

INTERVIEW PRESENTATION

To



ENGINEERING SERVICES

For

**WHITFORD BROOK WATERSHED
INFRASTRUCTURE IMPROVEMENTS**



April 2023

Wengell, McDonnell & Costello
Consulting Engineers



87 Holmes Road
Newington, CT 06111

April 12, 2023

Phone: (860) 667-9624
Fax: (860) 665-1551

Selection Panel
Engineering Services for Whitford Brook Watershed Infrastructure Improvements
Town of Ledyard, Connecticut

Dear Selection Panel Members:

WMC Engineers would like to thank you for the opportunity to meet with you to present our firm's qualifications and approach to this assignment. Based upon our knowledge of the project resulting from our recent inspection of the dams and culverts, review of project documentation and our discussions with Town staff we believe that WMC offers:

- **Dam and Culvert Hydrologic and Hydraulic Evaluation Experience** gained through evaluation of over 20 dams and 200 bridges/culverts. This experience will allow us to evaluate the watershed in a comprehensive manner
- **Dam and Culvert Design Expertise** having designed over 200 bridges and 20 dams throughout the State including 10 dams designed for the DEEP directly. We will evaluate the dams and culverts in a professional manner, while addressing important concerns such as resiliency, spillway adequacy, road and dam alignment, cost, time of construction, aesthetics, hydraulics, permitting and quality control;
- **Excellent Availability of Highly Qualified Staff;** the same team proposed for this project has completed all of our bridge and dam assignments including dams for Harwinton, Plymouth, Hartland, Putnam and others and bridges for many communities, including Ledyard.
- **Knowledge of Project Concerns** gained through our inspection of the dams and culverts, discussions with Town and DEEP staff and through our experience with many similar hydraulic evaluation and design projects;
- **Environmental Compliance Expertise**, having obtained all permits for the firm's dam and bridge projects including local, Army Corps, DEEP, SHPO/THPO, etc., allowing the project to proceed to construction with the minimum of permitting delays;
- **Familiarity with Municipal and ConnDEEP Policies and Procedures** since we have designed over 20 dams and 200 bridges in Connecticut. Additionally, we serve as an on-call engineer for the DEEP Dam Safety section, allowing us to ensure that all DEEP requirements are met on behalf of the Town, while cost effectively obtaining the Town's desired result; and
- **Direct Principal Involvement with this project**, assuring the Town of personalized, professional services, with WMC handling all aspects of the project on behalf of the Town.

Thank you for meeting with us and we look forward to the opportunity to providing service to Ledyard.

Sincerely,
Wengell, McDonnell & Costello


Jay A. Costello, P.E.
President

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TOWN OF LEDYARD

ENGINEERING SERVICES For WHITFORD BROOK WATERSHED INFRASTRUCTURE IMPROVEMENTS

WHY WMC?

SPECIALIZED DESIGN AND TECHNICAL COMPETENCE

- Experience With Over 200 Similar Dams and Culverts
- DEEP/ACOE/Local Permitting Experience
- Sensitivity To Local Concerns & Aesthetics
- Public Awareness/Neighborhood Interaction

CAPACITY AND CAPABILITY TO PERFORM WORK

- Same Staff That Designed All of WMC's Dam and Culvert Projects
- Excellent Availability of Staff

PAST RECORD OF PERFORMANCE

- Other Dam and Culvert Projects Designed for DEEP and Towns
- Over 200 Similar Projects Successfully Completed for Connecticut Towns

KNOWLEDGE OF MUNICIPAL & STATE POLICIES & PROCEDURES

- Past Work Throughout Connecticut
- Over 20 Dams in Connecticut
- Public Involvement Experience



PROJECT ORGANIZATION

WMC offers a team experienced in civil engineering, survey, hydraulics, flood control and dam design, permitting, construction and environmental services. Our team has performed many similar assignments over the last ten years, including 280 dam inspections and ten dam designs performed for DEEP, and this team will be committed to this project for its duration. The following is a brief description of the team members that would be assigned to the project, followed by resumes of the team.

Project Manager – Stephen McDonnell, P.E.

