



Welcome to the
2015 CSO/Wet Weather Issues Specialty
Conference

A Little About Lowell.....





Lowell, Mass. 1847
The Merrimack River
The Lowell Canal
The Lowell Lock
The Lowell Dam
The Lowell Bridge
The Lowell Mill
The Lowell Factory
The Lowell Warehouse
The Lowell Store
The Lowell Office
The Lowell School
The Lowell Church
The Lowell Cemetery
The Lowell Park
The Lowell Square
The Lowell Street
The Lowell Lane
The Lowell Alley
The Lowell Court
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The Lowell Wharfe
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LOWELL, MASS.

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NORTH



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0 500 1000 FT

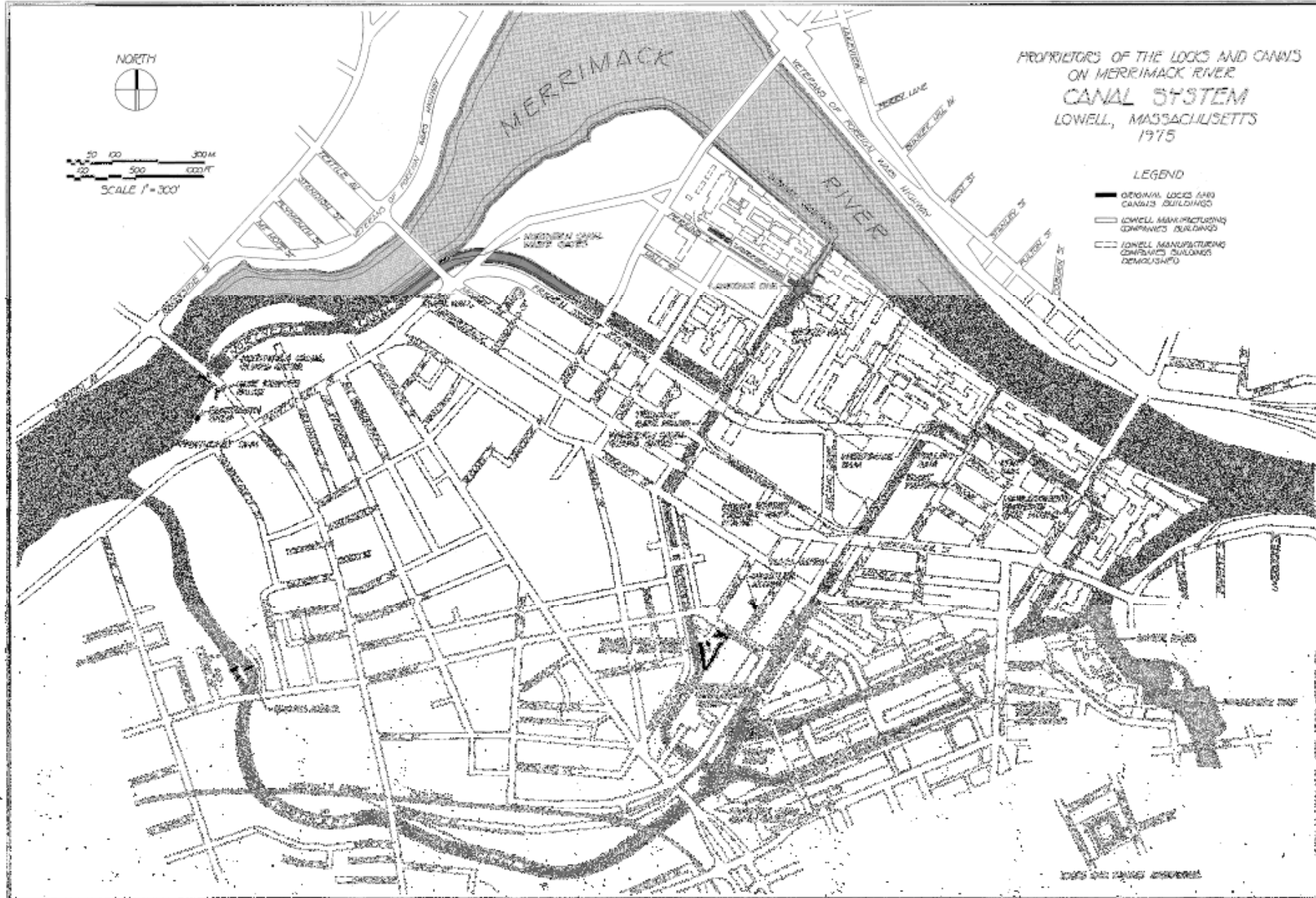
SCALE 1" = 300'

