

# **Public Information Meeting**

**Replacement of Bridge**

**Nos. 02728 and 02729**

**Route 163**

**Over Fox Brook and**

**Oakdale Brook**

**Montville, Connecticut**

Connecticut Department of Transportation





## Aerial View of Bridges On Route 163

Connecticut Department of Transportation



# **CTDOT Role and Mission**

## **Bureau of Engineering and Construction**

- **Responsible for engineering design, construction, and inspection of transportation projects**

**Contact: Ms. Mary E. Baker**



# **Close, Jensen & Miller, P.C.** **Consultant Liaison Engineers**

CTDOT has retained the firm of Close, Jensen and Miller to supervise the activities relative to the design of this bridge project.

**Contact: Mr. Sal Cugno, P.E.**

Connecticut Department of Transportation



# **Project Goals**

- **Replace Bridge Nos. 02728 and 02729**
- **Minimize disturbance to traveling public**
- **Complete construction in a timely manner**
- **Effectively use funds**

**Address above with consideration for context sensitive design**





## **Bridge No. 02728 East Elevation**

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## **Bridge No. 02729 West Elevation**

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# Bridge No. 02729 Looking North

Connecticut Department of Transportation





## Bridge No. 02728 Looking South

Connecticut Department of Transportation



# Existing Bridge Description

- **Both crossings were built in 1915**
- **Structure Dimensions**

	<b>Br. 02728</b>	<b>Br. 02729</b>
- Total Length =	5 feet	6 feet
- Overall Width =	23 feet	30 feet
- Roadway Width =	21 feet	26 feet
- **Located at bottom of sag vertical curve approaching an intersection**
- **Both bridges carry one lane of traffic in each direction**
  - **Estimated Average Daily Traffic (ADT) ~ 3,200 vehicles (2010)**

