PROLONGING THE LIFE OF INFRASTRUCTURE WITH A COATING MAINTENANCE PROGRAM

Richard Leber, PCS, NACE 3 CIP

PURPOSE FOR TODAY

1

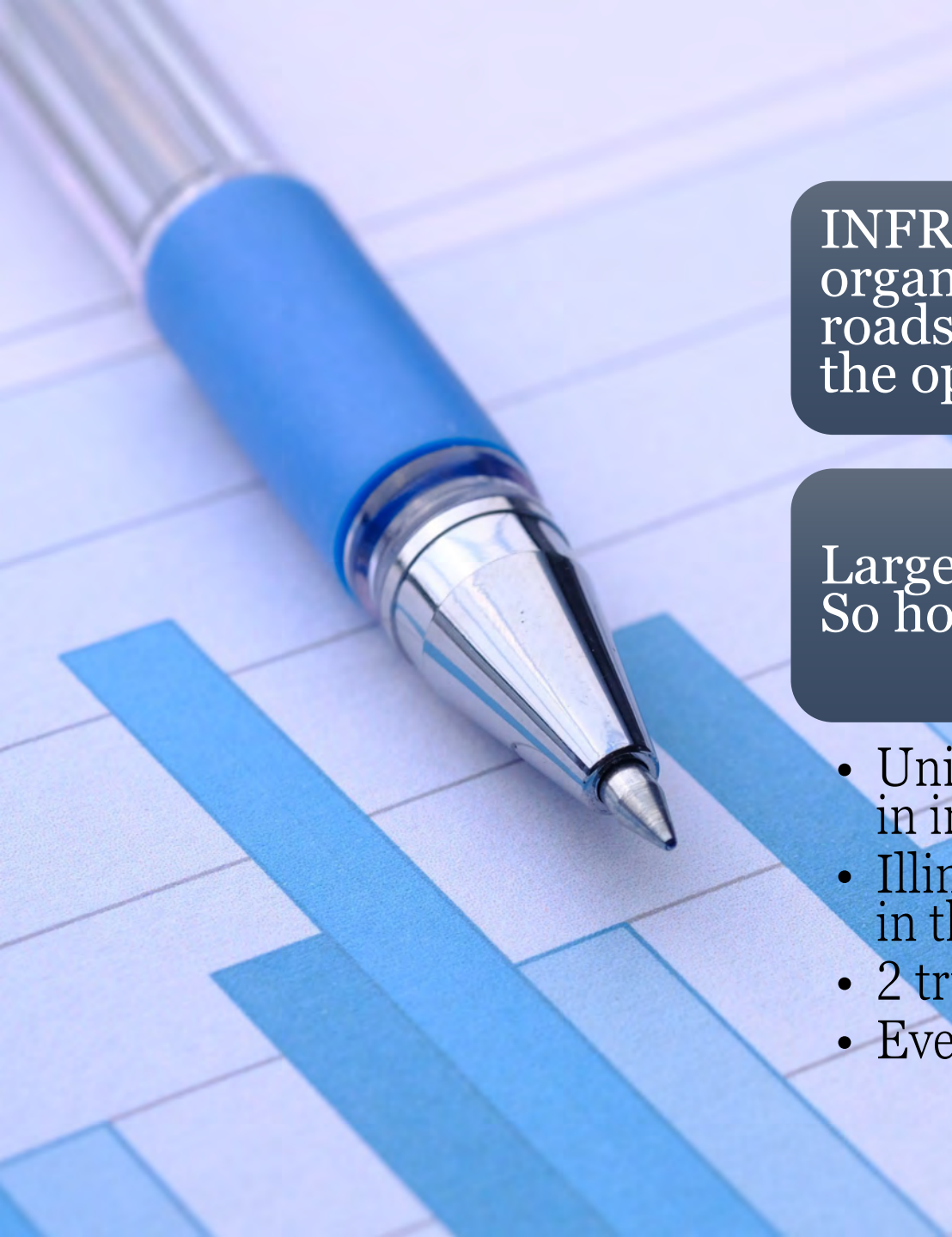
Bring awareness to the destruction of infrastructure

2

Better understand corrosion and how it effects your infrastructure

3

Present some ways of preventing the destruction



INFRASTRUCTURE: The basic physical and organizational structures and facilities (buildings, roads, power supplies, water, wastewater) needed for the operation of a society or enterprise.

Largest and most important assets communities have. So how are we doing?

- United States ranks anywhere from 3rd to 35th in the world in infrastructure
- Illinois ranks 3rd in the most structurally deficient bridges in the country with 2,405
- 2 trillion gallons of treated water is lost per year
- Every year the cost of infrastructure destruction gets higher


AREAS OF INFRASTRUCTURE EFFECTED

WATER FACILITIES CORROSION

Or literally eating holes in your tanks allowing contamination to enter your communities drinking water supply

Chemical corrosion destroys vent screens

WASTEWATER FACILITIES CORROSION

Corrosion is damaging your wastewater infrastructure

Steel piping in wet wells and lift stations and concrete structures are vulnerable

Corrosion ruins equipment

Bridges are vulnerable to corrosion weakening the structural integrity

Until…

the unthinkable

It attacks all types of infrastructure

Light poles are extremely vulnerable

THE COST

A recent NACE study estimated corrosion caused $2.5 trillion worth of damage globally. If control practices are implemented an estimated $375 - $875 billion could be saved each year.

