PUBLIC INFORMATION MEETING

Bridge No. 04660

ConnDOT Project No. 49-109

TOWN OF Essex CONNECTICUT

REPLACEMENT OF WALNUT STREET BRIDGE OVER FALLS RIVER ESSEX, CONNECTICUT

March 22, 2016

WMC CONSULTING ENGINEERS

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The Town of Essex has retained the firm of WMC Consulting Engineers, Inc. to provide the design of the bridge, associated roadway and site improvements.

Contacts:

Keegan Elder

Project Manager

Jay Costello, P.E.

Vice President

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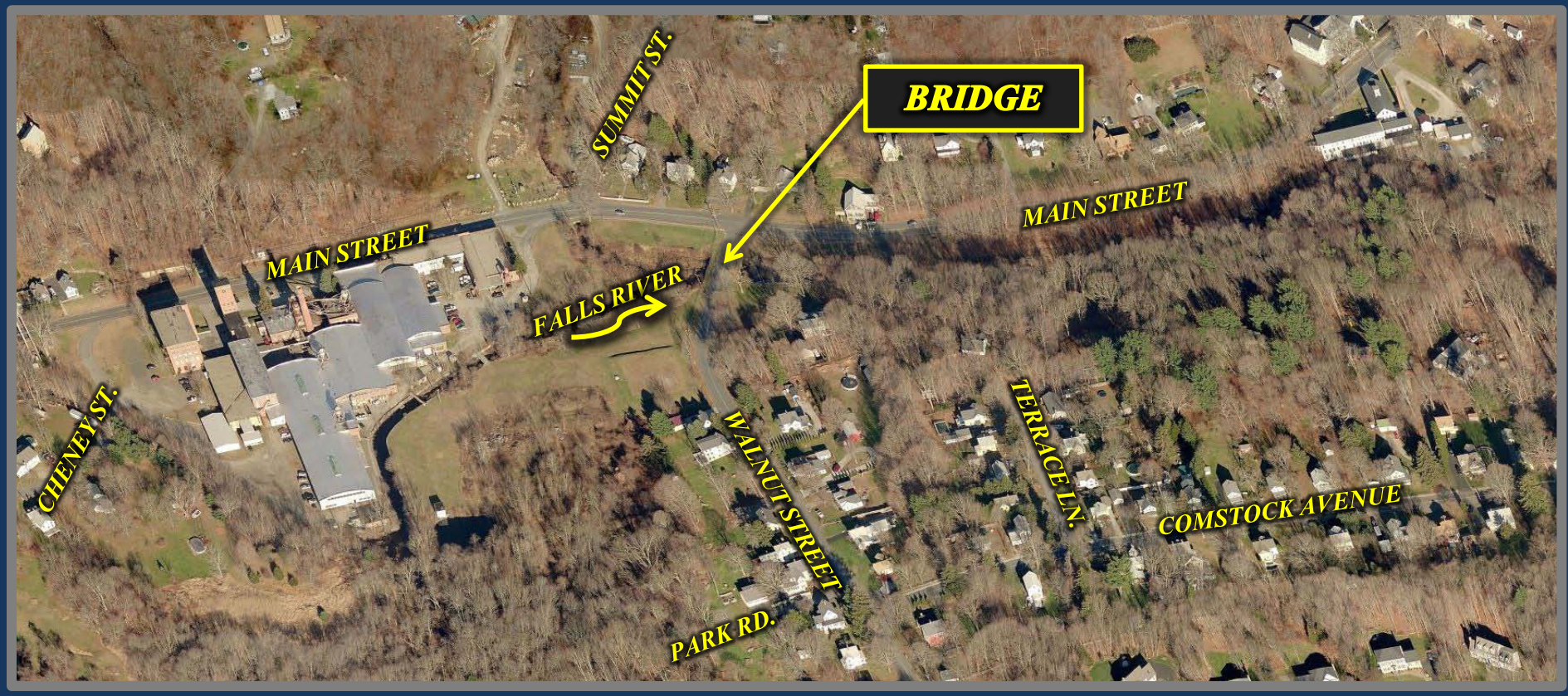
AERIAL VIEW OF BRIDGE NO. 04660



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REASON FOR THE PROJECT

Replacement of the bridge is required based on its current condition rating. According to the recent ConnDOT Bridge Inspection Report, the existing culverts and retaining walls have an overall rating of 2 and are in critical condition. The existing bridge is rated a 2 and is in critical condition overall, which means the existing bridge is structurally deficient and its condition warrants replacement. Structure is currently on special inspection schedule by ConnDOT due to critical condition.