MERRIMACK RIVER

PROPRIETORS OF THE LOCKS AND CANALS
ON MERRIMACK RIVER
CANAL SYSTEM
LOWELL, MASSACHUSETTS
1975

LEGEND

- ORIGINAL LOCKS AND CANALS BUILDINGS
- LOWELL MANUFACTURING COMPANIES BUILDINGS
- LOWELL MANUFACTURING COMPANIES BUILDINGS DEMOLISHED



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"Lowell boat tour" by Jlpapple obtained from Wikipedia- Own work. Licensed under CC BY 3.0 via Commons

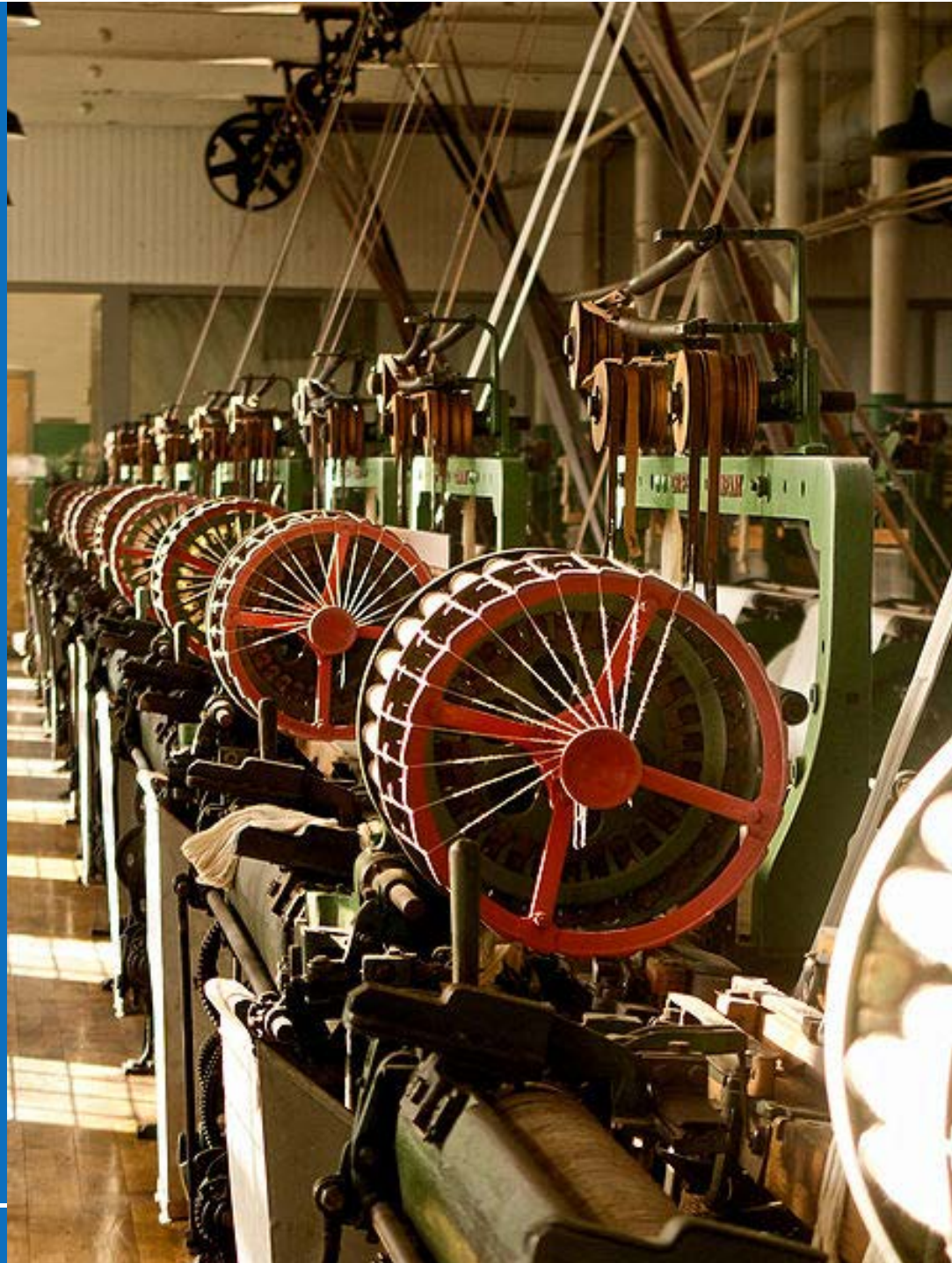




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Famous People

“The Fighter”

