

VILLAGE OF LANSING

Not all aging water infrastructure is underground: Lansing's water meter replacement success story



DAN PODGORSKI
VILLAGE ADMINISTRATOR

THE VILLAGE OF LANSING

- INCORPORATED IN 1893
- I-80/94 AT TORRENCE AVE
- SITUATED WEST OF IL/IN BORDER
- HOME TO HISTORIC FORD HANGAR
- HOME TO NEWLY CONSTRUCTED FOX POINTE



IMPORTANCE OF A STRONG WATER SYSTEM

- WATER = \$\$\$
- 15% VILLAGE BUDGETED EXPENSES PAID FROM WATER
- MAINTAINING A STRONG WATER SYSTEM IS NECESSARY
 - WATER MAIN REPAIRS
 - WATER MAIN REPLACEMENT
 - WATER RESERVOIR MAINTENANCE
 - WATER TANK MAINTENANCE



LANSING WATER SYSTEM

- RECEIVE WATER FROM HAMMOND, IN
- 1 WATER PUMP STATION
- 2 CONCRETE RESERVOIRS
 - 3MG & 2.25MG
- 4 ELEVATED WATER TANKS
 - 2 – 1MG, 0.75MG & 0.5MG
- 108 MILES OF WATER MAIN
- 9400 LANSING CUSTOMERS

- SUPPLY LYNWOOD AND SOUTH HOLLAND



AGING INFRASTRUCTURE = WATER LOST

- MAJORITY OF LANSING WATER SYSTEM OVER 50 YEARS OLD
- AVG 80-100 BREAKS/YR
- B-BOX REPAIRS
- LEAKING WATER MAINS

- IL DEPT OF NATURAL RESOURCES
 - REPORTED WATER LOSS INCREASE
 - 7.24% IN 2009
 - 16.8% IN 2014



B-Box Repair

COMBATING WATER LOSS – INFRASTRUCTRE IMPROVEMENTS

- REVIEW UNDERGROUND INFRASTRUCTURE
 - WATER MAIN REPLACEMENT
 - BUDGET \$700K/YR
- VILLAGE-WIDE LEAK DETECTION SURVEYS OF WATER MAINS
- RULE #1 – DO NOT LET CONTRACTORS OPEN HYDRANTS
- RULE #2 – DO NOT LET FIRE DEPARTMENT OPEN HYDRANTS (FOR TRAINING 😊)



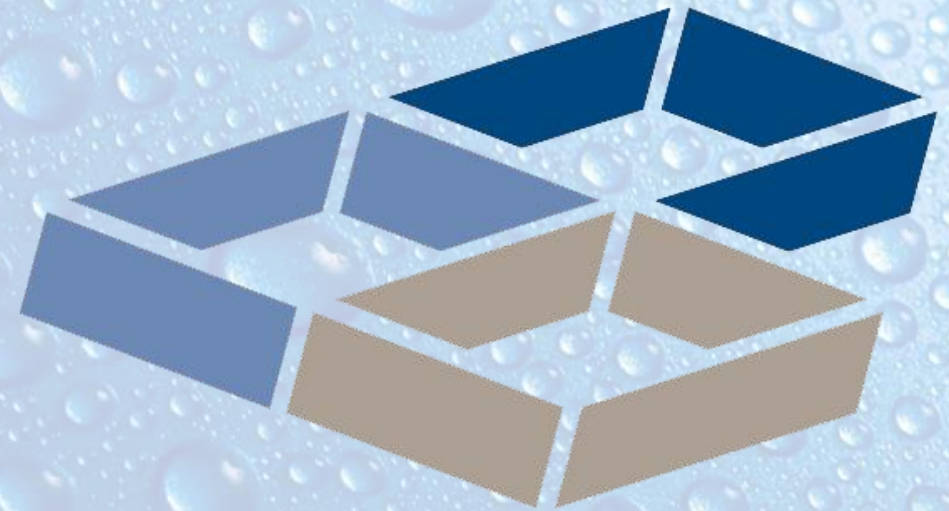
REPLACE INFRASTRUCTURE WE CAN SEE...ABOVE GROUND

- LANSING - 9400 WATER METERS VILLAGE-WIDE
- 20-25% METERS TESTED WERE OFF OF CALIBRATION
- METERS OVER 20 YEARS OLD
- NEED TO REPLACE THE METERS
- **HOW DO WE PAY FOR IT?**