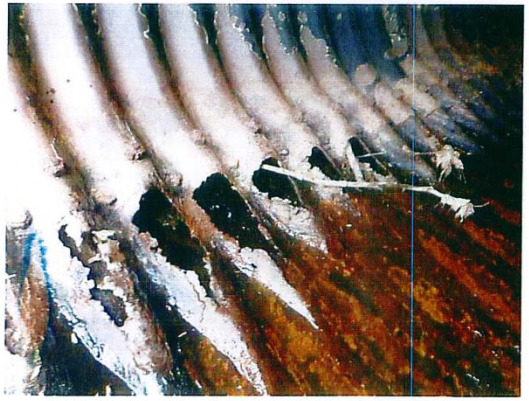

Photo Number: 10 Photo Taken: 05/28/2015

Typical conditions on the lower corner plates.

Photo Number: 12 Photo Taken: 05/28/2015

Typical buckling/kinking of the lower corner plates at numerous locations.

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PROJECT GOALS

- *Replacement of the Walnut Street bridge*
- *Improvements to the existing drainage system*
- *Minimize disturbance to traveling public*
- *Complete construction in a timely manner*
- *Effectively use available funding for the project*

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LOOKING NORTH OVER BRIDGE

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LOOKING SOUTH OVER BRIDGE

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EXISTING BRIDGE ELEVATIONS

Upstream View

Downstream View

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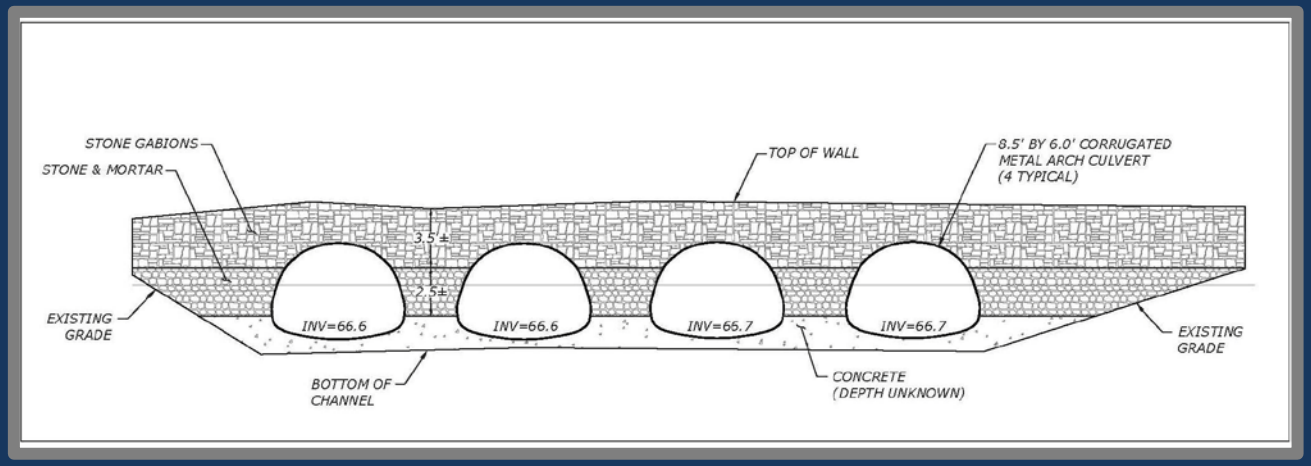
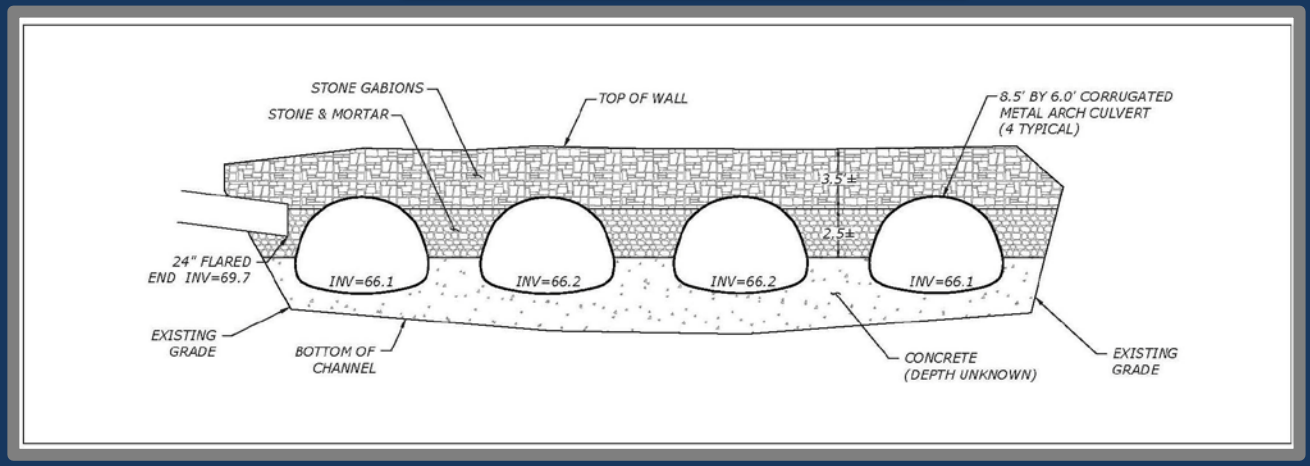
EXISTING BRIDGE ELEVATIONS

