JOURNAL OF THE

NEW HAMPSHIRE WATER WORKS ASSOCIATION







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Journal of the

New Hampshire Water Works Association

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<u>Front Cover Photo</u>: Merrimack Village Water District's new 1.8 MGD iron and manganese removal treatment facility. Construction Day 2015.

JOURNAL STAFF Stephen Del Deo, Editor Susan Kowalski, Desktop Publishing

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NEW HAMPSHIRE WATER WORKS ASSOCIATION 18 N. Main St., Suite 308, Concord, NH 03301 (603) 415-3959 nhwwa@worldpath.net www.nhwwa.org

Past Presidents of the Association

Donald C. Calderwood, P.E., Nashua *	1945-1946
Ernest E. Tankard, P.E., Berlin*	1946-1947
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	1975-1976
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Carl Brink, Jr., Hanover	1980-1981
Rance Collins, Portsmouth*	1981-1982
Chester Hoadley, Concord	1982-1983
Albin Johnson, Berlin	1983-1984
Stephen Lovejoy, Raymond*	1984-1985
Lorraine Saltzer, Hudson*	1985-1986

Ernest Cote, Hampton	1986-1987
Doug Damelio, Keene	1987-1988
Bob Gordon, Jaffrey	1988-1989
John Forrestall, Concord	1989-1990
Roger Gauthier, Exeter	1990-1991
Dale Sprague, Farmington	1991-1992
Richard K. LaPorte, New London	1992-1993
Stephen Densberger, Nashua	1993-1994
Robert E. Courage, Milford	1994-1995
Thomas Bowen, Manchester	1995-1996
Keith Bossung, Hampton	1996-1997
Victoria Abbey Del Greco, Exeter	1997-1998
Edwin Betz, Littleton	1998-1999
Pierre C. Lavoie, Dover	1999-2000
Bernard Rousseau, Nashua	2000-2001
Robert Beaurivage, Manchester	2001-2002
Sharon Ostrander, Lyndeborough	2002-2003
David Brennan, Sunapee	2003-2004
Brian Wilson, Ti-SALES, Inc.	2004-2005
Thomas Cravens, Portsmouth	2005-2006
Lee Minnich, Goffstown	2006-2007
Brian Goetz, Portsmouth	2007-2008
David Paris, Manchester	2008-2009
Philip Bilodeau, Concord	2009-2010
Steve Guercia, Secondwind Water Systems	2010-2011
Michael Metcalf, Underwood Engineers, Inc.	2011-2012
Marco Philippon, Westford, MA Water Dept.	2012-2013
William Boulanger, Dover Water Department	2013-2014
Guy Chabot, Manchester Water Works	2014-2015

^{*}Deceased

Water Works Superintendents and Other Officials

STATE OF NEW HAMPSHIRE

Town	System	Name
Alton	Alton Water Works	William Curtin
Amherst	Amherst Village District	Chris Countie
Andover	Andover Water Works	Todd Cartier
Antrim	Antrim Precinct	Jim Cruthers
Ashland	Ashland Water Works	Russell Cross
Bartlett	Bartlett Village Precinct	Scott Hayes
Bartlett	Lower Bartlett Precinct	Gary Chandler
Bath	Bath Village Water Works	Spencer Richardson
Belmont	Belmont Water Works	Jim Fortin
Bennington	Bennington Water Dept.	Jim Cruthers
Berlin	Berlin Water Works	Craig Carrigan
Bethlehem	Bethlehem Village District	Terence Welch
Boscawen	Penacook-Boscawen Water	Peter Miner
Bow	Bow Municipal Water System	Eric Burkett
Brentwood	Rockingham County Home	Tom Schulte
Bristol	Bristol Water Works	Jeffrey Chartier
Campton	Campton Village Precinct	Joseph Vaillancourt
Campton	Waterville Estates Village District	Corey Smith
Canaan	Canaan Water Department	John Coffey
Carroll	Carroll Water Works	Scott Sonia
Carroll	Rosebrook Water System	Nancy Oleson
Charlestown	Charlestown Water Works	Dave Duquette
Charlestown	N. Charlestown Water Works	Dave Duquette
Claremont	Claremont Water Works	Robert Lauricella
Colebrook	Colebrook Water Works	Kevin McKinnon
Concord	Concord Water Resources	Phil Bilodeau
Contoocook	Contoocook Water Precinct	Steve Clough
Conway	Conway Village Fire Precinct	Gregg Quint
No. Conway	N. Conway Water District	David Bernier
E. Conway	Fryeburg Maine Water Co.	John Hastings
Derry	Derry Water Works	Thomas Carrier
Dover	Dover Water Works	Doug Steele
Durham	UNH/Durham Water Works	Wesley East
Enfield	Enfield Village Fire Precinct	Bruce Prior
Epping	Epping Water Works	Norman Dionne