Mr. McDonnell has over 45 years of experience in hydrology/hydraulics, dam inspections and dam rehabilitation design and construction. He has evaluated over 20 flood control and dam projects over the last six years, and has completed DEEP/Army Corps permitting for many similar projects. He served as Project Manager for the design of dam improvements for over 20 Connecticut dams. He will provide overall project management.

Senior Engineer – Hydrology/Hydraulics - Michael Fanning, P.E.

Mr. Fanning has over 35 years of experience in hydrology and hydraulics and has specific expertise in dam inspection and design. He has served as senior engineer for the Moodus Reservoir Dam, Bashan Lake, Industrial Monument Dam and Walkers Reservoir Dam as well as hydraulic evaluations for over twenty bridges. He has recently performed inspections of twenty dams in compliance with the latest DEEP guidance and designed spillways for ten DEEP dams. Additionally, he has prepared Emergency Action Plans for over ten DEEP and municipal dams.

Senior Engineer – Dam/Culvert Design - Keegan Elder, P.E., Vice President

Mr. Elder has over 25 years of bridge and culvert inspection and design experience and has served as a project and senior engineer for bridge projects in North Branford, Wilton, Greenwich, New Canaan, New Fairfield, New Milford and Weston. He has served as senior project engineer for over 50 municipal bridges and 10 bridges designed for ConnDOT directly. He has specific expertise in Municipal, AASHTO and ConnDOT standards. He will serve as senior structural engineer.

Senior Engineer – Dam Design - David Harrison, P.E.

Mr. Harrison has over 45 years of experience in the inspection, design and construction supervision of dams, roadways and bridges. He recently served as a dam inspector for two DEEP owned dams. He will assist Mr. Fanning with the dam design.

Senior Engineer - Culvert Design - Katerina Kretsch, P.E.

Ms Kretsch with over 30 years of bridge and culvert design experience, has served as a project and senior engineer for bridge design for projects in Redding, Danbury, New Milford, Salisbury, Harwinton, New Hartford, Pomfret, East Haddam, Coventry and Hartland. She has served as project engineer for over 20 Federal Local bridge design assignments and through this work has gained significant experience in designing bridges in compliance with municipal, AASHTO and ConnDOT standards. Ms. Kretsch will serve as senior structural engineer for this project.



Project Engineer – Culvert Design – Emanuel Duarte, P.E.

Mr. Duarte has over 10 years of bridge inspection and design experience and has served as project engineer for over 20 bridge assignments with WMC. He has served in this capacity for bridge designs in Wilton, Bristol, Berlin, Burlington, Greenwich, New Canaan and others. He also has served as project engineer for over 10 bridges inspected and designed for ConnDOT.

Sub-Consultants

Survey – William Hearn, L.S.

Mr. Hearn, with over 30 years of surveying experience, has performed survey for many of WMC's recent dam and bridge projects. The firm has many years of experience in survey for engineering projects. Since we have used the firm for over 20 municipal dam and bridge projects, they are knowledgeable of Municipal, State/Federal requirements.

Geotechnical Investigations – Associated Borings (DBE)

Associated Borings has performed geotechnical investigations for over 30 of WMC's municipal dam and bridge projects. The firm has extensive experience in the investigative tasks as well as foundation requirements in compliance with DEEP requirements and DOT grant programs.

Soil Scientist – REMA Ecological Services, George Logan, MS, PWS, CSE

REMA Services has over 30 years of experience in soil science and are experts in wetlands issues. They have assisted WMC with many projects associated with municipal dams, roads and bridges, and are familiar with DOT, DEEP and typical local wetlands agency requirements. They will serve as soil scientist and wetlands mitigation consultant, as required.

Diving Services – Shoreline Diving Services

If required, WMC would utilize the services of Shoreline Diving Services. The firm has over 30 years of diving experience with dams, intake structures and other structures. They serve as the on-call diving service for the DEEP and WMC has utilized them on over ten dam improvement projects.