Upstream View



Downstream View



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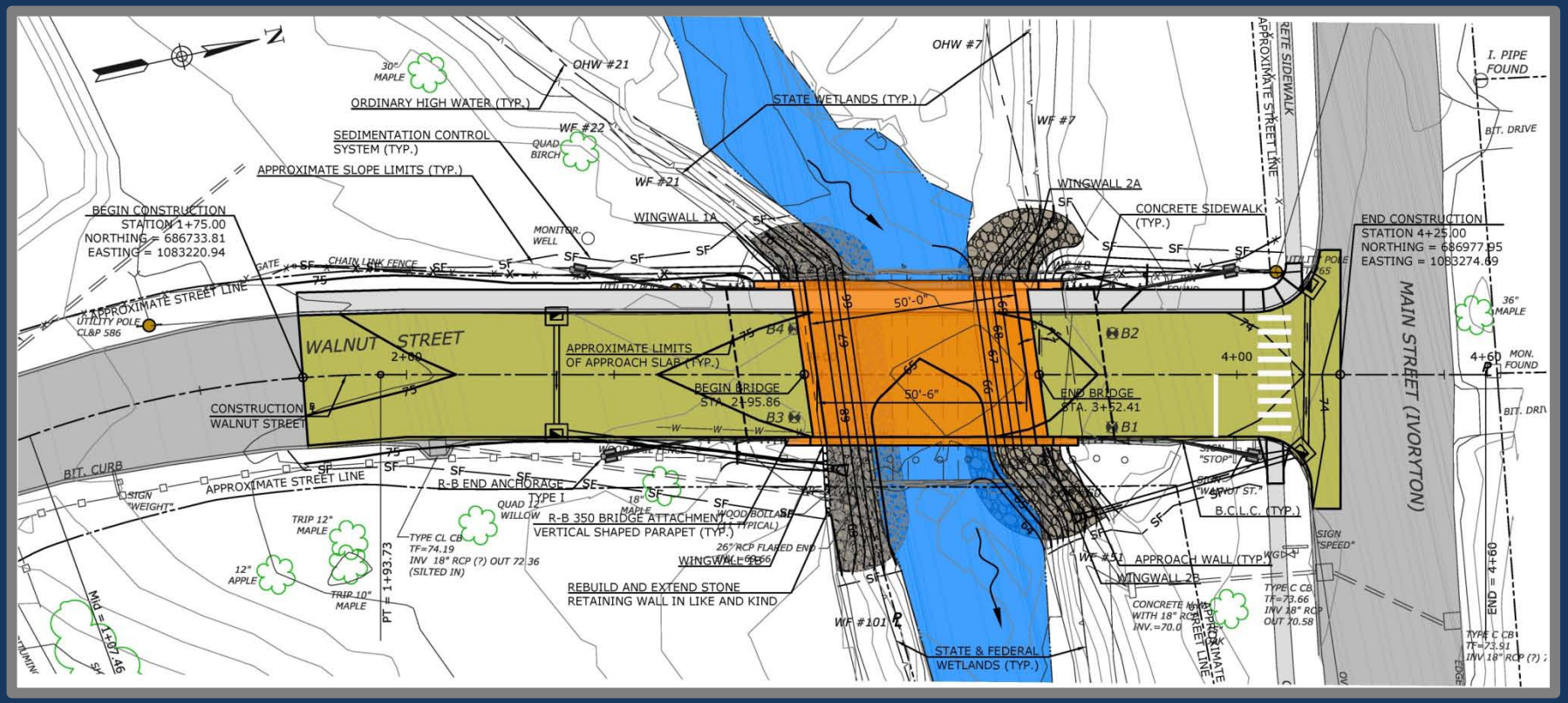
PROPOSED CONSTRUCTION