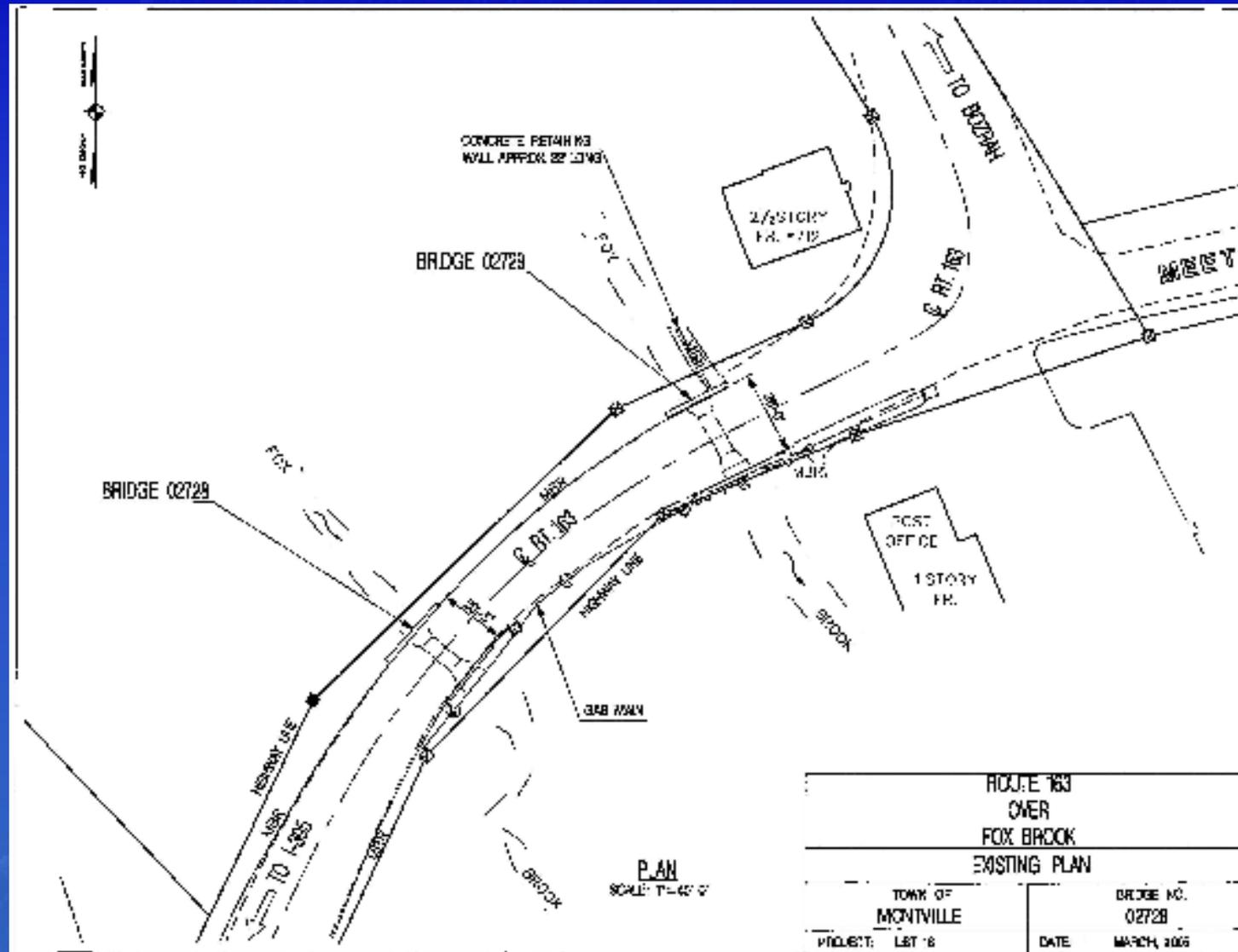


## **Existing Bridge Description**

- **Both bridges consist of riveted steel boiler pipes with flared concrete arch extensions.**
- **Bridge 02729 also contains a concrete encased steel rolled beam extension on the east side.**
- **Stone masonry support the concrete arch extension on both bridges.**
- **There are 2 to 3 feet of ballast over each boiler pipe**



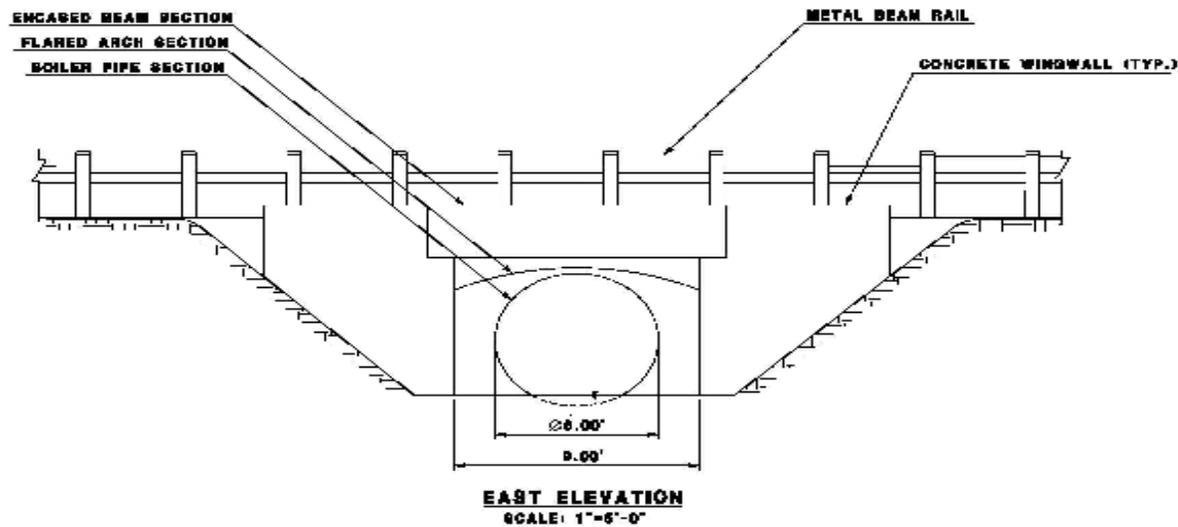
# Existing Roadway Plan



Connecticut Department of Transportation



# Typical Existing Bridge Elevation



<b>ROUTE 183 OVER FOX BROOK EXISTING ELEVATION</b>	
TOWN OF <b>MONTVILLE</b>	BRIDGE NO. <b>02729</b>
PROJECT: LIST 18	DATE: APRIL, 2011



# Reasons for Project

Structures are recommended for replacement under the State Bridge Program.