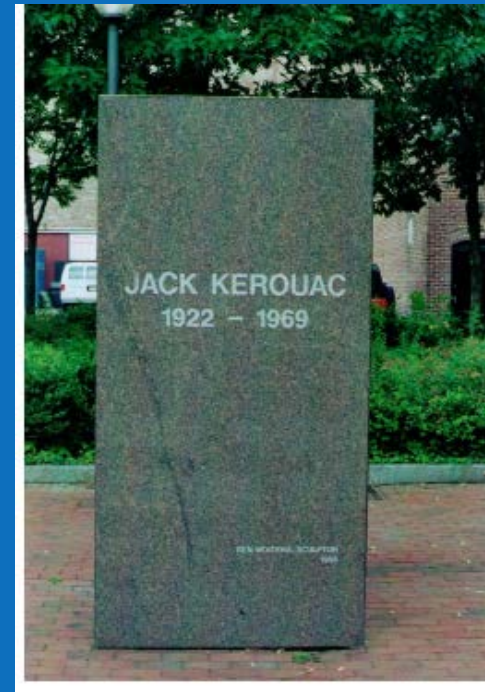
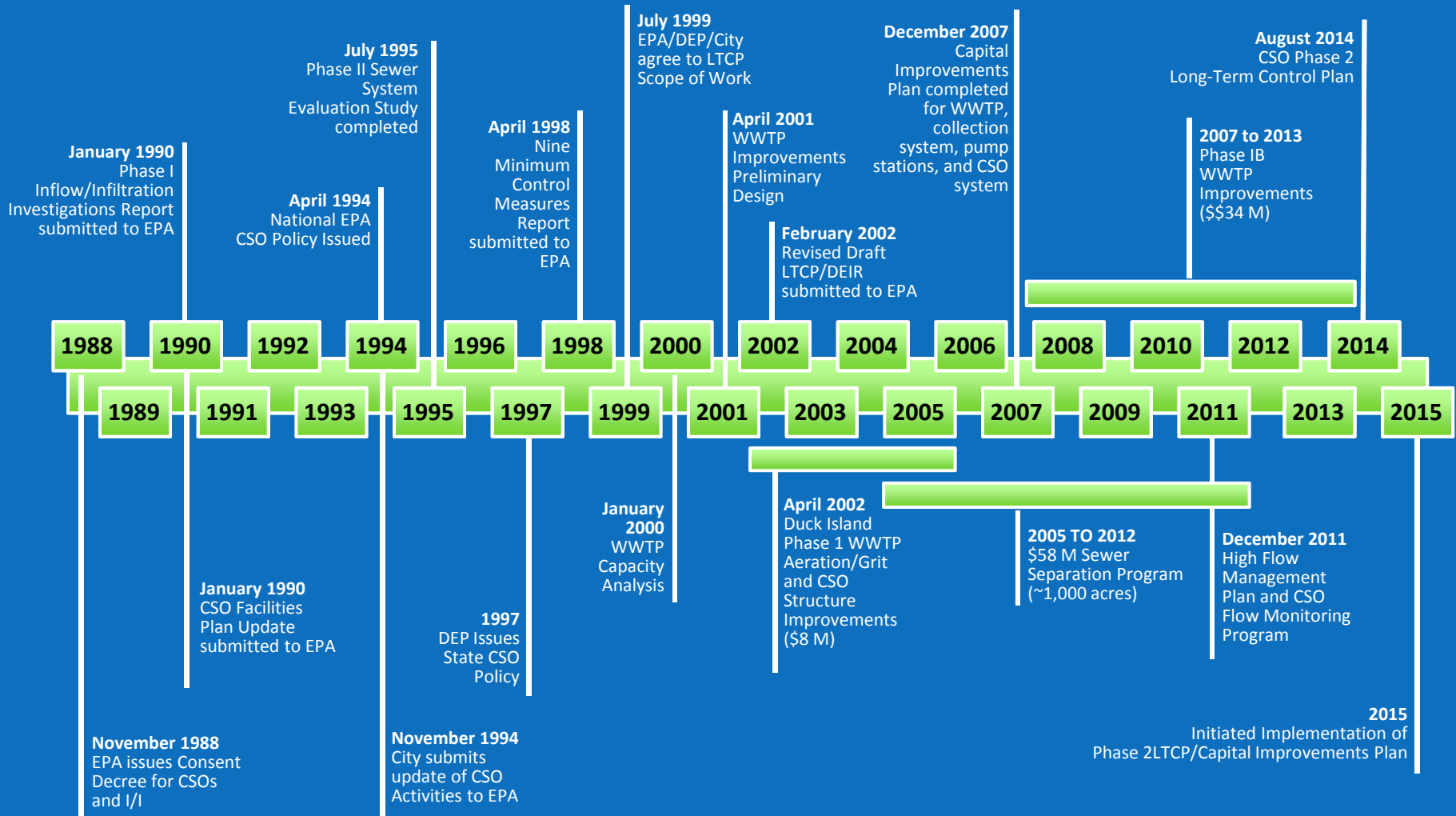