Roadway Plan

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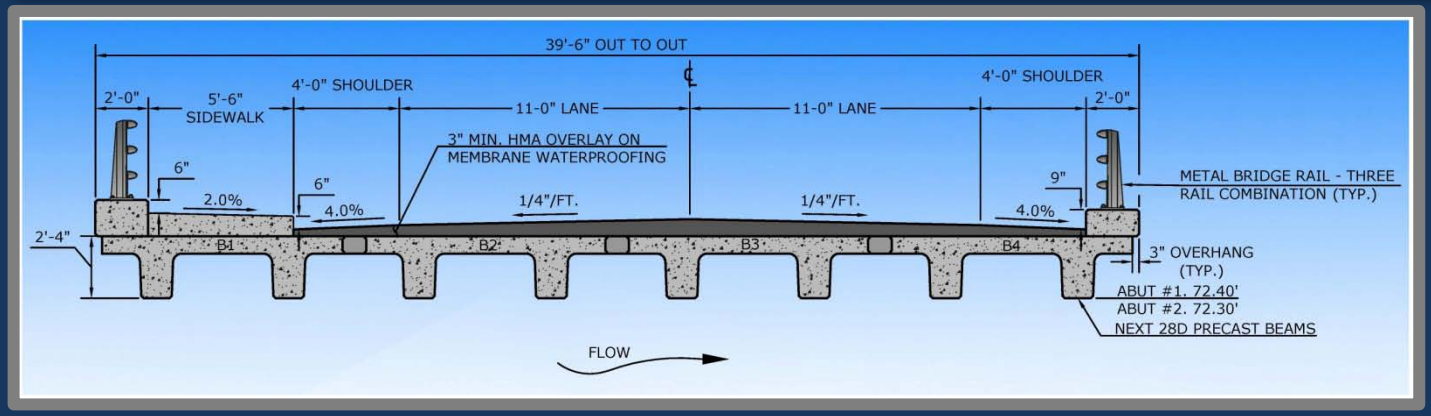
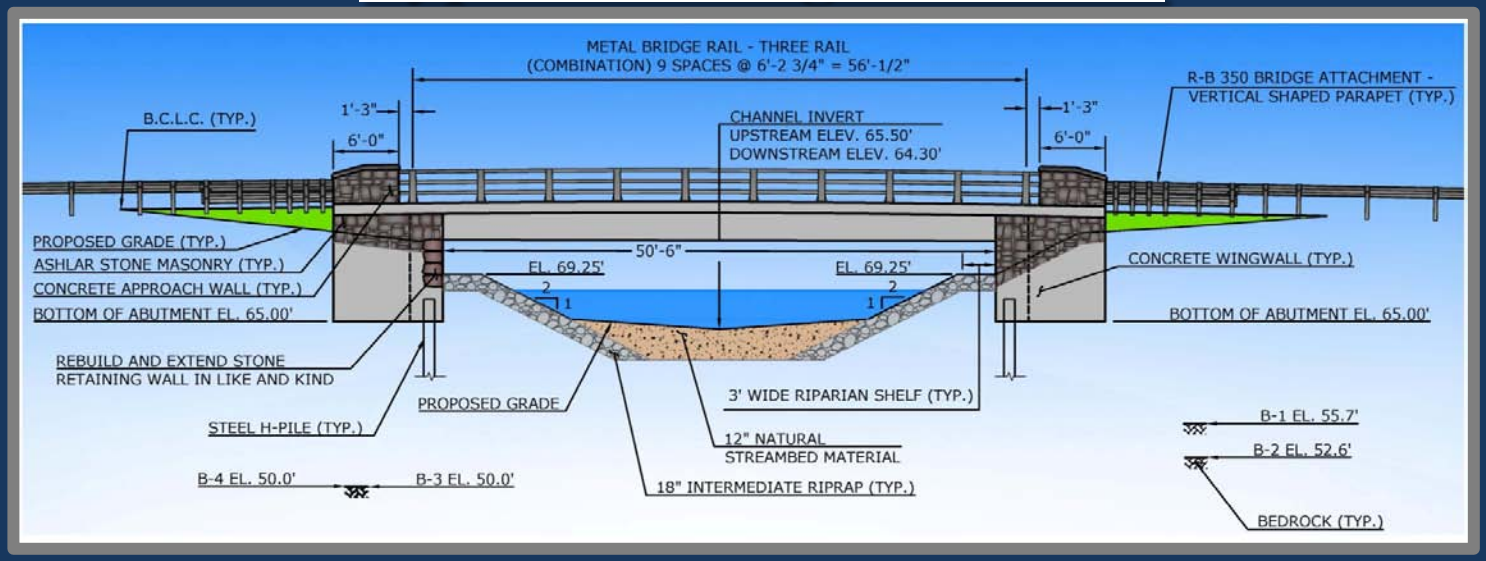
PROPOSED CONSTRUCTION



Typical Bridge Section



Bridge Elevation

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PROPOSED CONSTRUCTION

- *50' long single span precast concrete 'NEXT' beams with 5'-6" sidewalk*
- *Concrete bridge abutments and wingwalls on piles*
- *Concrete approach slabs & walls at both ends of the bridge*
- *Bridge rail in between the approach walls*
- *New guide rail and guide rail anchors*
- *Full depth reconstruction of pavement with project limits*
- *Improvements to existing drainage system*
- *Minimizing of easements and land acquisitions*
- *Geometry will essentially remain the same*
- *Improve safety of approach roadways*
- *Road to be closed to traffic with a detour during construction*

