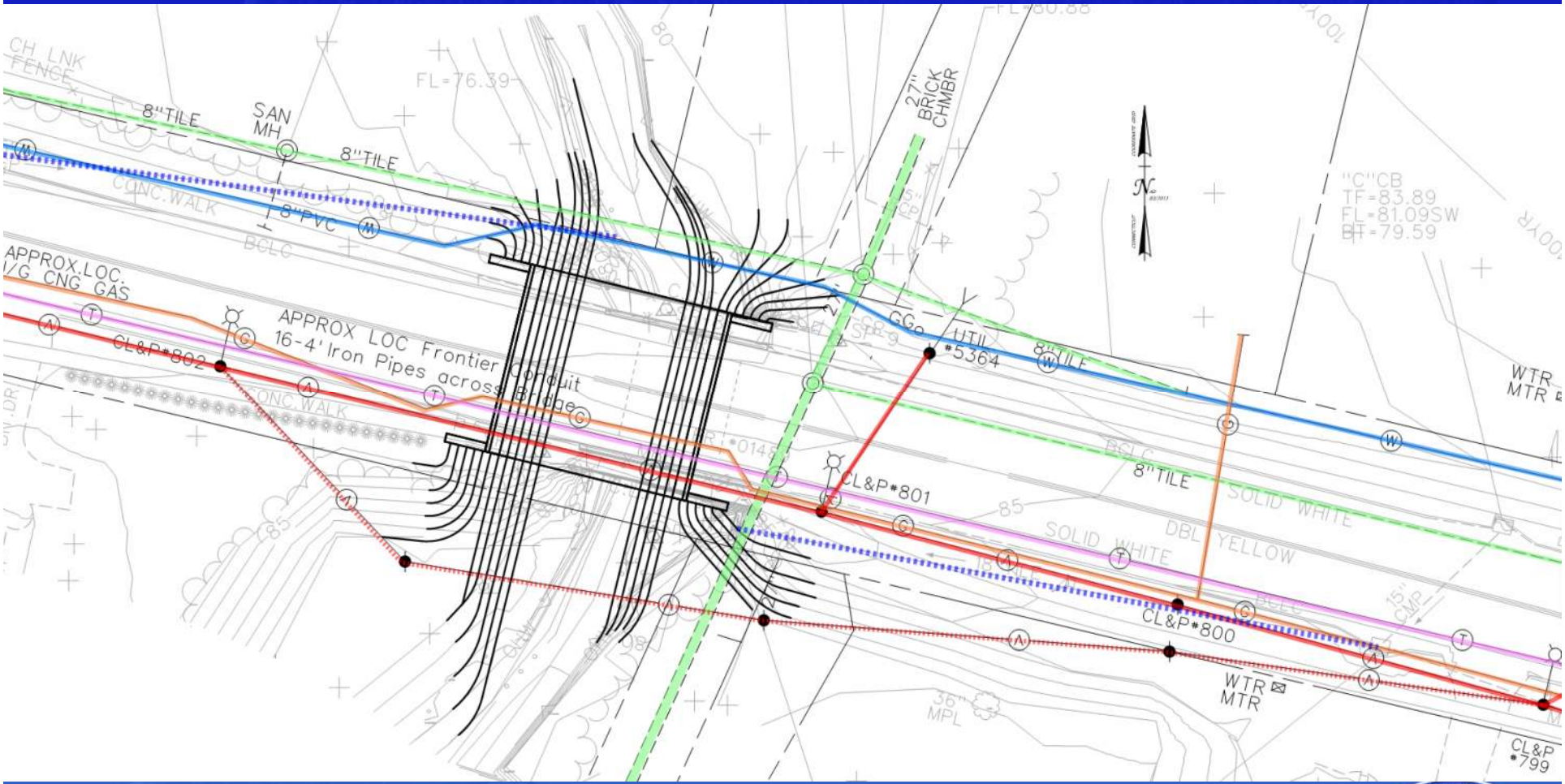
ROW

- Drainage ROW
- Slope Easements
- Channel Easements
- Construction Easements

Public schools

- 3 public schools are located the vicinity of the bridge

Utility Concerns



Utility Concerns

Frontier Conduits below Bridge
(Looking West)

Traffic Considerations

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- A full road closure and detour of vehicular traffic is proposed. The signed detour route shall use state routes and local roads.
- The duration of the road closure shall be for a continuous period of approximately 56 days during the summer season.
- The duration of the road closure shall be minimized by performing work before and after the closure period. During these periods, two-way traffic will be maintained except when the Contractor is actively working at the site.
- Pedestrian traffic will be maintained either by way of temporary crossing or taxi/shuttle service.