EXPERIENCE OF THE FIRM/REFERENCES

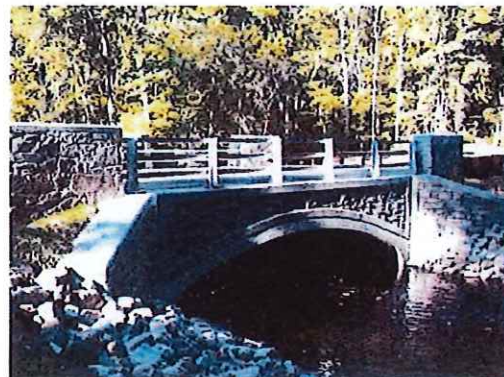
Bridge Inspections, Hydraulic Evaluations, Studies and Design

Town of Salisbury – WMC inspected, designed and oversaw construction of four bridges under the ConnDOT Grant Programs. We recently designed the replacement of an historic Berlin Iron Truss for the Town funded under a ConnDOT grant. The photo right depicts the new galvanized and painted truss, founded on cast in place concrete abutments completed in 2019.



Mr. Curtis Rand, First Selectman,
27 Main Street
Salisbury, CT 06068
(860) 435-5170

Town of Redding – WMC inspected, designed and oversaw construction of three bridges under the Federal Local and Local Bridge Programs for the Town. All three bridges are of similar size and scope to this project. One was the rehabilitation of an historic stone arch listed on the National Register of Historic Places. To the right is the Diamond Hill Road Bridge. In 2018, construction was completed on the Stepney Road Bridge.



Mr. Julia Pemberton, First Selectman
100 Hill Road
Redding, CT 06875
(203) 938-2002

Town of Greenwich – WMC has inspected and designed eight bridges for the Town, funded under various DOT programs. A bridge recently constructed (Valley Road, right) was funded through an STP grant. This project required a number of design exceptions in order to blend in with the project environs. The Shore Road Bridge was completed in 2017.



Mr. James Michel, P.E., Dep. Commissioner DPW
101 Field Point Road
Greenwich, CT 06830
(203) 622-7860



Town of Harwinton – WMC has designed and overseen construction of seven bridges for the Town including four constructed under the Federal Local Bridge Program. The bridge shown to the right is the South Road Bridge featuring stone approach walls, cast in place abutments and pre-cast concrete deck units for the superstructure. Recently completed in 2016 was the Catlin Road Bridge funded under the Federal Local Bridge Program



Mr. Dave Bousquet, Highway Supervisor
100 Bentley Drive
Harwinton, CT 06791
(860) 485-9051

Town of New Fairfield – WMC performed the survey, design and construction administration in 2018 of the Musket Ridge Road Bridge for the Town. The project involved staged construction as the road offers the only access to the Musket Ridge neighborhood. The bridge is twin box culverts with formliner wingwalls and parapets. Additionally we have assisted the town with roadway and drainage design for Candlewood Corners.



Mr. Antonio Iadarola, P.E., Public Works Director
4 Brush Hill Road
New Fairfield, CT 06812
(203) 312- 5629

Town of New Milford – WMC has inspected and designed five bridges for the Town, four of which were funded under the Federal Local Bridge Program and one under Local Bridge Program. To the right is the Walker Brook Road Bridge featuring stone facing on the concrete abutments and wingwalls and steel backed wood guide rail. This project is on a designated scenic road and WMC was able to maintain the existing road width of 18’.



Mr. Jack Healy, Public Works Director
10 Main Street
New Milford, CT 06776
(203) 355-6040



Town of Hartland – WMC has designed three bridges for the Town, two funded under the Federal Local Bridge Program. The bridge shown to the right is Dish Mill Road Bridge featuring form liner concrete wingwalls and fascia with a precast concrete arch. Additionally, the bridge features steel backed wood guide rail. Construction is finished in 2019 on the Peck Orchard Road Bridge funded under the Federal Local Bridge Program



Ms Magi Winslow, First Selectman
22 South Road
East Hartland, CT 06027
(860) 651-3389

Town of Chaplin – WMC has inspected, designed and overseen construction of three bridges for the town under the ConnDOT Federal Local Bridge Program. All bridges are over the Natchaug River. To the right is the Marcy Road Bridge featuring stone facing on abutments and wingwalls as well as the stone approach walls. Construction is starting this spring on the Bear Hill Road Bridge, funded under the Federal Local Bridge Program.