Town	System	Name
Epsom	Epsom Village District	Joe Damour
Errol	Erroll Water Works	Pierre Rousseau
Exeter	Exeter Water Works	Paul Roy
Farmington	Farmington Water Dept.	Dale Sprague
Fitzwilliam	Fitzwilliam Village Water District	Joseph Damour
Francestown	Francestown Village Water	Dennis Orsi
Franconia	Franconia Water Works	Tom Mason, Jr.
Franklin	Franklin Water Works	Brian Sullivan
Freedom	Freedom Water Precinct	Francis Lyons
Georges Mills	Sunapee Water Works	Dave Bailey
Gilford	Gilford Village Water District	Norm Harris III
Gilford	Gunstock Acres	Alex Crawshaw
Goffstown	Goffstown Village Fire Precinct	Lee Minnich
Goffstown	Grasmere Village Water Precinct	Keith Moore
Gorham	Gorham Water Works	David Patry
Grantham	Village District of Eastman	William Sullivan
Greenville	Greenville Water Works	Gerald Curran
Hampton	Aquarion Water Co.	Carl McMorran
Hancock	Hancock Water Works	Kurt Grassett
Hanover	Hanover Water Works Co.	Todd Cartier
Haverhill	Haverhill Corner Precinct	Robert Fagnant
Haverhill	Woodsville Water & Light Precinct	Robert Fagnant
No. Haverhill	N. Haverhill Water & Light	Robert Fagnant
Henniker	Cogswell Springs Water Works	Norman Bumford
Hill	Hill Water Works	John Benham
Hillsborough	Hillsborough Water Works	Peter Mellen
Hillsborough	Emerald Lake Village District	Joe Damour
Hinsdale	Hinsdale Water Works	Dennis Nadeau
Hooksett	Hooksett Village Water Precinct	Michael Heidorn
Hooksett	Central Hooksett Water Precinct	Jay Smith
Hopkinton	Hopkinton Village Precinct	Joe Damour
Hudson	Pennichuck Water Works	Chris Countie
Jackson	Jackson Water Works Company	Scott Hayes
Jaffrey	Jaffrey Water Works	Tom Lambert
Keene	Keene Water Works	Benjamin Crowder
Laconia	Dockham Shores Estates	Colin Robertson
Laconia	Laconia Water Works	Seth Nuttelman
Lancaster	Lancaster Water Works	Timmy Bilodeau

Town	System	Name
Lebanon	Lebanon Water Works	Jim Angers
Lincoln	Lincoln Water works	William Willey
Lisbon	Lisbon Village District	Terence Welch
Littleton	Littleton Water & Light Dept.	Tom Considine
Madigan	Village District of Fidelyseign	Danald Candatrom
Madison Manchester	Village District of Eidelweiss Manchester Water Works	Ronald Sandstrom Phil Croasdale
Marlboro	Marlboro Water Works	Neil Goodell Jr.
Meredith	Meredith Water Dept.	Daniel Leonard
Meriden	Meriden Village Water District	Bill Taylor
Merrimack	Merrimack Village District	Ronald Miner, Jr.
Milford	Milford Water Utilities Dept.	Dave Boucher
Milton	Milton Water District	Mark Badger
Monroe	Monroe Water Department	Robert Fagnant
Momoc	Monroe water bepartment	Robert Fagnant
Nashua	Pennichuck Water Works	Chris Countie
New Castle	New Castle Public Works Dept.	Brian Goetz
Newfields	Newfields Village Water & Sewer	Peter Hellfach
New Hampton	New Hampton Village Precinct	Joseph Powers
New London	New London/Springfield Water	Rob Thorp Jr.
Newmarket	Newmarket Water Works	Sean Grieg
Newport	Newport Water Department	Bob Naylor
Northumberland	Groveton Village Precinct	Reginald Charron
Orford	Orford Village District	Bill McKee
Center Ossipee	Ossipee Water Department	Wayne Eldridge
Pembroke	Pembroke Water Works	Matt Gagne
Peterborough	Peterborough Water Works	Nate Brown
Pittsburg	Pittsburg Water District	Richard Sargant
Pittsfield	Pittsfield Aqueduct Company	Curt Sheing
Plainfield	Plainfield Water District	Jim Angers
Plymouth	Plymouth Village Water Works	John Crowley
Portsmouth	Portsmouth Water Works	Brian Goetz
Raymond	Raymond Water Works	Scott Keddy
Rochester	Rochester Water Works	Ian Rohrbacher
Rollinsford	Rollinsford Water District	Scott McGlynn
Rye	Rye Water District	Kenneth Aspen
Salem	Salem Water Works	Frank Giordano
Seabrook	Seabrook Water Works	Curtis Slayton
Somersworth	Somersworth Water Works	Gregory Kirchofer
Stewartstown	W. Stewartstown Water Works	Wilman Allen
Siewai (Stowii	vv. Stewartstown vvater vvoiks	vv IIIIIaii Aileii