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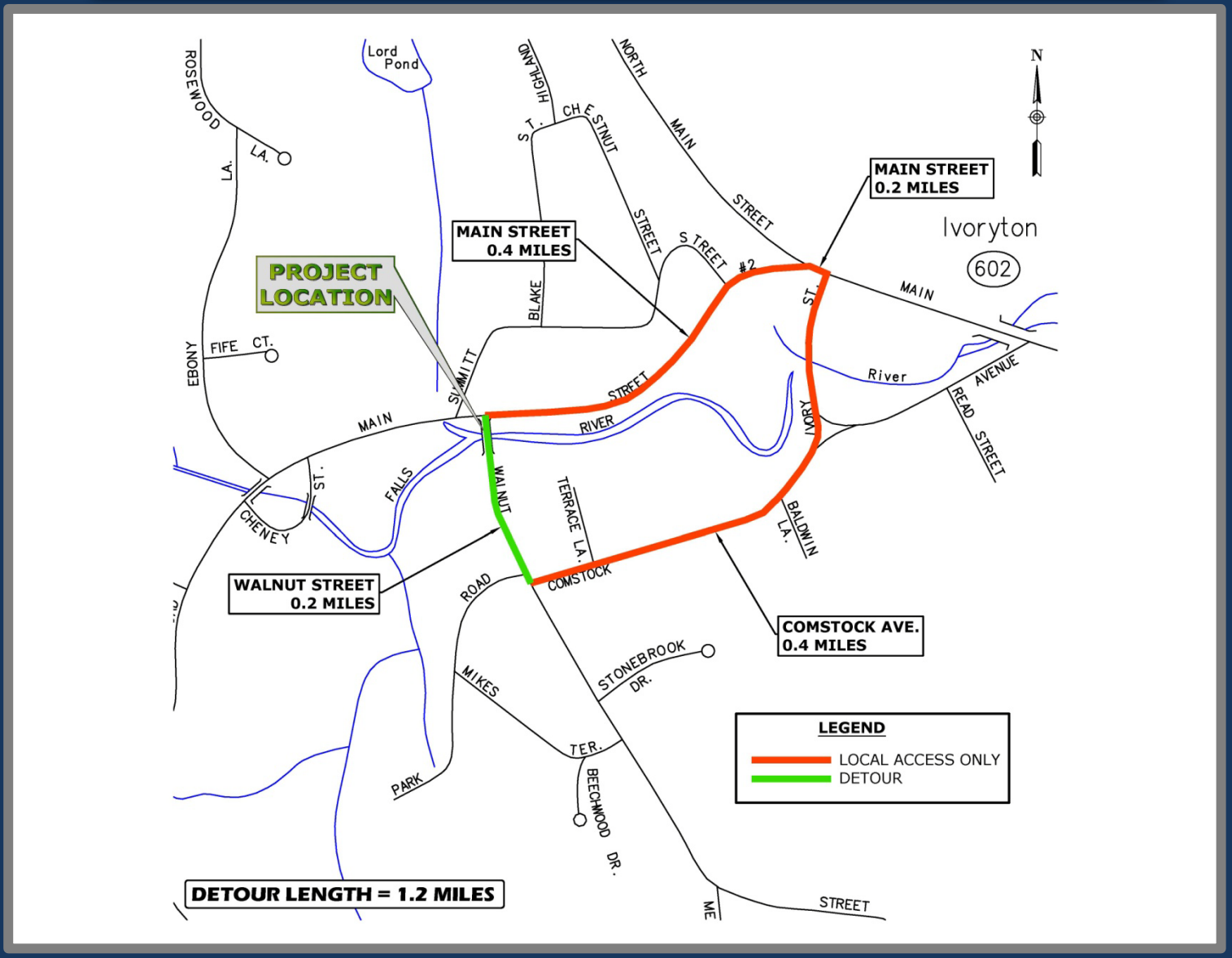
CONSTRUCTION DETOUR



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ENVIRONMENTAL CONSIDERATIONS

- *No known contaminated soils within project limits*
- *No known hazardous materials within project limits*
- *Best management practices will be used to handle sedimentation control*
- *Inland wetlands/regulated area impacts will be kept to a minimum*
- *Disturbed areas during construction will be restored upon completion*
- *Permits required:*

  Category I ACOE

  Town IWWC

  State Flood Management Certification

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PUBLIC UTILITIES

- *Overhead utility wires relocated as required*
- *Coordination with utility companies will be conducted during the design process*
- *Notification of the proposed improvements after approval of preliminary design*

