

VILLAGE OF HOMEWOOD



BOARD AGENDA MEMORANDUM

DATE OF MEETING: June 11, 2024

To: Village President and Board of Trustees

Through: Napoleon Haney, Village Manager

From: John D. Schaefer, Director of Public Works

Topic: Contract Renewal – Water Distribution System Leak Survey

PURPOSE

Every municipal water system will experience leaks of varying degrees. One of the most absolute processes of identifying critical water system leaks is through the performance of a leak system survey. According to the Illinois Department of Natural Resources (IDNR), the standard for water loss for Lake Michigan Permittees in Illinois is 8%. To provide context and to show the progress of Homewood's work in the area of water system loss reduction, in an *LMO-2 water use report from 2017, Homewood's water loss was 16.7%. Homewood's current water loss is 9.3%.

As it relates to Homewood's Best Management Practices (BMP), leak detection surveys should be performed annually; at least until we can reduce our water loss to the 8% standard or lower. Leak detection for municipal systems is becoming increasingly important. As many municipalities face aging pipelines and water supplies, leaks are becoming more frequent and more costly. Consistent loss of water can equate to significant lost revenue for water operations, capital projects, and environmental issues. When leaks are detected and documented, Public Works

In June 2023, the Village Board awarded a contract to M.E. Simpson Co., Inc. of Valparaiso, IN, to complete a Water Distribution System Leak Survey to complete the inspection of the Village's 113 miles of water main. The contract with M.E. Simpson allows for a one-year extension at the contract price of \$25,425. M.E. Simpson Co., Inc. is in agreement to extend the contract at that price for 2024-2025. The Public Works Department recommends the Board renew the contract with M.E Simpson Co., Inc. to continue our annual water system leak detection program.

PROCESS

Water is lost through leaks and cracks in pipes and their fittings. Since most water infrastructure is underground, it is virtually impossible to visually determine the location of these leaks unless the leaking water reaches the surface (causing ponding and sink holes, structural damage, buckling pavement, etc.), and the exact location of the leak may be nearly impossible to determine. Leak detection requires special technologies that allow inspectors to precisely determine the location and severity of pipe leaks and is accomplished by ultrasonically monitoring every foot of water main, hydrant, and mainline valve.

**The LMO-2 is an IDNR annual mandatory report that details the amount of water used, sold and lost by a permittee (municipality that provides water to a population) in the past water year (October - September).*

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A computerized leak analysis pinpointing every suspected leak is confirmed with an electronic leak correlator. Suspect leak sites are electronically confirmed by measuring and analyzing the timing of sound waves simultaneously from two monitoring points. M.E. Simpson supplies a written report of all leaks, their location, and estimated water loss to the Village. With this critical information, repairs to the water system can be scheduled by the Public Works Department.

OUTCOME

Renewing the contract of M.E Simpson Co., Inc. will enable the Public Works Department to effectively maintain the water system infrastructure and minimize water loss.

FINANCIAL IMPACT

- **Funding Source:** Capital - Water/Sewer Fund
- **Budgeted Amount:** \$30,000
- **Cost:** \$25,425

LEGAL REVIEW

Not Required

RECOMMENDED BOARD ACTION

Renew the contract with M.E. Simpson Co., Inc. of Valparaiso, IN for the Water Distribution System Leak Survey Project in an amount not to exceed \$25,425.

ATTACHMENT(S)

Agreement renewal letter from M.E. Simpson Co., Inc.