Town	System	Name
Stratford	No. Stratford Water	Carleton Harris
Sunapee	Sunapee Water Works	Dave Bailey
Swanzey	N. Swanzey Water & Fire Precinct	Sly Karasinski
Tamworth	Tamworth Water Works	Tom Mason, Jr.
Tilton	Tilton/Northfield Water District	John Chase
Troy	Troy Water Works	Justin Frazier
Wakefield	Sanbornville Water Department	Dean Giffin
Walpole	Walpole Water Department	Mark Houghton
No. Walpole	No. Walpole Village District	Robert McGuirk
Warner	Warner Village Fire District	Joseph Damour
Waterville Valley	Waterville Valley Water Dept.	Robert Burhoe, Jr.
Whitefield	Whitefield Village Precinct	Bill Thompson
Wilton	Wilton Water Works	Michael Bergeron
Winchester	Winchester Water Works	Richard Meleski
Wolfeboro	Wolfeboro Water & Sewer Dept.	Scott Pike
Woodstock	Pennichuck Water Service Co.	Bernie Rousseau

Philip W. Croasdale, CPA 185 Westwood Drive Manchester, NH 03103 Tel. 603-622-2127

To the Board of Directors New Hampshire Water Works Association, Inc. Concord, NH

This is to certify that I have compiled the statement of activities and cash and cash equivalents of the New Hampshire Water Works Association, Inc. for the year ended October 31, 2015.

I have reconciled the account balances to those presented in the cash disbursement and receipts journals. I found the checkbook balances of the general and legislative accounts to agree with the bank statements as of October 31, 2015 and the balance shown in the savings accounts to agree with the certificate of deposits on file.

Philip W. Croasdale, CPA

March 8, 2016

NEW HAMPSHIRE WATER WORKS ASSOCIATION, INC. STATEMENT OF ACTIVITIES FOR THE YEAR ENDED OCTOBER 31, 2015

	General account	_	Legislative account	Combined
Revenue and support:				
NHWWA membership fees	\$ 16,215.00	\$	18,111.30	\$ 34,326.30
State and local grants	39,400.00			39,400.00
Trade fair and exposition	34,850.00			34,850.00
Operator training seminar	31,950.00			31,950.00
Basic operator course	14,850.00			14,850.00
Technical seminars	12,645.00			12,645.00
Construction Day Field Trip/ NHDWW	7,690.00			7,690.00
Advertising - NHWWA journal and newsletters	15,185.00			15,185.00
Interest and investment income	53.10	_	12.46	 65.56
Total revenue and support	172,838.10		18,123.76	190,961.86
Expenses:				
Program services:				
Trade fair and exposition	15,502.14			15,502.14
Operator training seminars	39,997.40			39,997.40
Basic Operator Course	3,127.94			3,127.94
Technical seminars	6,430.12			6,430.12
Construction Day Field Trip/ NHDWW	3,246.08			3,246.08
NHWWA Journal and newsletter	9,922.60			9,922.60
General:				
Salaries and wages	71,022.75		10,857.35	81,880.10
Payroll taxes	5,432.42		831.00	6,263.42
Rent	5,400.00			5,400.00
Office supplies, expense	6,890.62		951.13	7,841.75
Insurance	1,617.00			1,617.00
Professional services	575.00			575.00
Travel	1,422.65			1,422.65
Taxes, filing fees	616.00		50.00	666.00
Miscellaneous	535.93		x32256229450	535.93
Total program services and support	171,738.65	L g	12,689.48	184,428.13
Net revenue and support	\$ 1,099.45	\$	5,434.28	\$ 6,533.73
Statement of cash balances:				
Cash and cash equivalents, beginning, November 1, 2014				\$ 45,000.64
Add: net revenue and support				6,533.73
Cash and cash equivalents, ending, October 31, 2015				