U.S.A. PRICE TAG

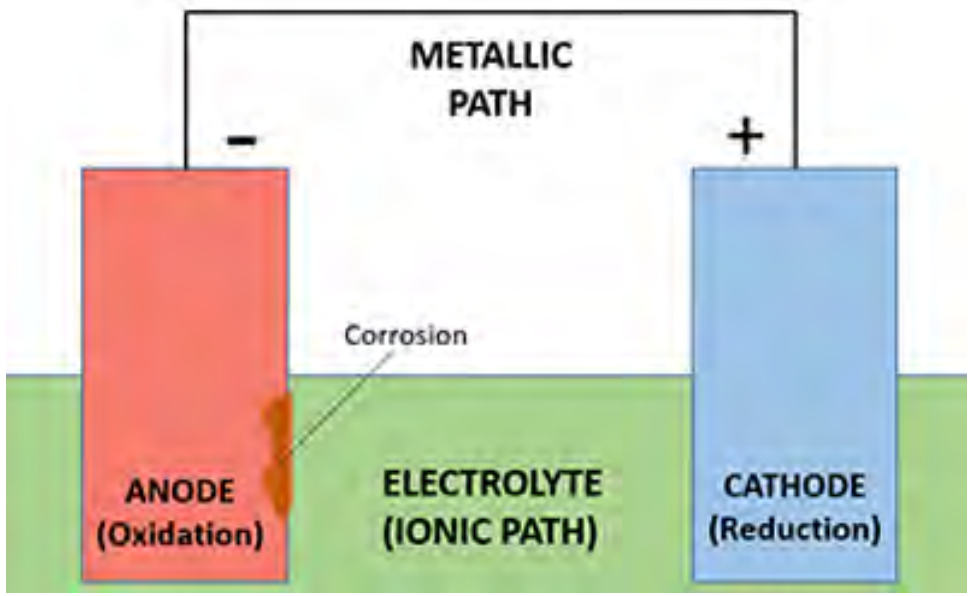
$450 Billion annually

What is corrosion?

Corrosion: The deterioration of a material (usually a metal) because of a reaction with its environment.

Corrosion is an electrochemical process which breaks down steel and other metals to their original state

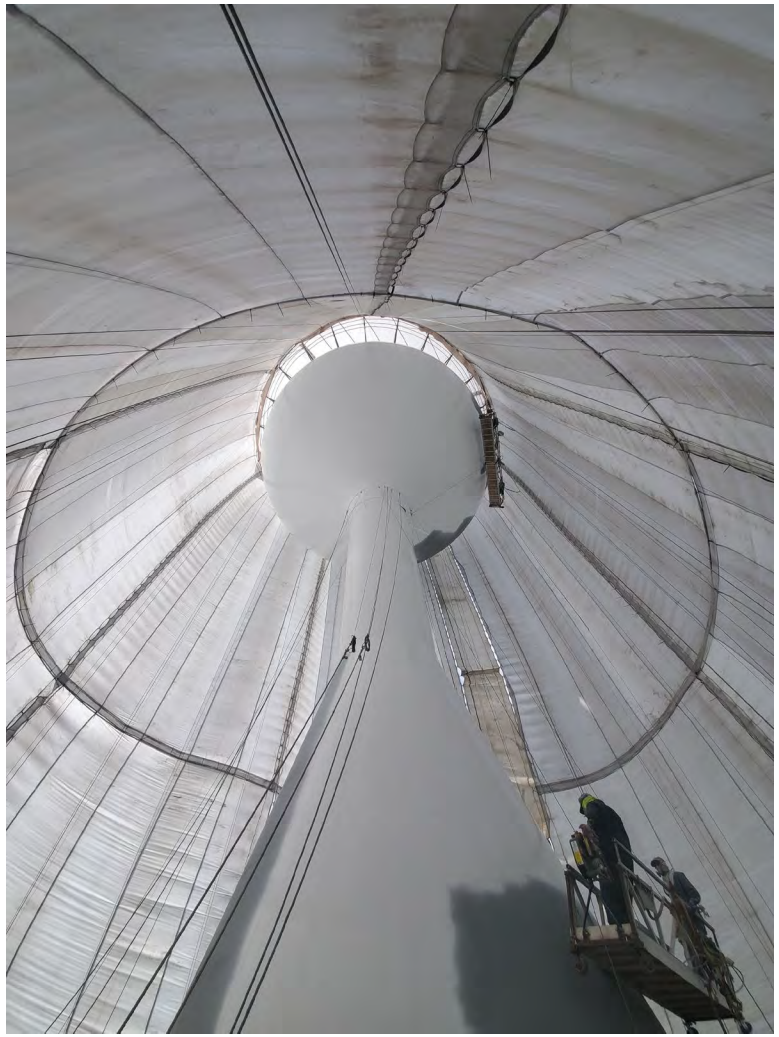
CORROSION CELL



PIT CORROSION

ALL PARTS OF THE CORROSION CELL MUST BE PRESENT FOR CORROSION TO OCCUR

Maintain coatings to keep the corrosion cell from forming



WHAT CAN YOU DO?

Take a look at your systems and equipment

If you notice any areas of corrosion, contact a certified and reputable third-party inspector and have them perform an assessment.

Steps to Take:

Contact a certified and reputable third-party inspector to help evaluate your infrastructure and develop a repair/maintenance plan for:

- Wastewater plants
- Lift stations
- Water plants
- Pump stations
- Water storage tanks and towers
- Bridges
- Fire hydrants
- Light poles
- Etc.

The Evaluation Process Should Include:

A physical inspection of your facilities

Evaluation reports should include:

- Coating and equipment condition
- Recommended repairs
- A cost estimate for the recommended repairs
- A 10-year maintenance schedule tailored for your infrastructure needs, for budget planning

The goal is to keep your infrastructure in optimal condition during its design life and beyond, ultimately saving money for your community

So, if protecting infrastructure is that easy, why is corrosion such a problem?

- “Out of sight out of mind” - so its easy to miss or forget
- Initial evaluation costs money - “we have no budget for that”

We have the solution