Mr. Bill Rose, Former First Selectman
495 Phoenixville Road
Chaplin, CT 06235
(860) 455-0073

Town of North Canaan - WMC has inspected and designed four bridges for the Town, all funded under the Federal Local Bridge Program. The bridge shown to the right is College Hill Road Bridge featuring form liner concrete wingwalls and fascia with a precast concrete arch. Additionally, the bridge features steel backed wood guide rail. We are (2022) finishing construction administration of the replacement of the Tobey Hill Road Bridge funded under the Federal Local Bridge Program.



Mr. Charlie Perotti, First Selectman
100 Pease Street
North Canaan, CT 06018
(860) 824-7313



City of Meriden – WMC has designed five bridges for the City as part of a flood mitigation plan for the downtown area of Meriden. Two of the bridges (Coe and Bradley Avenue) were recently constructed and WMC provided inspection and construction administration services. The two bridges were funded under a special legislative grant administered by ConnDOT.

Mr. Brian Ennis, P.E. City Engineer
142 East Main Street
Meriden, CT 06450
(203) 630-4018

Town of Granby – WMC designed the replacement of the Silver Street Bridge for the Town. This project, featuring a galvanized and painted steel truss superstructure, was funded under a ConnDOT Grant Program. WMC performed construction inspection for this project as well. The bridge was completed in 2014. We recently (2022) completed construction inspection of two bridge for the Town under the DOT Local Bridge Program.

Mr. Kirk Severance, Public Works Director
15 North Granby Road
Granby, CT 06035
(860) 844-5300

Town of New Canaan – WMC has designed and over seen construction of two bridges for New Canaan, both funded under the DOT Federal Local Bridge Program. Both projects were in sensitive areas in terms of the neighbors and utilized stonework facades and formliner to mimic the look of the old bridges. To the right is the Hickok Road Bridge, constructed of a precast concrete arch, completed in 2018.

Mr. Tiger Mann, Public Works Director
77 Main Street
New Canaan, CT 06840
(203) 594-3054





Town of Plainville – WMC designed and oversaw construction of the replacement of the Stillwell Road Bridge. The project features precast concrete box culverts with form liner fascias. The boxes are set at a high skew angle allowing the relocation of the stream back to its original location. The project was in an environmentally sensitive area and feature root wad habitat replacement in the stream. The project was completed in 2012

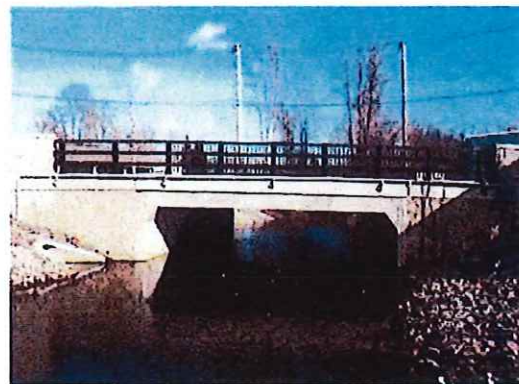
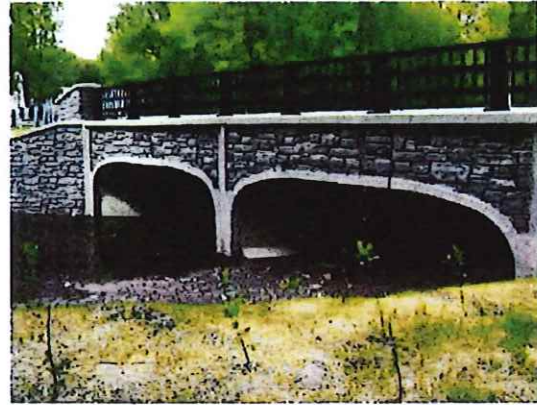
Mr. John Bossi, P.E., Town Engineer
1 Central Square
Plainville, CT 06062
(860) 793-0221

Town of North Stonington – WMC designed and oversaw construction of the replacement of the Main Street Bridge which had washed out in a recent tropical storm. The old bridge was historic and WMC was able to salvage most of the stone from the old bridge and they were cut and re-installed on the fascia of the new bridge. The project was funded through FEMA.