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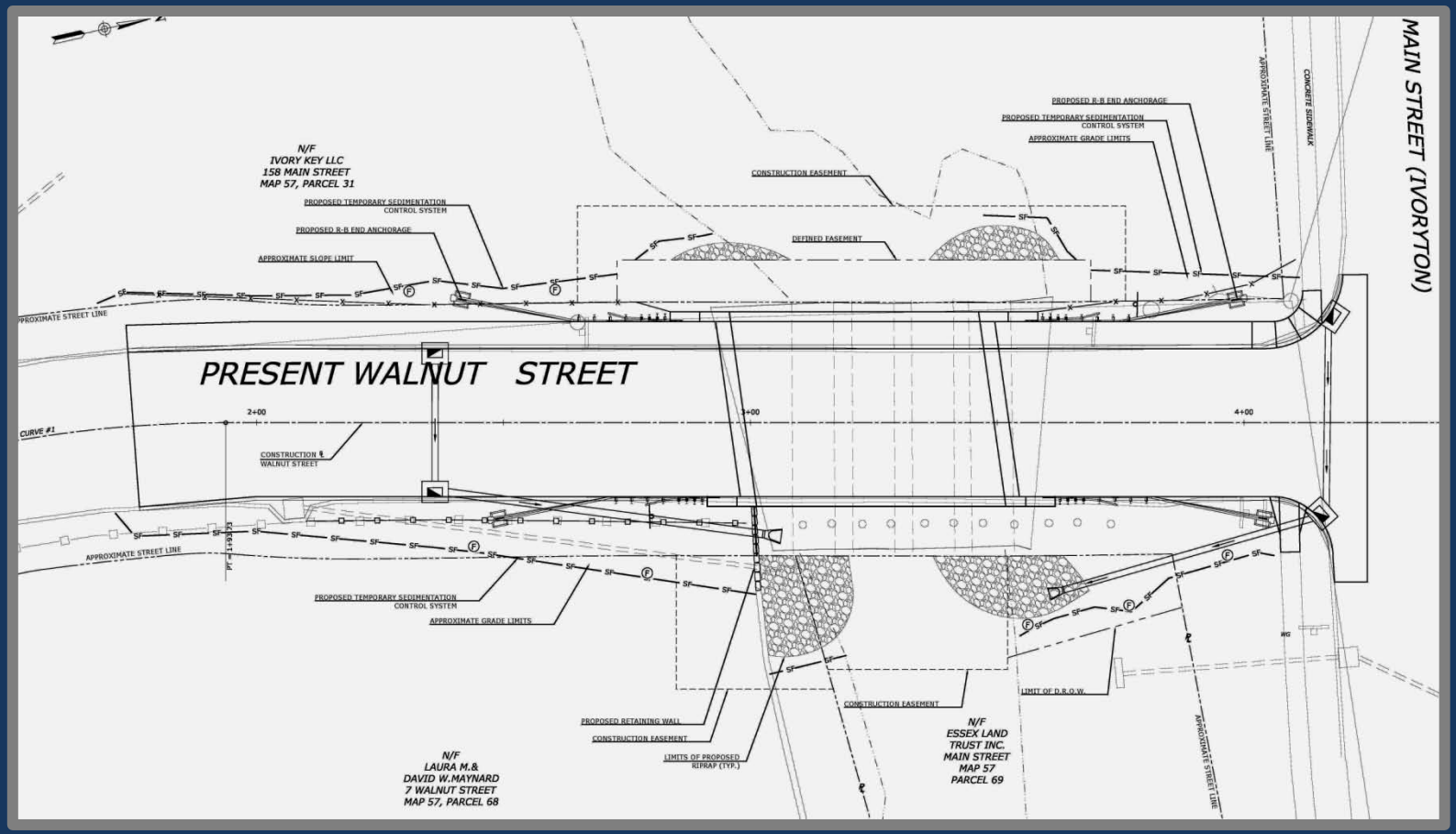
RIGHTS-OF-WAY

- *Impacts to private properties will be kept to a minimum*
- *Temporary construction easements required for the bridge and roadway improvements*
- *Permanent easements required for the maintenance of the bridge and retaining walls*



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PROJECT COST

- *The cost of construction for the year 2017 is approximately $2,200,000*
- *Funding will be 80% Federal funds and 20% Town funds*
    - *Federal: $1,760,000*
    - *Town: $440,000*

PROJECT SCHEDULE

- *Start of construction: 2017*
- *Duration of construction: Approx. 8 months*

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WMC PREVIOUS BRIDGE PROJECTS

BRIDGE DATA SHEET

PARKER BRIDGE ROAD BRIDGE over THE HOP RIVER

COVENRTY, CONNECTICUT

ORIGINAL STRUCTURE: The structure was reportedly built in 1900, and replaced in 1970. The bridge is a single span composed of simply supported steel stringers. The stringers support an 8 inch concrete deck that has no bituminous concrete topping. The bridge abutments were short concrete gravity sections, without weepholes The bridge had no parapets. The existing bridge had a total length of approximately 77 feet and a length of 73 feet from center to center of bearings. The bridge width is 21 feet between railing posts, and 22 feet overall to the back of the post.

NEW STRUCTURE: A single span bridge consisting of a 33 inch deep precast concrete box beam structure founded on integral type abutments. Also included was 340 feet of associated minor roadway work to match the new bridge into the existing roadway.