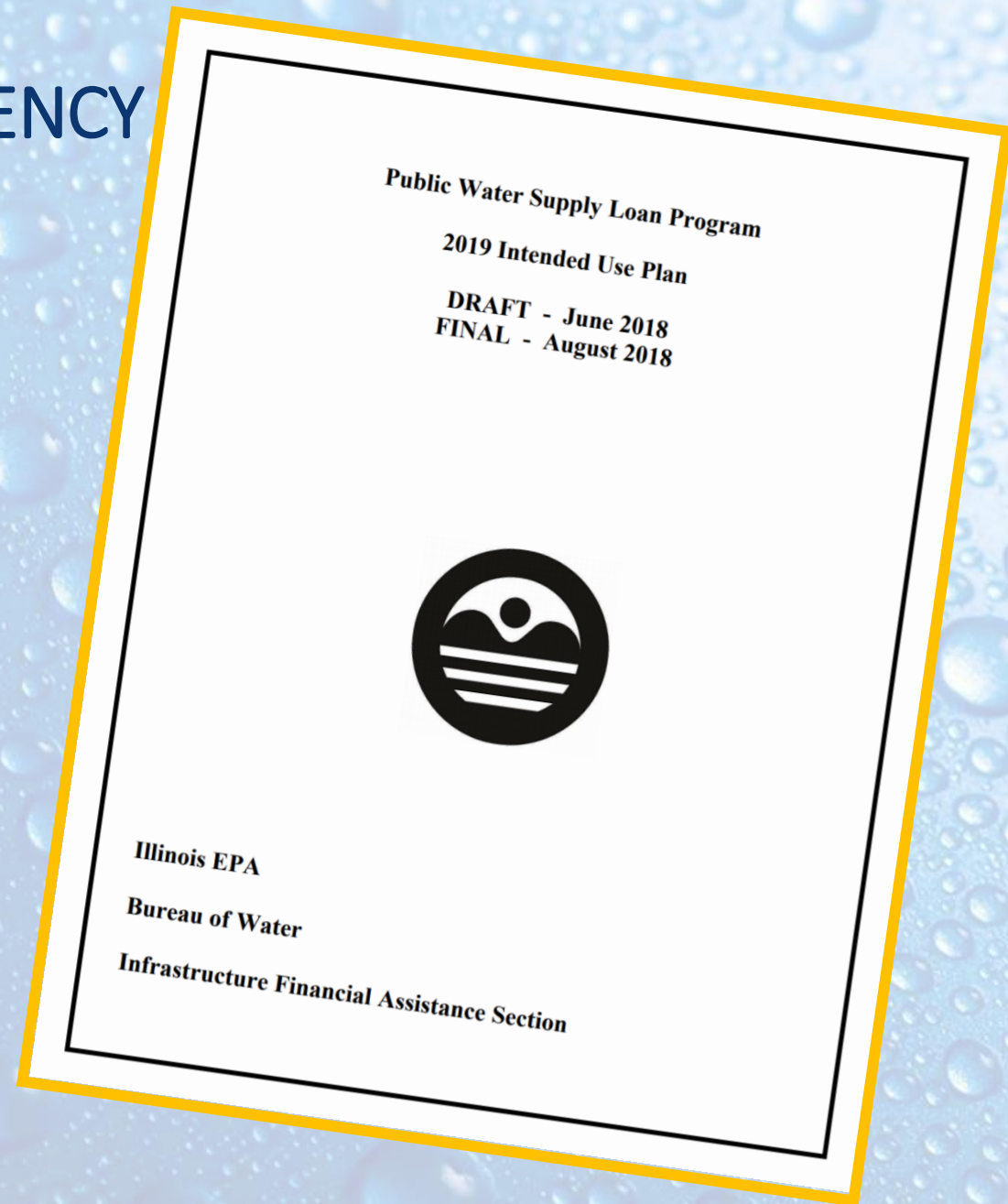
ENGAGE ROBINSON ENGINEERING, LTD.

- ENGINEERS FOR LANSING OVER 60-YEARS
- ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
– LOW INTEREST LOAN PROGRAM
- \$4.9M PRICE TAG
- 20-YR LOAN @ 1.66%
- \$263,000/YR
- **NO BRAINER!**



IL ENVIRONMENTAL PROTECTION AGENCY – LOW INTEREST LOAN PROGRAM

- INTEREST FORM TO IEPA 2015
(PRE-APPLICATION PROCESS)
- IEPA PROJECT PLAN EARLY 2016
- IEPA LOAN APPLICATION MID-
2016
- IEPA LOAN APPROVAL 2017



IEPA – LOW INTEREST LOAN PROCESS

- LENGTHY BUT NOT TEDIOUS
- FINANCIAL REVIEW
 - ABILITY TO REPAY THE LOAN
 - PROJECT TO GENERATE REVENUE



THE CLEAN WATER STATE REVOLVING FUND

Low-Cost Infrastructure Financing Since 1987

Totals:

\$111.2 billion in funding
for water quality infrastructure projects

36,159 loan agreements
(through FY 2015)

How it works:

 EPA funds state CWSRFs
each year, with **20% state match.**  + 

All 50 states and Puerto Rico have CWSRFs.