Water Works Operator Certification 2015

Currently there are about 1,000 operators of public water system treatment plants and distribution systems licensed by the State of New Hampshire. New Hampshire operators were required to renew their licenses in December 2015. License renewal is required every two years.

Operators renew their certification by obtaining continuing education units (CEU's). New Hampshire Water Works Association provides its members, and all who are interested, an opportunity to obtain CEU's by attending training sessions throughout the year. In addition, CEU's can be obtained by attending NHWWA technical meetings, management seminars, "Construction Day", and other special events. These programs offer a variety of technical, operational, managerial, safety and human relations classes.

Following are those who were certified by examination or reciprocity in 2015.

Combined Distribution and Treatment C1A

Steven R. Aldrich	Thomas W. Givetz	Thomas M. Seidel
Katy A. Anderson	Timothy J. Harrington	Chris A. Sieg
Jonathan R. Authier	Samuel A. Hewitt	Scott A. Simonds
Jason J. Avery	Nicholas W. Kelly	Daniel A. Steagald
Richard L. Bagley	Gerard B. Leary	Tor E. Stenberg
Steven J. Brow	Christopher M. Mains	Richard J. Sullivan
Alex J. Chelstowski	Mark C. Misiorski	Cynthia L. Walthour
Jonathan P. Coughlin	Jonathan D. Mulcahy	Scott P. Wellington
Sheila M. Cunniff	Aubrey B. Nelson	Herman C. Wiegelman
Rick W. Daniels, Jr.	Amy E. Rousseau	Duane E. Wind
Craig S. Durrett	Joshua N. Ruel	
Stephen J. Fournier	Steven R. Savary	

DISTRIBUTION GRADE I

Adam R. Bertrand Reece W. Boisvert Joseph M. Branch Matthew M. Brillard Joseph M. Brown Steven J. Brunelle James H. Champagne Samuel V. Currier Wayne A. Eldridge Garrett B. Ennis Kenneth M. Flynn Ethan J. Foskitt Jason S. Gaudreau Shannon P. Grady Stephen J. Hammond Asa H. Knowles V Kevin M. MacArthur Gregory D. Marchand Daniel G. McCoy Frank R. McGrath Jefferson R. McNeill Douglas A. McPhail II Robert L. Nash Michael J. O'Brien Brian J. Pushee
Jonathan E. Roberge
Kevin R. Rowell
Frederick W. Schaefer
Rebecca L. Slade
Clayton J. Storey
Michael C. Sullivan
James V. Tow
David P. Tracy
Michael S. Turner

TREATMENT GRADE I

Adam R. Bertrand Reece W. Boisvert Joseph M. Branch James H. Champagne Samuel V. Currier Seth O. Darling Wayne A. Eldridge

John H. England
Jeffrey W. Givara
Shannon P. Grady
Diane B. Gravel
Stephen J. Hammond
Marcus J. Heath
Asa H. Knowles V

Frank R. McGrath Jefferson R. McNeill Michael J. O'Brien Michael C. Sullivan David P. Tracy

TREATMENT GRADE II

Kyle S. St. Pierre Dylan B. Thisse

DISTRIBUTION GRADE II

John H. England Dylan B. Thisse

TREATMENT GRADE III

Adam P. Lewis

The Merrimack River - Manchester's Future Water Supply

by David Miller, P.E., Deputy Director—Water Supply, Manchester Water Works

The city of Manchester has benefitted for over 140 years from an abundant and high quality source water, Lake Massabesic. The lake is located on the east side of Manchester and in the neighboring town of Auburn. Lake water is purified at the Manchester Water Treatment Plant in order to satisfy stringent state and federal drinking water regulations and drinking water standards in general. The treatment plant was completed in 1974 and has been routinely updated (most recently in 2006) with state-of-the-art equipment and processes to improve quality and operational efficiency. The plant has a maximum hydraulic capacity of 50 million gallons per day (MGD) and currently delivers an average of 18 MGD to approximately 160,000 customers in Manchester and portions of six surrounding towns. Knowing that the lake supply would not be sufficient to meet the demand of a large growing service area indefinitely, Manchester has been focused on short and long-term development trends, their impact on water demand, and the inevitable need for future supply.