Mr. Nick Mullane, Former First Selectman
40 Main Street
North Stonington, CT 06359
(860) 535-2877

Town of Branford – WMC recently (2015) designed the replacement of the Schoolground Road Bridge funded under the ConnDOT Federal Local Bridge Program. The bridge consists of a precast concrete arch founded on drilled caissons. WMC is currently designing the replacement of the Harbor Street Bridge funded through the ConnDOT Local Bridge Program and requiring permits through DEEP OLISP, fisheries, State Historic Preservation Office and Army Corps.

Mr. John Hoefflerle, P.E., Town Engineer
1019 Main Street
Branford, CT 06405
(203) 315-0639



Dam Inspections, Hydraulic Evaluations, Studies and Design

Moodus Reservoir Dam – East Haddam

WMC performed the inspection, design, permitting and construction administration for the repair of this dam. Improvements included construction of a new dam located immediately upstream of the existing stone-faced dam, to retain the historic nature of the structure. A new gate structure was installed as well as a fuse plug emergency spillway. The original broad crested weir spillway was replaced by a more hydraulically efficient ogee shaped spillway.

Mr. Dan Biron
DEEP
(860) 424-3892



Industrial Monument Dam – North Canaan

WMC performed the inspection, design, permitting and construction administration for the repair of this dam. Improvements included construction of a new dam located immediately upstream of the existing stone-faced dam, to retain the historic nature of the structure which provided power for iron smelting operations. A new gate structure was installed as well as an emergency spillway.

Mr. Dan Biron
DEEP
(860) 424-3892



Bashan Lake Dam – Moodus

WMC recently completed the inspection and design for improvements to the Bashan Lake Dam for the DEEP. Improvements include new upstream cut-off wall, new spillway, new gated outlet structure, repointing of existing stonework, new bridge for maintenance access and new buttress wall designed to support the existing stone-faced dam, which has developed a bulge over the years.

Mr. Dan Biron
DEEP
(860) 424-3892



WMC
CONSULTING ENGINEERS

Lake Harwinton Dam – Harwinton

WMC performed inspection, design and construction management for this dam and bridge project. The project was funded under the DOT Federal Local Bridge Program and WMC was able to use this funding to perform dam improvements as part of the project. Dam improvements included new gated outlet structure, new spillway and new emergency spillway constructed of grouted rip-rap and articulated concrete blocks.

Mr. Dave Bousquet, Public Works Director
(860) 485-9051



Camp Alice Merritt Dam – Hartland

WMC has performed inspection and the design of improvements to this dam which impounds a pond utilized by the Town of Hartland for summer recreation programs. The pond was formerly part of a Girl Scout Camp. Improvements include new low level outlet gate structure and spillway.

Ms Magi Winslow, First Selectman
(860) 653-6800



Hampton Reservoir Dam - Hampton

WMC performed the inspection, design and construction management of the rehabilitation of the Hampton Reservoir Dam for the DEEP. This project involved improvements to the earthen dam and replacement of the spillway and outlet structure. Additionally, a small bridge was installed to provide access across the dam outlet for maintenance.

Mr. Dan Biron, DEEP
(860) 424-3892



Connecticut Valley Hospital Water Supply Reservoirs – Middletown

WMC performed the inspections of six water supply reservoirs that are part of the hospital's water supply system. Recommendations were made for the breaching of one dam and improvements to the other dams. WMC recently designed the dam breach as well as the improvements to the remaining five dams.

Mr. Dan Biron, DEEP
(860) 424-3892

Ashland Pond Dam - Griswold

WMC performed the inspection, design and construction oversight of the rehabilitation of the Ashland Pond Dam for DEEP. The project involved improvements to the dam for maintenance and safety reasons, including replacement of the outlet gate structure, repairs to the main spillway and training walls and new emergency spillway utilizing articulated concrete blocks (ACB).



Mr. Dan Biron, DEEP
(860) 424-3892

Statewide Dam Inspections for the DEEP

WMC performed the inspection, preliminary spillway sizing and recommendations for repair, replacement or breaching for over 280 State owned or maintained dams. The work product included individual inspection reports and a computerized program for rating and prioritizing improvements and for tracking these improvements as they are completed. Due to severe time constraints, WMC utilized four inspection teams along with project dedicated office personnel to complete all dam inspections within a three-month time period. This project was completed on-time and within budget

Mr. Charles Lee, DEEP
(860) 424-3716

Shepards Pond Dam Inspection – Putnam Water Department

WMC recently inspected this dam and made recommendations for repair for the Town of Putnam Water Department. The pond is part of the Putnam Water Supply System and requires minor improvements. The inspection was performed in compliance with new DEEP inspection requirements and forms.