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James Abbott McNeill Whistler

LRWWU LTCP Planning and Implementation



LOWELL REGIONAL WASTEWATER UTILITY LTCP / CIP PROGRAM SUMMARY

Program	Project	Project Cost	Project Description	Project Completion
CIP Phase 1A	Emergency WWTF Upgrades	\$5 M	<ul style="list-style-type: none"> • Gravity Thickener & Aeration Blower Upgrades • CIP Engineering Design 	2008
CSO Phase 1 LTCP	Wet Weather Operations & Sewer Separation	\$90 M	<ul style="list-style-type: none"> • WWTF Wet Weather Treatment Capacity • Diversion Station Control & Interceptor Storage • Sewer Separation Program • Infiltration / Inflow Reduction • Sewer Rehabilitation Program • Sump Pump Disconnection Program (ARRA) • WWTF Influent Pumping Station • Warren CSO Diversion Station • Interceptor System Storage 	2011
CIP Phase 1B-01/02	Odor Control Process Improvements High Flow Management Flood Protection	\$23 M	<ul style="list-style-type: none"> • Solids & Septage Upgrade • Odor Control & Site Improvements • HVAC, Electrical & Mechanical Systems • WWTF Aeration System Upgrade (ARRA) • Green Roofs & Photovoltaic (ARRA) • Flood Protection System – Levee Stabilization 	2012
CIP Phase 1B-03	WWTF Upgrades	\$2 M	<ul style="list-style-type: none"> • WWTF SCADA & Electrical Upgrades • Hauled Waste Storage Facilities • Process Control Improvements 	2013
Phase 1 Subtotal	2003 – 2013	\$120 M	CIP/LTCP Phase 1 (\$8.4M in ARRA Funding)	2013

Phase 1 projects have been completed; Phase 2 projects are planned

Lowell, Massachusetts Phase I LTCP Sewer Separation Program Summary of Work



LOWELL REGIONAL WASTEWATER UTILITY LTCP / CIP PROGRAM SUMMARY

Program	Project	Project Cost	Project Description	Projected Completion
CIP Phase 2	WWTF Upgrades	\$5 M	<ul style="list-style-type: none"> • WWTF Sludge De-Watering - Centrifuges • Primary & Secondary Clarifier Upgrades • Structural, Electrical & Process Improvements • Remote Pump Station Upgrades & Integration 	2016
CSO Phase 2 LTCP	Flood Pumping & CSO Mitigation	\$47 M	<ul style="list-style-type: none"> • LTCP Plan Development • Read St Flood Pump Station & Interceptor Storage • Collection System Separation & Conveyance • Stormwater Infiltration & Green Infrastructure • Sewer Rehabilitation Program 	2018
CIP Phase 3	WWTF Infrastructure & Facility Improvements	\$15 M	<ul style="list-style-type: none"> • Electrical, Instrumentation & Controls • Chemical Storage & Hauled Waste Facilities • Site Improvements and Green Infrastructure • Structural Fortification of Tanks and Buildings 	2021
CSO Phase 3 LTCP	Separation, Conveyance, Storage & Treatment of Combined Sewage	\$56 M	<ul style="list-style-type: none"> • Read Wet Weather Treatment Facility • Sewer Separation Targeted Projects • Combined Sewage Storage Facilities • Collection System Conveyance to Treatment • Sewer Rehabilitation Program 	2024
Phase 2 Subtotal	2014 – 2024	\$123 M	CIP Phase 2A & LTCP Phase 2A Program	2024
TOTAL	2003 – 2024	\$243 M	CIP/LTCP Phase 1 & CIP/LTCP Phase 2A Program	2024

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