Town of Rockland

Sewer Commission

Post Office Box 330
ROCKLAND, MASSACHUSETTS 02370

Tel: 781.878.1964
Fax: 781.878.1909

Charles Heshion, *Chairman*
Daniel Duross, *Commissioner*
Sherri Vallie, *Commissioner*

December 12, 2022

David Burns
Municipal Services
Massachusetts Department of Environmental Protection
20 Riverside Drive
Lakeville, MA 02347

Re: **Town of Rockland Infiltration/Inflow Control Plan**

Dear Mr. Burns,

The purpose of this letter is to present the Town of Rockland's Infiltration/Inflow (I/I) Control Plan and to request compliance with 314 CMR 12.00, *Operation, Maintenance and Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers*.

BACKGROUND

The Town of Rockland is located approximately 20 miles south of Boston, Massachusetts, and contains approximately 340,000 linear feet (lf) of sanitary sewers. In 2021, Rockland completed an I/I Sewer System Evaluation Survey (SSES). This project focused on identifying excessive and cost effective I/I present in the sewer system.

SANITARY SEWER OVERFLOWS (SSOs)

In the past 15 years, Rockland has experienced two (2) storm event that qualifies at or above the 5-year, 24-hour storm event recurrence interval. It is listed in the table below with other significant storm events from the same period. During this time period, twenty-four (24) SSOs were recorded and were all caused by rain events. The SSO Notification Form was submitted to MassDEP and is available upon request.

Storm Date(s)	Total Precipitation (in.)[1]	Peak 24 Hour Precipitation (in.)	Approximate Recurrence Interval[2]	Documented/Reported SSO
March 14-15, 2010	7.50	4.78	25 Year, 2-Day	Yes
October 28-30, 2012	4.14	3.06	1- to 2-Year, 3-Day	No
June 7-8, 2013	4.10	2.95	2- to 5-Year, 2-Day	No
March 29-31, 2014	4.51	2.98	2- to 5-Year, 3-Day	Yes
October 21-24, 2014	4.07	2.45	1- to 2-Year, 4-Day	No
March 2-3, 2018	4.17	4.17	5-Year, 24-Hour	No
September 25-28, 2018	5.21	2.43	2- to 5-Year, 4-Day	No

Note:
1. Rainfall data is based on the NOAA rain gage located in Brockton, MA.
2. Recurrence intervals are based on Technical Paper 40 (NOAA).
3. Only storm events that qualify as at least a five-year, 24-hour storm or have a total precipitation above 4 inches are shown in the table.

SEWER SYSTEM EVALUATION STUDIES AND OTHER I/I INVESTIGATIONS

Prior investigation work completed by Rockland to evaluate their sewer system is documented below. All projects followed MassDEP's *Guidelines for Performing Infiltration/Inflow Analyses and Sewer System Evaluation Surveys.*

In 2021, the Town of Rockland conducted a Sewer System Evaluation Survey (SSES). As part of this project, flow isolation was conducted on 200,451 lf of 8- to 12-inch diameter sewers, or approximately 90% of the system total for this size category. A total of 19,131 lf of 8- to 12-inch sewers were selected for television inspection based on flow isolation results, in addition to 12,410 lf of 15- to 33-inch diameter sewers representing approximately one-third of the system total for this size category, were selected for further television inspection. Approximately 67,400 gallon per day (gpd) of infiltration from sewer mains and manholes was identified and 161,700 gpd of infiltration from sewer lateral services was identified. Defects identified during television inspection were recommended for rehabilitation in the report dated September 2021 on the basis of cost-effectiveness considering estimated cost of construction versus approximate cost of transportation and treatment.

PLAN AND SCHEDULE OF FUTURE WORK

The Town of Rockland Sewer Commission is prepared to address I/I in the sewer system. A sewer system rehabilitation project is scheduled to be performed to eliminate the I/I identified in the 2021 I/I SSES Report. Approximately 119,350 gpd of I/I is anticipated to be eliminated as the result of the rehabilitation project.