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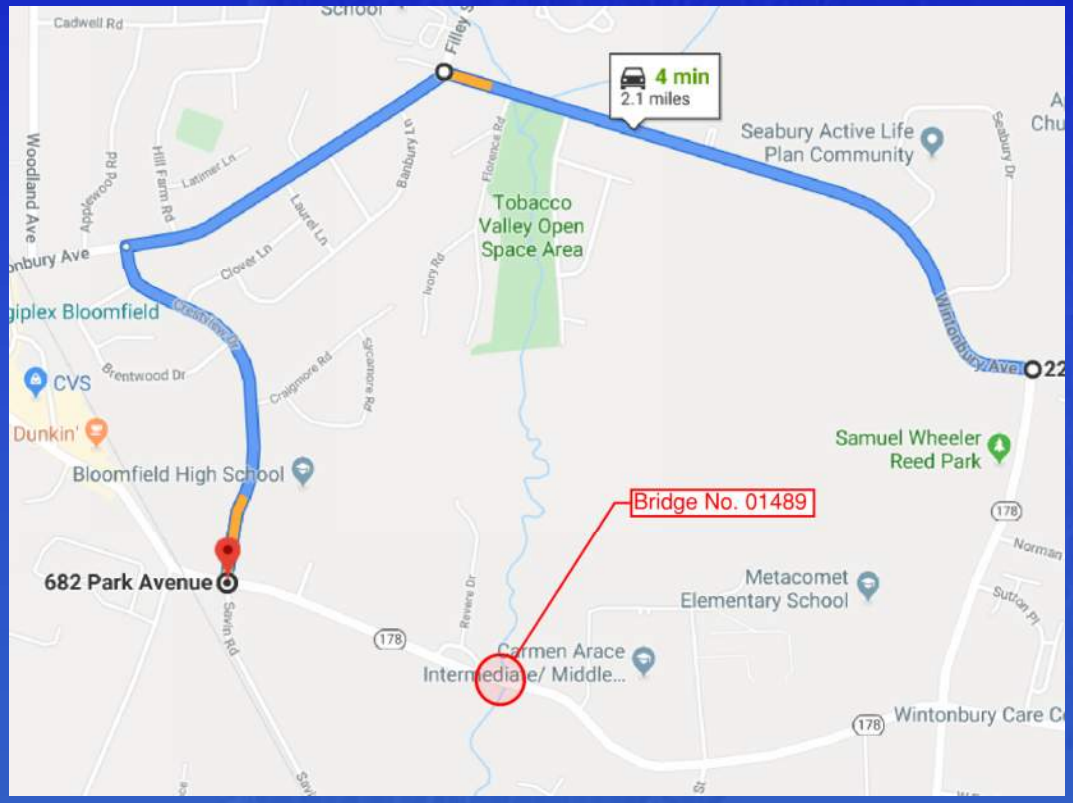

- **Detour Duration:**
  Approximately 56 Days

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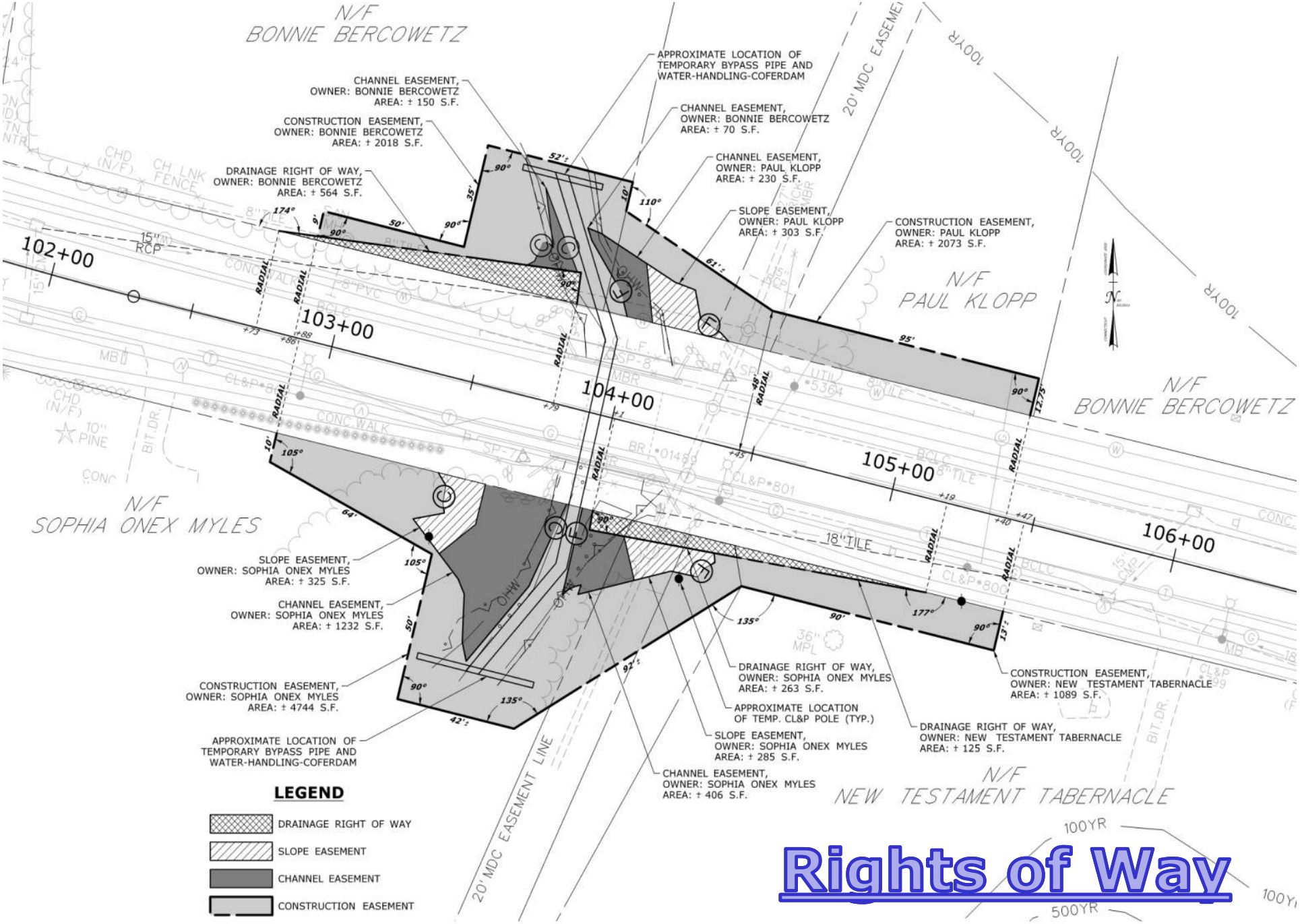