   **Apply for financing**
through **state CWSRFs.**



WATER METER TYPE

- VILLAGE RECENTLY UTILIZING SENSUS METERS
- LANSING PUBLIC WORKS REASEARCHED
- SENSUS iPEARL CHOSEN
 - NO MOVING PARTS
 - 20-YEAR WARRANTY
 - NO ISSUES WITH ALREADY INSTALLED iPEARL METERS IN LANSING
 - OVER 3 MILLION iPEARL METERS INSTALLED IN CHICAGOLAND AREA SINCE 2010



Water Meter Installer

BID AND AWARD CONTRACT

- MAINLY TYPICAL MUNICIPAL BID PROCESS
- ADVERTISE IN CHICAGO TRIBUNE (NOT LOCAL)
- AWARDED CONTRACT \$4.83M IN 2017
- CALUMET CITY PLUMBING
 - IN BUSINESS SINCE 1967
 - INSTALLED OVER 40,000 WATER METERS SINCE 1995
 - ASSISTS LANSING WITH WATER MAIN REPAIRS



FIXED BASE ANTENNA INSTALLATION

FIXED BASE NETWORK INSTALLATION

- BEGAN FIXED BASE NETWORK INSTALL 2017
 - READING TOWERS INSTALLED ON 2 ELEVATED WATER TANKS
 - NORTH AND SOUTH ENDS OF TOWN
 - INSTALL METERS SCATTERED THROUGHOUT VILLAGE FOR TESTING PURPOSES
 - TALKS TO TRANSMITTER ON EXTERIOR OF HOME/BUSINESS
- 6-MONTH PROCESS

PRE-METER INSTALLATION PREPARATION

- MOST CRITICAL ASPECT OF PROCESS
 - ACCESSING HOMES
- RESIDENT NOTIFICATION
 - HOW MANY?
 - 2 LETTERS
 - 2 POST CARDS
 - WATER TERMINATION LETTER
 - RED TAG (DOOR HANGER)
 - WHAT LANGUAGE?
 - ME SIMPSON ASSISTED



Notification Letters

METER INSTALLATION COMPLIANCE

- GOAL = 100% COMPLIANCE
- GENERATED FAQ SHEET
- POSTED INFO ON WEBSITE
- ANNOUNCED AT VILLAGE BOARD MEETINGS
- LAST RESORT...
 - INCREASE WATER RATES FOR NON-COMPLIANCE