Moving forward, the Town has developed an Annual I/I Control Program. Year 1 of the program is anticipated to start in Spring 2023 and will focus on Town-wide flow monitoring to establish a new baseline for I/I. Data from flow monitoring will be analyzed and the Town will implement an Annual I/I Control Program that will consist of focused annual inspection including a private inflow removal program, television inspection, manhole inspections, and smoke testing. The annual program will be broken into three (3) phases. Each phase includes three (3) years of infiltration work (manhole and television inspection) and one year of inflow work (smoke testing, dye testing/flooding, and building inspection). A rehabilitation project will be performed at the end of each phase. Funding for future projects will be from town funds and may include funding from the MassDEP SRF Program. A draft Annual Infiltration/Inflow Program table is attached for reference. It should be note that the actual sewer length to be inspected per year will be adjusted after the conclusion of Year 1 Metering program.

Based on the past and future sewer system evaluation studies and rehabilitation work stated in this letter, the Town of Rockland requests compliance with 314 CMR 12.00.

Sincerely,

Chuck Heshion
Chairman, Rockland Board of Sewer Commissioners

cc: Frank Occhipinti, PE; Weston & Sampson

Weston & Sampson

Annual Infiltration/Inflow Program
Town Rockland, Massachusetts

Note: Sewer length and number of manholes are estimated based on a 15-year program. Actual sewer length to be inspected per year will be adjusted after the conclusion of Year 1/Metering program.

Fiscal Year	Calendar Year/Month	Project Name	Scope	Subarea(s)	Sewer Length (lf)	Manholes	Estimated Cost [2]
FY2023	Spring 2023	Year 1 Program	Town-wide Metering Program and GIS-based Depth-to-Groundwater Analysis	-	-	-	$ 150,000
Phase 1							
FY2024	Spring 2024	Year 2 Infiltration	Manhole inspections and television inspection	-	34,000	170	$ 150,000
FY2025	Spring 2025	Year 3 Infiltration	Manhole inspections and television inspection	-	34,000	170	$ 155,000
FY2026	Spring 2026	Year 4 Infiltration	Manhole inspections and television inspection		34,000	170	$ 160,000
FY2027	Summer 2026 - Spring 2027	Year 2 to 4 Inflow	Smoke Testing, Dye Testing/Flooding with TV, and Building Inspection	-	102,000	-	$ 200,000
FY2028	Design - Summer 2027 Bid - Fall/Winter 2027 Construction - Spring 2028	Year 2 to 4 Rehabilitation	Sewer System Rehabilitation - Cost Effective and Structural Defective Rehabilitation	-	TBD	TBD	$ 1,500,000 [1]
Phase 2							
FY2029	Spring 2029	Year 5 Infiltration	Manhole inspections and television inspection	-	34,000	170	$ 170,000
FY2030	Spring 2030	Year 6 Infiltration	Manhole inspections and television inspection	-	34,000	170	$ 175,000
FY2031	Spring 2031	Year 7 Infiltration	Manhole inspections and television inspection		34,000	170	$ 180,000
FY2032	Summer 2031 - Spring 2032	Year 5 to 7 Inflow	Smoke Testing, Dye Testing/Flooding with TV, and Building Inspection	-	102,000	-	$ 220,000
FY2033	Design - Summer 2032 Bid - Fall/Winter 2032 Construction - Spring 2033	Year 5 to 7 Rehabilitation	Sewer System Rehabilitation - Cost Effective and Structural Defective Rehabilitation	-	TBD	TBD	$ 1,500,000 [1]
Phase 3							
FY2034	Spring 2034	Year 8 Infiltration	Manhole inspections and television inspection	-	34,000	170	$ 191,000
FY2035	Spring 2035	Year 9 Infiltration	Manhole inspections and television inspection	-	34,000	170	$ 197,000
FY2036	Spring 2036	Year 10 Infiltration	Manhole inspections and television inspection		34,000	170	$ 203,000
FY2037	Summer 2036 - Spring 2037	Year 8 to 10 Inflow	Smoke Testing, Dye Testing/Flooding with TV, and Building Inspection	-	102,000	-	$ 240,000
FY2038	Design - Summer 2037 Bid - Fall/Winter 2037 Construction - Spring 2038	Year 8 to 10 Rehabilitation	Sewer System Rehabilitation - Cost Effective and Structural Defective Rehabilitation	-	TBD	TBD	$ 1,500,000 [1]

[1] Estimated cost includes construction and engineering

[2] Estimated unit cost is based on a 3-4% increase from previous year

Prepared 10/12/2022

Updated 12/12/2022

	Infiltration
	Inflow
	Rehab/Construction