In 1985, a comprehensive water resource study was completed that included a detailed computer analysis of watershed stream flow, rainfall, and evaporation records to determine the "Safe Yield" of Lake Massabesic. Data from the 1964-1966 drought, the most severe on record for the Manchester system, was used for this analysis and those results showed an average safe yield f 20.2 MGD.

The 1985 study and subsequent studies in 1993 and 2001 evaluated the Merrimack River as a future supply for Manchester and neighboring communities that comprise the Manchester Water Works (MWW) customer base. Based on "High", "Medium", and "Low" demand projections, it was estimated that additional source water would be needed between 2009 and 2016.

Following the 2001 study, MWW purchased property on Kimball Drive in the town of Hooksett along the west side of the Merrimack River. The site was purchased with the intent to construct a typical surface water

intake and purification facility. Following research and discussion with hydrogeologists specializing in large groundwater withdrawals, the concept of riverbank filtration (RBF) was brought forward as a potential means to meet future water quantity and quality goals while minimizing or eliminating the need for pretreatment. In 2007, Manchester requested proposals to study water withdrawal options at this site. Wright-Pierce Engineering was selected based on the content of its proposal which included a unique angle well technique to maximize withdrawal.

Riverbank Filtration

Riverbank filtration technology (using the riverbank as a natural filter) can provide substantial financial savings as compared to direct surface water intakes. Bank filtration is not a new concept in New Hampshire. The majority of high-yield, municipal gravel wells are located in river valleys and receive much of their recharge via induced infiltration from an adjacent stream or river. Numerous studies have been conducted evaluating the efficacy of bank filtration as a natural treatment technique. RBF has demonstrated a positive impact on many water quality parameters including reductions of turbidity, microbial contaminants, and natural organic matter (NOM) from surface water. Typical removals accomplished through the RBF process are 40-80% for total organic carbon (TOC), 50-90% for pesticides, and greater than 2-logs for particulates and turbidity. Reducing disinfection byproduct precursor material (NOM/TOC) by RBF limits the formation of disinfection byproducts and reduces the amount of disinfectant required to comply with statutory regulations.



Radial well construction site on the Merrimack River.

The effectiveness of RBF depends on sediment characteristics of the riverbed, aquifer grain size, river water quality and stage, temperature, filtration rate velocity and distance, and percentage of groundwater dilution. Processes that occur during RBF include mechanical filtration, adsorption, biodegradation, ion exchange, and chemical reactions. The effectiveness of RBF is site-specific and therefore cannot be generally applied to just any location.

Riverbank Filtration Evaluation at the Kimball Drive Site

The Kimball Drive site is a mostly cleared tract of land just south of the Interstate 93 and Route 3A interchange in the town of Hooksett, New Hampshire. The Merrimack River forms the eastern boundary of the site. The river is listed as "Class B" water by the New Hampshire Department of Environmental Services and is considered acceptable as a public water supply following adequate treatment. The I-93 Exit 10 interchange and Route 3A drainage collection network discharges to a small stream adjacent to, and west, of the Kimball Drive site.

In order to determine the suitability of this site for RBF, it was necessary to investigate the subsurface geology and estimate its hydraulic connection to the river. RBF requires a balance of subsurface soils that are not too fine which would restrict withdrawal yield, or too coarse which would not be capable of removing natural organic matter to desired levels. The investigation conducted by Wright-Pierce in 2009 involved installing a series of borings on-shore and in the riverbed to determine soil characteristics and test wells to estimate water withdrawal capability. Once a suitable location was selected, a 12-inch diameter angle test well was constructed and a 6-day pumping test was conducted.