Reasons include:

- **Structural Condition**
- **Hydraulic Inadequacy**
- **Functional Obsolescence**



# Reasons for Project

- **Structural Condition:**

- **Severe rusting of the boiler pipes**
- **Stone masonry exhibits cracked stones and missing mortar**
- **Concrete arch extensions exhibit map cracking with efflorescence and hollow areas**
- **Exposed bottom flange of the encased beam shows heavy rusting and section loss**



# Reasons for Project

- **Hydraulic Inadequacy**

- The existing boiler pipes combined do not have the capacity to convey the required 100 year design storm
- The roadway overtops during the design storm
- Bridge 02728 is an overflow structure to Bridge 02729

- **Functional Obsolescence**

- The existing roadway width is substandard for the volume of traffic present





## Typical Condition of Boiler Pipes

Connecticut Department of Transportation



# **Proposed Construction for Br. 02728**

- **Replace the existing steel boiler pipe with a new 5 foot diameter precast concrete pipe culvert**
- **Provide new cast in place flared concrete headwalls at the ends of the pipe**
- **Provide a 28 foot wide roadway and a 5 foot sidewalk on the east side of the road as requested by the Town**
- **Provide guide railing as per current standards**



# **Proposed Construction for Br. 02729**

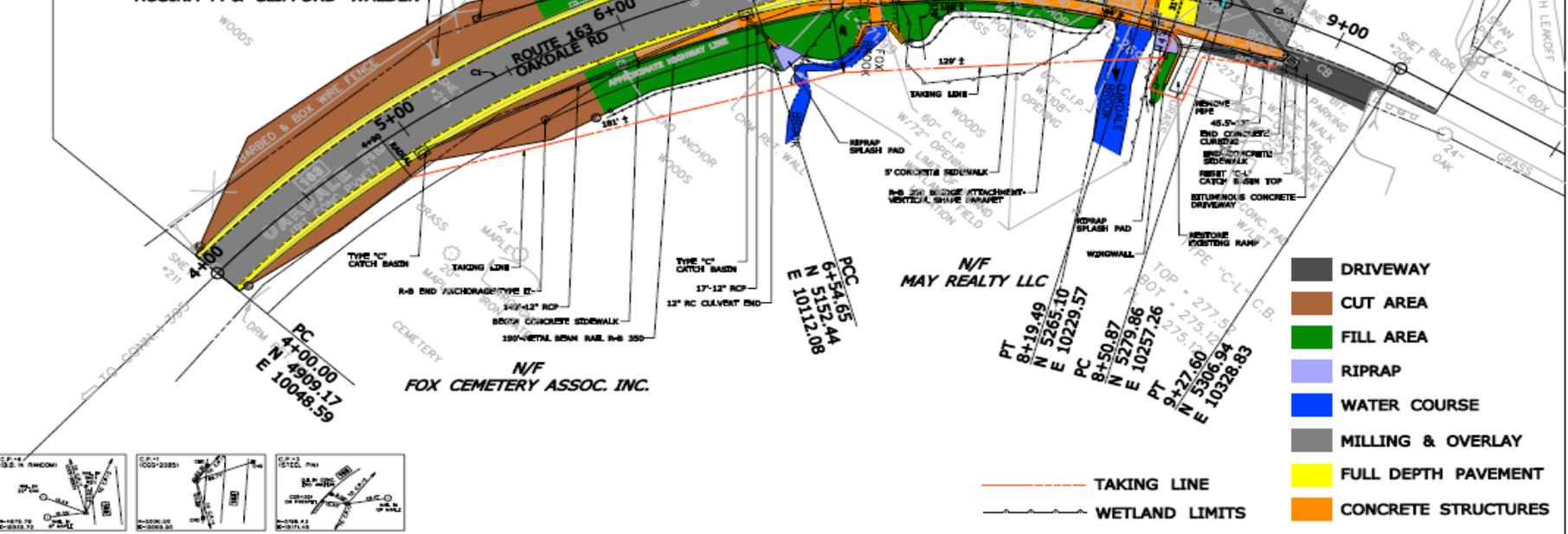
- **Replace the existing steel boiler pipe with a new 20 foot clear span precast concrete rigid frame**
- **Provide new cast in place concrete footings supported by drilled pile foundations**
- **Provide a 28 foot wide roadway and a 5 foot sidewalk on the east side of the road as requested by the Town**
- **Provide guide railing as per current standards**
- **Provide adequate roadway drainage with appropriate outlet protection**