— NOTICE —
WATER SHUT OFF

NAME: _____

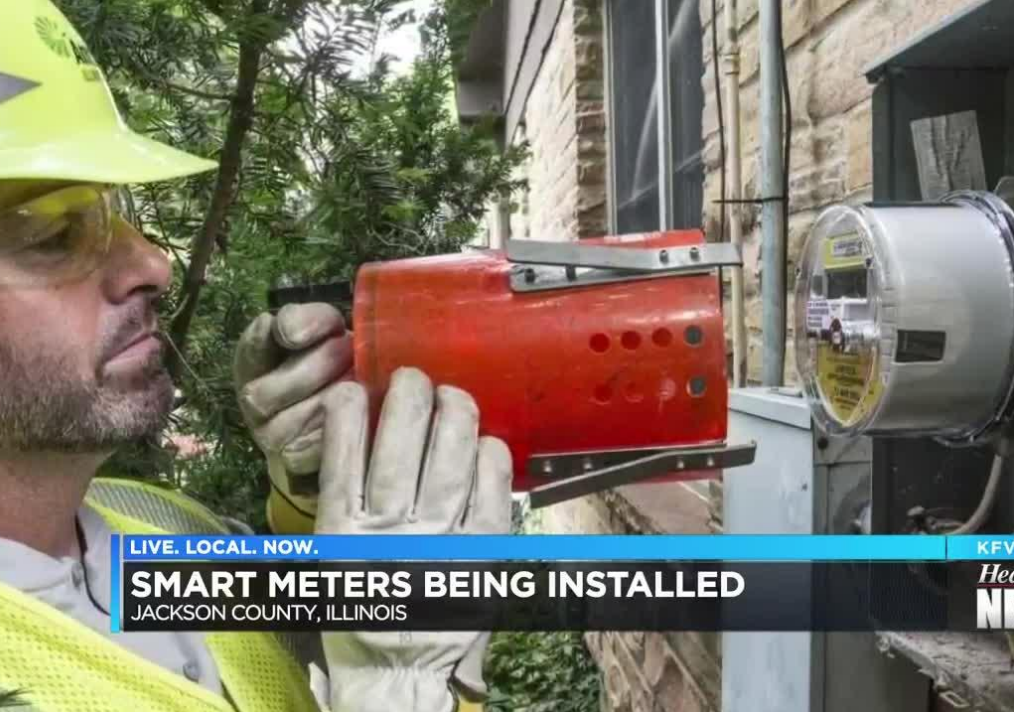
ADDRESS: _____

This is to notify you that your water has been shut off on _____ 20____

THERE IS A VILLAGE-WIDE MANDATORY PROGRAM TO CHANGE ALL WATER METERS. WE HAVE MADE SEVERAL ATTEMPTS TO CONTACT YOU WITHOUT SUCCESS. PLEASE CALL M. E. SIMPSON COMPANY AT [1-888-252-1521](tel:1-888-252-1521) TO SCHEDULE YOUR METER INSTALLATION TO AVOID WATER SHUTOFF ON THE ABOVE DATE.

LANSING WATER DEPARTMENT

Billing 708-895-7198 9am - 5pm (M-F)
Public Works 708-895-7190 7am - 3pm (M-F)
After hours call **NON EMERGENCY POLICE** 708-895-7150



METER INSTALLATION

- 9100 METERS INSTALLED IN 2018
- 12 MONTH PROCESS
- 300 LOCATIONS NOT INSTALLED
 - VACANT HOMES
 - FIRE SUPPRESSION METERS
 - PREVIOUSLY INSTALLED METERS IN LAST 3 YEARS
 - AS OF TODAY...3 TO GO!





SUCCESS!

- WHAT DOES SUCCESS MEAN TO THE VILLAGE?
 - CONTRACTOR WORKED DIRECTLY WITH HOMEOWNER
 - CONTRACTOR MADE OTHER NECESSARY REPAIRS
 - REPAIR PIPING
 - INSTALL NEW VALVES
 - REPLACING WATER SERVICE
 - ONLY ONE COMPLAINT OF 9100 INSTALLS REACHED THE MAYORS OFFICE...**ONLY ONE!**
- HARD TO PUT A PRICE TAG ON THAT!

SUCCESS!

- MEASURABLE SUCCESS
 - INSTALLATION DISCOVERED
 - NO-READ METERS
 - CODE VIOLATIONS (BY-PASSES, ILLIGAL CONNECTIONS)
 - BACKFLOW PREVENTORS INSTALLED
 - VACANT PROPERTIES WITH RUNNING WATER
 - WITH AND WITHOUT METERS
 - ACCURATE MONTHLY READING & MONTHLY BILLING
 - HELPS RESIDENTS BUDGET
 - INCREASD REVENUE/CASH FLOW FOR VILLAGE



SUCCESS!

- CONTRACTOR PROVIDED WATER SERVICE MATERIAL INVENTORY
 - FUTURE LEAD SERVICE REPLACEMENT PROJECT
 - 2305 LEAD SERVICES



Lead Service Line Repair

SUCCESS!

- 9100 METERS INSTALLED WITH A 20-YEAR WARRANTY
- \$4.9M PROJECT COST PAYBACK SCHEDULE IF INCREASE ACCURACY BY:
 - 10% = 18 YEARS
 - 15% = 12 YEARS
 - 20% = 9 YEARS
 - 25% = 7 YEARS
- 6 MO REVIEW – BILLING UP 10%
- REVENUE UP OVER \$200K IN 6 MO
- DECREASE WATER LOSS BY 6% IN 6 MO
- PROJECTING DOUBLE DIGIT DECREASE

Sustainable Water Infrastructure

Sustainable practices support water infrastructure and create sustainable communities.

[Learn how to effectively manage your utility:](#)

[Attend an Effective Utility Management Workshop scheduled during June through August 2018.](#)

Water Infrastructure Challenge



- [Policy on water infrastructure sustainability](#)
- [Infrastructure needs](#)
- [Local officials](#)

Building Sustainable Infrastructure



- [Water and energy efficiency](#)
- [Asset management](#)
- [Alternative technologies](#)

Managing Sustainable Utilities



- [Effective utility management](#)
- [Planning](#)
- [Tools](#)
- [Pricing and affordability](#)
- [Financing](#)

QUESTIONS?



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