APPROXIMATE RIGHT OF WAY IMPACTS

SCALE: 1" = 20'

Rights of Way

ROW – Relevant Law

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  - **C.G.S. Sections 13a-73 & 13a-98e**
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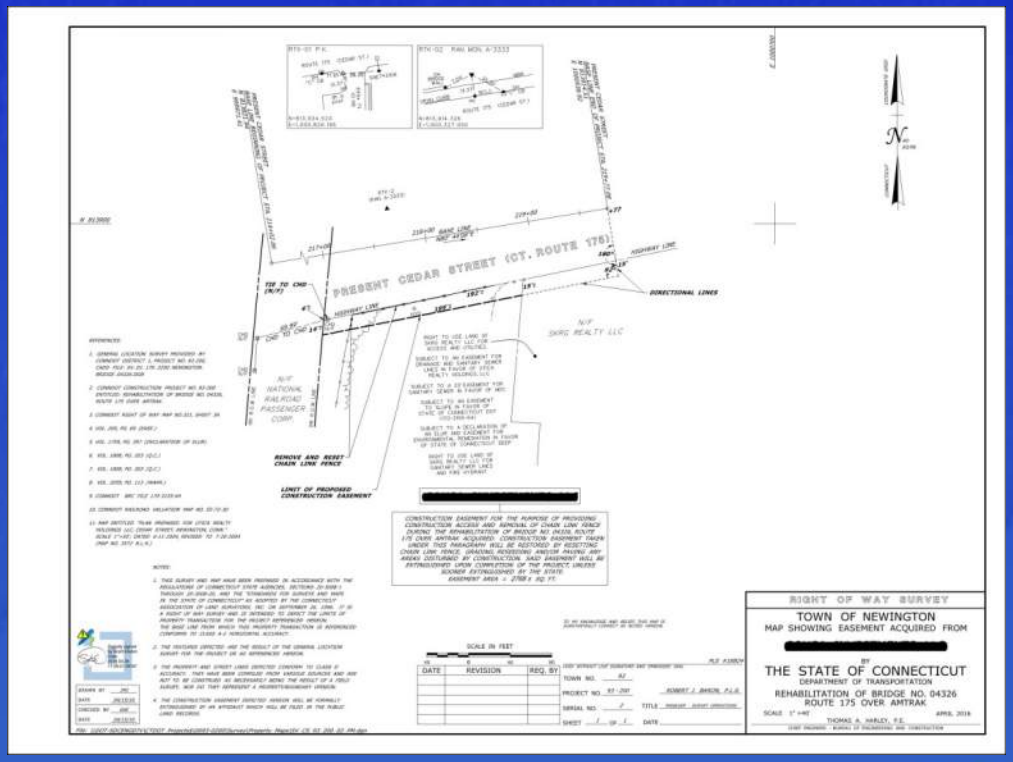

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DESIGN TEAM

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For more information:
https://egov.ct.gov/PMC/#agency102

THANK YOU FOR YOUR TIME AND ATTENTION!!

Questions?
Comments?