LENGTH: 78'

WIDTH: 26.5'

APPROACHES: 220'

SUPERSTRUCTURE: Prestressed Box beams

SUBSTRUCTURE: Integral Type abutments

COST: $ 1,052,669.14

PERMITS / REVIEWS: ACOE Catergory I Permit, IWWA Application, Application for Flood Management Certification

SPECIAL CONCERNS: Water pollution control, Full shielding below the structure to prevent debris, tools, etc. from dropping into river, fish passage

PROJECT SPECIFICATIONS:

EXCAVATION:	EARTH:	1,165 cy
	ROCK:	N/A
SUBSTRUCTURE:	CONCRETE:	58 cy
	REINFORCING:	17,932 lbs.
SUPERSTRUCTURE:	CONCRETE:	94 cy
	REINFORCING:	1,417 lbs.
ROADWAY:	295' – Metal beam rail (Type R-B 350)	

FEATURES:

CONSTRUCTION COMPLETION: Fall 2008

BRIDGE DATA SHEET

VALLEY ROAD over MIANUS RIVER

GREENWICH, CONNECTICUT

ORIGINAL STRUCTURE: The original bridge was built circa 1920's, is founded on bedrock at a depth of about 10-15 feet. It was a two span structure consisting of a reinforced concrete deck on steel beams, all supported on abutments and a wide pier constructed of a mix of old stone masonry and reinforced concrete.

NEW STRUCTURE: Prestressed concrete deck units, form-lined wingwalls and timber guiderail

LENGTH: 70'

WIDTH: 31'

APPROACHES: 100'

SUPERSTRUCTURE: Precast concrete deck units

SUBSTRUCTURE: Cast-in-place abutments & Wingwalls

COST: $ 1,023,000.00

PERMITS / REVIEWS: Town of Greenwich Inland Wetland and Watercourses permit, DEP Flood Management Certification, DEP 401 Water Quality Certification, DEP Storm Water Discharge and Construction Activities permit, Category II Army Corps of Engineers

SPECIAL CONCERNS: Environmental & Water Resource Issues, Traffic & detours,

PROJECT SPECIFICATIONS:

EXCAVATION:	EARTH:	2,143 cy
	ROCK:	26 cy
SUBSTRUCTURE:	CONCRETE:	418 cy
	REINFORCING:	27,525 lbs.
SUPERSTRUCTURE:	CONCRETE:	10.5 cy
	REINFORCING:	4,437 lbs.
ROADWAY:	135', Metal beam rail	

FEATURES:

CONSTRUCTION COMPLETION: FALL 2004

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WMC PREVIOUS BRIDGE PROJECTS

BRIDGE DATA SHEET

BLACK BRIDGE ROAD BRIDGE over BAKERVILLE BROOK

NEW HARTFORD, CONNECTICUT

ORIGINAL STRUCTURE:

NEW STRUCTURE: Two-span continuous joint pre-stressed concrete deck units, brushed aluminum bridge rail, reinforced Concrete abutments, stone facade on abutments & wingwalls, stone approach walls.

LENGTH: 174'

WIDTH: 30' – 6"

APPROACHES:

SUPERSTRUCTURE: Precast prestressed concrete deck units

SUBSTRUCTURE:

COST: $ 919,051.09

PERMITS / REVIEWS:

SPECIAL CONCERNS:

PROJECT SPECIFICATIONS:

EXCAVATION:	EARTH:	
	ROCK:	
SUBSTRUCTURE:	CONCRETE:	
	REINFORCING:	
SUPERSTRUCTURE:	CONCRETE:	
	REINFORCING:	
ROADWAY:		

FEATURES: This Bridge replaced an historic steel truss bridge listed on the National Register of Historic Places.

CONSTRUCTION COMPLETION: Spring 2000

BRIDGE DATA SHEET

EMMONS LANE over WHITING RIVER

NORTH CANAAN, CONNECTICUT

ORIGINAL STRUCTURE: The Bridge consists of a simply supported, rolled steel beam superstructure with masonry abutments , founded on undetermined footing types. The width of the structure measured perpendicular to the roadway alignment averages 16.7 feet. The hydraulic opening of the bridge was approximately 25 feet between abutment faces.

NEW STRUCTURE: A single span bridge with an 18-inch deep concrete deck unit superstructure with a hydraulic clear span of 32 feet measured between the abutment faces. The abutments are cast in place concrete with wing walls angled at approximately 40°. The overall width of the crossing measured perpendicular to the roadway is 25 feet.