The Wright-Pierce evaluation determined that the Kimball Drive property contains sand and gravel deposits with variable hydraulic conductivities beneath the site, as well as offshore beneath the river. Soil grain size and corresponding hydraulic conductivity increases from north to south (upstream to downstream), beneath and offshore of the site. Water quantity is believed to be favorable, and excellent TOC, color, turbidity, aerobic spore, and coliform bacteria reductions were achieved during the 6-day

pumping test. Groundwater flow modeling simulating riverbank filtration intake scenarios estimated that a 5-8.5 MGD withdrawal is possible at the Kimball Drive site.

The pumping test also revealed that de-icing products applied at the I-93 interchange (Exit 10) and Route 3A have degraded water quality (dissolved iron, manganese, sodium, and chloride) to undesirable levels beneath and offshore of the site due to current drainage flow patterns. As a result, groundwater withdrawal from the Kimball Road site was deemed unacceptable due to water quality limitations.

Riverbank Filtration Evaluation Upstream of Kimball Drive Property

New information was provided by Wright Pierce in late 2010 regarding gravel deposits potentially suitable for riverbank filtration further upstream on Kimball Drive northeast of the I-93 Exit 10 interchange. The new (2011) study area is shown on Figure 1-1. At MWW's request, a scope of services and contract extension was proposed and subsequently approved by the Board of Water Commissioners at its February 2011 meeting.

The first task involved drilling a series of eight borings/test wells in locations shown on Figure 2-1. Vertical gravel distribution and water quality were evaluated to determine the feasibility of riverbank filtration at one or more of these locations. Sodium and chloride levels from winter road salting were somewhat elevated at the three most southerly locations (TW-4,-5 & -6). Very low salt levels (typical background levels) were measured in the five northerly test wells and all other water quality parameters were well within acceptable limits.

Test Well 7-11 located on the "West River Road LLC" property was selected for further evaluation due to its favorable subsurface soil conditions (expected filterability), excellent water quality, potential well yield, and site accessibility. A 12-inch diameter test well and several adjacent small diameter monitoring wells (Figure 2-2) were constructed at this site to provide the data required to design a full-scale radial (horizontal) collector well for future water supply utilizing riverbank filtration. Beginning on October 20, 2011, water was pumped from the 12-inch test well at the

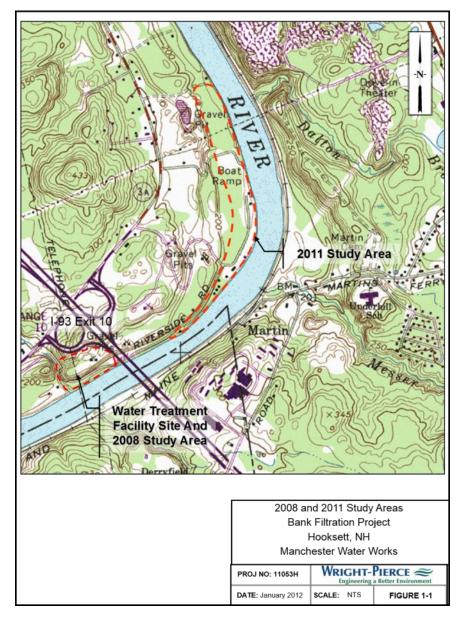


Figure 1-1

rate of 740 gallons per minute while adjacent monitoring wells and three residential wells were carefully measured to assess drawdown impact. Water quality parameters were measured at the beginning, during, and near the completion of the 5-day pumping test.

The pumping test was successful and the potential for a future water supply withdrawal at this location was determined to be highly feasible in terms of water quality and quantity. A final report including a recommendation to proceed with a full-scale radial collector well was submitted by Wright Pierce in April 2012.

In 2013, MWW purchased the West River Road LLC property and entered into a new agreement with Wright Pierce to provide design and construction services for a radial collector well (RCW) to be located on the property. Knowing that permitting the first RCW in New Hampshire would be a challenge, MWW involved NHDES in the conceptual, preliminary, and final design processes to identify all regulatory issues that would need to be addressed. It was determined that the project would be approached and permitted as a Large Groundwater Withdrawal. The team approach to designing and permitting the RCW well provides an important level of collaboration and efficiency as the project moves forward.

Additional borings and a geophysical survey of the river bottom in the vicinity of the proposed RCW were completed in late 2013 followed by preparation of bid documents. In July 2015 Layne Heavy Civil was awarded the radial collector construction contract. The RCW is expected to be completed in April 2016. Following RCW construction, warm water and cold water testing phases will be completed in mid to late 2016 to assess the quantity and quality of the water to satisfy both permitting and treatment facility design purposes.