CURVE DATA							
CURVE #	CONTROL POINT	STATION	ROUTE 85				
			BEGINNING	DELTA ANGLE	TANGENT	RADIUS	ARC LENGTH
C1	P.C.	4450	10046.59	31° 32' 55.9"	130.67	460.78	254.05
	P.E.	5430.87	10045.84				
	P.C.C.	5254.65	5152.44	10112.08			
C2	P.C.C.	6454.65	5152.44	10112.08			
	P.E.	7439.31	5225.33	10154.95	31° 28' 58.7"	84.56	300.00
	P.T.	8418.49	5265.10	10229.87			164.84
C3	P.C.	8480.87	5279.86	10287.26			
	P.E.	8889.34	5295.00	10291.31	14° 32' 10.1"	38.58	300.00
	P.T.	9127.40	5306.84	10328.83			75.74

**BEGIN STATE PROJECT NO. 85-138/139**  
**ROUTE 163 OAKDALE RD STA. 4+00**  
**LIMIT OF CONSTRUCTION**  
**MATCH EXISTING PAVEMENT**  
**BEGIN SAWCUT BITUMINOUS CONCRETE**  
**N=4909.17**  
**E=10048.59**

N/F  
**ROSINA F. & CLIFFORD WALDEN**



<table border="1"> <tr> <th>REV.</th> <th>DATE</th> <th>REVISION DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	REV.	DATE	REVISION DESCRIPTION				<table border="1"> <tr> <td>DESIGNED BY</td> <td>JAK</td> </tr> <tr> <td>SCALE IN FEET</td> <td>1"=20'</td> </tr> </table>	DESIGNED BY	JAK	SCALE IN FEET	1"=20'	<p>STATE OF CONNECTICUT  DEPARTMENT OF TRANSPORTATION</p>	<table border="1"> <tr> <td>DATE</td> <td>JUN</td> </tr> <tr> <td>OFFICE OF ENGINEERING</td> <td></td> </tr> <tr> <td>PROJECT TITLE</td> <td>REPLACEMENT OF BRIDGE NOS. 02728 &amp; 02729 OVER FOX BROOK</td> </tr> </table>	DATE	JUN	OFFICE OF ENGINEERING		PROJECT TITLE	REPLACEMENT OF BRIDGE NOS. 02728 & 02729 OVER FOX BROOK	<table border="1"> <tr> <td>MAP</td> <td>MONTVILLE</td> </tr> <tr> <td>PROJECT NO.</td> <td>85-138/139</td> </tr> <tr> <td>DESIGN TITLE</td> <td>PLAN SHEET</td> </tr> <tr> <td>SCALE</td> <td>AS SHOWN</td> </tr> </table>	MAP	MONTVILLE	PROJECT NO.	85-138/139	DESIGN TITLE	PLAN SHEET	SCALE	AS SHOWN
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# Proposed Roadway Plan

Connecticut Department of Transportation





**Proposed Detour Route**

# **Benefits of Detour**

- **Fastest construction time**
- **Least expensive construction cost**
- **Best quality of construction**
- **Unencumbered construction access to the site affords the Contractor maximum flexibility in the methods employed to replace the structure**