Ms Elaine Sistare, P.E., Town Administrator
(860) 963-6800

Steichens Pond Dam Inspection – Redding

WMC has inspected this structure and made recommendations for repairs for the Town of Redding. The pond is utilized by the Town for recreation purposes. The dam requires spillway improvements and general maintenance, however access to the dam is very limited and costly, far exceeding the cost of the recommended dam improvements. The town is pursuing grant opportunities to assist with the repair of the structure.

Ms Julia Pemberton, First Selectman
(203) 938-2002



CONSULTING ENGINEERS

Kensington Pond (Railroad Pond) Dam Inspection – Berlin

WMC has inspected this structure and made recommendations for repairs for the Town of Berlin. The pond is utilized by the Town for recreation purposes and requires spillway rehabilitation as well as a new outlet structure. The inspection followed the DEEP format. The Town is now considering breaching the dam as it serves no useful purpose so they will be comparing the cost of breaching versus rehabilitation of the structure.

Mr. James Horbal, Deputy Director of Public Works
(860) 828-7014

North Street (Plymouth Reservoir) Dam – Plymouth

WMC recently performed the inspection of this dam for the Town of Plymouth in compliance with DEEP requirements and forms. The reservoir was a former water supply reservoir, now used by the Town for recreational purposes. WMC is preparing an Emergency Action Plan and breach analysis for the dam.

Mr. Charles Wiegert, Public Works Director
(860) 585-4030

Five Dam Inspections – Simsbury

WMC recently inspected five dams for the Town in compliance with the new DEEP requirements and forms. We made recommendations for prioritizing repairs and prepared cost opinions for the repairs for budgetary purposes. The town had the dams inspected proactively, before being required by the DEEP, to determine budgetary needs for rehabilitating and maintaining the dams.

Mr. Jeff Shea, P.E., Town Engineer
(860) 658 3260

Lake Winchester Dam and Wood Creek Dam – Winsted and Norfolk

WMC performed the inspection, design and construction oversight of the rehabilitation of the Lake Winchester and Wood Creek Dams for the DEEP. The projects involved improvements to the dams for maintenance and safety improvements and included new spillways, access bridges over the spillways and new outlet structures.

Mr. Chuck Lee, DEEP
(860) 424-3716

Dooley Pond Dam - Meriden

WMC recently completed the construction oversight for this dam as well as a State Boat Launch for the DEEP. The work included a new outlet structure, new spillway and appurtenances.

Mr. Chuck Lee, DEEP
(860) 424-3716

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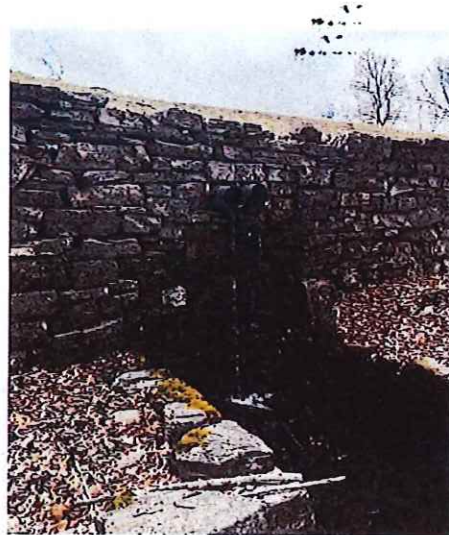
IMPORTANT ISSUES

❖ **STAKEHOLDER INVOLVEMENT**

❖ **H&H**

❖ **ALTERNATIVES**

Spillway Improvements
Dam/Embankment
Roadway Improvements
Property Purchase
Raising Structures



❖ **PERMITS**

❖ **COSTS**

❖ **PROPERTY OWNER CONCERNS**

❖ **IMPLEMENTATION**