The new treatment facility will be designed to produce water with similar or better water quality to what is currently produced from the Lake Massabesic supply. Assuming all progresses as planned, the new 6-7 MGD treatment facility will be designed, constructed and operational by late 2019/early 2020.

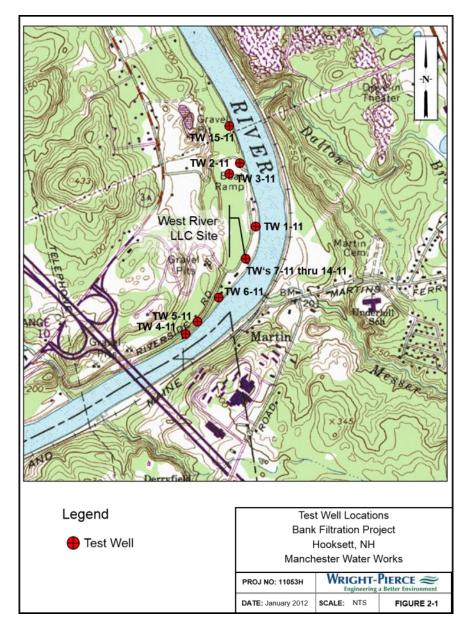


Figure 2-1

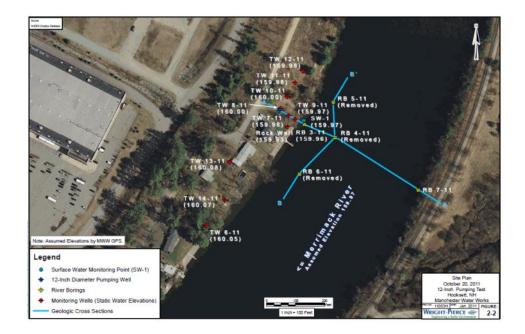


Figure 2-2

ADDRESSES OF MANUFACTURERS AND JOBBERS

COMPANY & ADDRESS	REPRESENTATIVE(S)	PHONE NUMBER

BAU/HOPKINS, Inc.

310 South Street Alan Hopkins 800-733-1860 Plainville, MA 02762 Bob Hopkins

www.bauhopkins.com

DENIS L. MAHER, CO.

19 Westford Road Ted Morine 978-615-4606

P.O. Box 130

Ayer, MA 01432-0130 www.denislmaher.com

EMERY & GARRETT GROUNDWATER INVESTIGATIONS, LLC

56 Main St., PO Box 1578	James M. Emery	603-279-4425
Meredith, NH 03253		Fax#603-279-8717

224 Eames Rd. Peter Garrett 207-872-0613 Winslow, ME 04901

www.eggi.com

EPPING WELL & PUMP CO., INC.

337 Calef Highway (Rte. 125) Henry DeBoer 603-679-5299 Epping, NH 03042 Abby Fopiano, PG

www.eppingwell.com Bill Arnold

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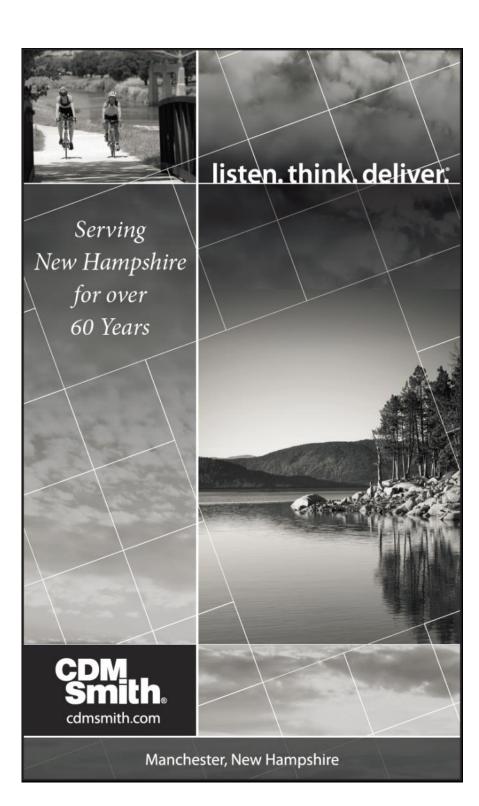
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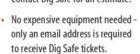


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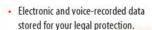
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