LENGTH: 38'

WIDTH: 25'

APPROACHES: 50'

SUPERSTRUCTURE: Precast Pre-stressed Concrete Box Beams

SUBSTRUCTURE: Cast-in-place concrete abutments, one side on bedrock, another side on H piles

COST: $ 678,679.49

PERMITS / REVIEWS: ACOE Category I Permit, DEP Flood Management Certification, DEP Stream channel Encroachment permit, Inland Wetland & Watercourses Permit

SPECIAL CONCERNS: Property Owners / Easements, Utilities,

PROJECT SPECIFICATIONS:

EXCAVATION:	EARTH:	869 c.y.
	ROCK:	238 c.y.
SUBSTRUCTURE:	CONCRETE:	183 c.y.
	REINFORCING:	10,225.87 lbs.
SUPERSTRUCTURE:	CONCRETE:	4 c.y.
	REINFORCING:	2,357.96 lbs.
ROADWAY:	132' – Metal Beam Rail (Type R-B-350)	

FEATURES: Concrete form lined wing walls and approach walls, Three rail metal bridge rail, Year Marker Plate

CONSTRUCTION COMPLETION: Spring 2009

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WMC PREVIOUS BRIDGE PROJECTS

BRIDGE DATA SHEET

OLD TURNPIKE NORTH ROAD over KONKAPOT RIVER

NORTH CANAAN, CONNECTICUT

ORIGINAL STRUCTURE: Consisted of a steel girder superstructure with masonry abutments. The length of the bridge measured between the abutment faces is 40 feet. The bridge lacked bridge parapets. The roadway approach embankments, particularly to the northwest, are long and obstruct a considerable portion of the floodplains.

NEW STRUCTURE: A single span bridge consisting of a 33 inch deep precast concrete box beam superstructure founded on integral type abutments. The length of the bridge is 66.2 feet measured perpendicular to the concrete portions of the abutment faces. The overall width of the crossing, measured perpendicular to the roadway, will be 29 feet. The bridge as flow-through type railing system to minimize impacts to overtopping flows.

LENGTH: 73'

LENGTH: 29'

APPROACHES: 170'

SUPERSTRUCTURE: Prestressed concrete box beams

SUBSTRUCTURE: Integral type abutments

COST: $ 1,013,490.71

PERMITS / REVIEWS: ACOE Category I Permit, DEP Flood Management Certification, Stream Channel Encroachment permit

SPECIAL CONCERNS: Overtopping of the roadway with heavy rain fall,

PROJECT SPECIFICATIONS:

EXCAVATION:	EARTH:	420 CY
	ROCK:	N/A
SUBSTRUCTURE:	CONCRETE:	117 CY
	REINFORCING:	13,385 lbs
SUPERSTRUCTURE:	CONCRETE:	47 cy
	REINFORCING:	9,470 lbs
ROADWAY:	306' , Metal Beam Rail – (Type R-B 350)	

FEATURES:

CONSTRUCTION COMPLETION: FALL 2009

BRIDGE DATA SHEET

BARRY ROAD over EIGHT MILE BROOK

OXFORD, CONNECTICUT

ORIGINAL STRUCTURE: The structure was built in 1956 and consists of a prestressed concrete deck unit superstructure on reinforced concrete abutments and wingwalls with a pier in the center. The two spans are each 30 feet bearing to bearing and form a continuous bridge with an overall length of 62 feet on a 13° skew to the flow of the brook below. The roadway width of the bridge is 22 feet; overall width of the bridge is 26 feet.

NEW STRUCTURE: Is located upstream of the existing bridge (approximately 55 feet) in order to improve roadway alignment. It consists of a single 75 foot span crossing.

LENGTH: 80'

WIDTH: 30'

APPROACHES: 150'

SUPERSTRUCTURE: Precast / Prestressed concrete deck units

SUBSTRUCTURE: Reinforced concrete abutments

COST: $ 852,424.34

PERMITS / REVIEWS: Inland wetlands watercourse permit, ACOE category II permit

SPECIAL CONCERNS: Overhead Utilities

PROJECT SPECIFICATIONS:

EXCAVATION:	EARTH:	904 C.Y.
	ROCK:	32 C.Y.
SUBSTRUCTURE:	CONCRETE:	320 C.Y.
	REINFORCING:	16,823 lbs.
SUPERSTRUCTURE:	CONCRETE:	9 C.Y.
	REINFORCING:	1,223 lbs.
ROADWAY:		

FEATURES:

CONSTRUCTION COMPLETION: Fall 2002

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CONTACT INFORMATION

Town of Essex

Norman Needleman
First Selectman
29 West Avenue
Essex, CT 06426
nneedleman@essexct.gov
860-767-4340 ext. 114

Town of Essex

Maria Lucarelli
First Selectman's Assistant
29 West Avenue
Essex, CT 06426
mlucarelli@essexct.gov
860-767-4340 ext. 112

Town of Essex

John Guszkowski
Town Planner
29 West Avenue
Essex, CT 06426
planner@essexct.gov
860-767-4340 ext. 150

CME Associates, Inc.

Jodi-Ann O'Connor, P.E.
Federal Local Bridge Program Coordinator
333 East River Drive, Suite 400
East Hartford, CT 06108
joconnor@cmeengineering.com
860-290-4100 ext. 1102

WMC Engineers

Keegan Elder
Project Manager
87 Holmes Road
Newington, CT 06111
kelder@wmcengineers.com
860-667-9624

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