# **Public Utilities**

## **Utilities at the bridge sites:**

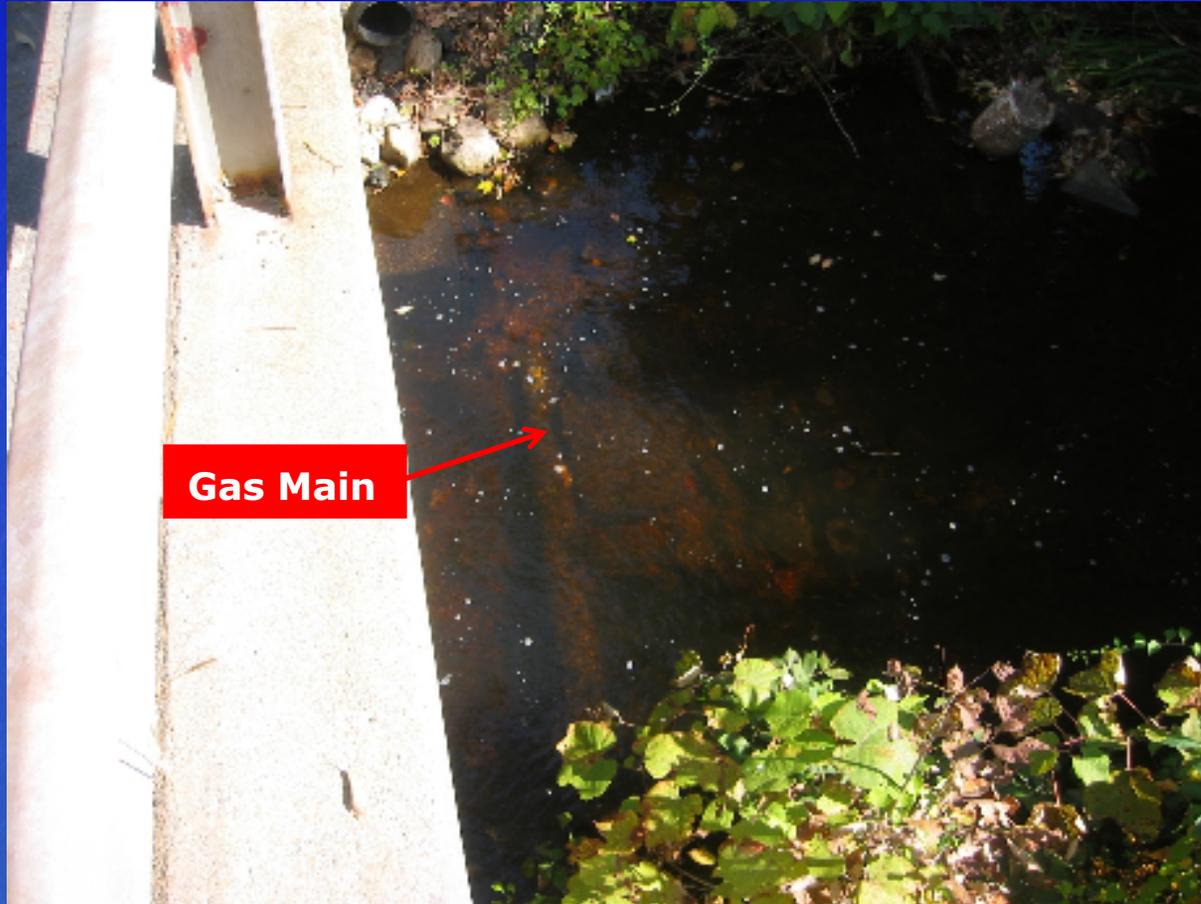
- **A gas main buried at the bottom of slope on the east side of the road and exposed on the channel at the outlet of Bridge 02729.**
- **Overhead utilities consisting of power lines, telephone lines and cable facilities located on the west side of the road and supported on wood poles**

**CTDOT has notified the appropriate utility companies of the scheduled project.**

**Utilities will be relocated as necessary during the proposed construction activities.**



# Public Utilities



Gas Main

Gas Main in Fox Brook

Connecticut Department of Transportation



# Public Utilities



## Overhead Utilities

Connecticut Department of Transportation



## **Rights-of-Way**

**Based upon the State boundary map, the width of the Route 163 Right of Way at the bridge sites is approximately 40 feet.**

**Impacts to private property consisting of partial acquisitions and permanent easements are anticipated.**



## **Project Cost**

**The estimated construction cost for both projects combined is estimated to be approximately \$1,250,000**

**This bridge replacement is anticipated to be undertaken using Federal and State funds.**



# **Project Schedule**

**Construction is anticipated to begin in the spring of 2014 and be completed in the fall of 2014.**

**The schedule is preliminary and is predicated upon the availability of funding, the issuance of the required environmental permits and the resolution of all property impacts.**



# Contact Information

- **CTDOT**

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**mary.baker@ct.gov**

- **Close, Jensen and Miller, P.C.**

**Mr. Sal Cugno, P.E.**

**1137 Silas Deane Highway**

**Wethersfield, Connecticut 06109**

**(860) 563-9375**

**scugno@cjmpc.com**



**THANK YOU...**

**FOR YOUR TIME AND  
ATTENTION**

Connecticut Department of Transportation

